



Environment

Prepared for:
National Grid
Hicksville, NY

Prepared by:
AECOM
Chelmsford, MA
60214741.400
April 4, 2014

Community Air Monitoring Plan Summary Report

**Hempstead Intersection Street Former MGP Site
Villages of Hempstead and Garden City, NY**



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A handwritten signature in black ink that reads "Paul Taverna".

Prepared By Paul Taverna

A handwritten signature in blue ink that reads "Robert M. Iwanchuk".

Reviewed By Robert M. Iwanchuk

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List of Acronyms

AM	Air Monitoring
ASTM	American Society for Testing and Materials
BTEX	Benzene, Toluene, Ethyl benzene, and Xylenes
CAMP	Community Air Monitoring Plan
COI	Constituents of Interest
DER-10	DER-10 Technical Guidance for Site Investigation and Remediation
EPA	Environmental Protection Agency
FAM	Fixed Air Monitoring
GC	Gas Chromatograph
HASP	Health and Safety Plan
HCN	Hydrogen Cyanide
Hg	Mercury
H ₂ S	Hydrogen Sulfide
MGP	Manufactured Gas Plant
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAM	Portable Air Monitoring
PID	Photoionization Detector
PM ₁₀	Respirable Particulate Matter with a diameter 10 micrometers or less
SO ₂	Sulfur Dioxide
TVOC	Total Volatile Organic Compound
VOC	Volatile Organic Compound

Executive Summary

The remediation program at the Hempstead Intersection Street Former Manufactured Gas Plant (MGP) Site incorporated a Community Air Monitoring Program to measure and document potential airborne emissions arising from ground intrusive activities. The program, as detailed in the Community Air Monitoring Plan (CAMP) was designed to complement the work zone monitoring activities conducted by the remediation contractor. The air monitoring program was based on, and builds on, the guidelines established by the New York State Department of Health (NYSDOH) in the New York State Department of Environmental Conservation (NYSDEC) DER-10 Technical Guidance for Site Investigation and Remediation (DER-10) (May 2010).

During periods of active remediation, levels of total volatile organic compounds (TVOC) and respirable particulate matter (PM₁₀) were continuously monitored on a real-time basis at locations along the perimeter of the site. Meteorological monitoring for wind direction, wind speed, air temperature, relative humidity, and sigma theta was also conducted at a central onsite location. Additional constituent-specific data was collected on a weekly basis and relative odor intensity measurements were conducted to support the evaluation of real-time results. Additionally, sound level measurements were collected on a daily basis at Site perimeter locations.

Real-time monitoring was conducted during a 3-day pre-remediation period and established baseline concentrations for TVOC (0.1 - 0.3 ppm) and PM₁₀ (62 – 96 µg/m³). Results during a site set up period (October 24 to November 19, 2011) and the remediation, or operational, period (December 5, 2011 and December 21, 2013) were determined to be consistent with the baseline data. The average TVOC concentrations ranged from 0.1 to 0.3 ppm with a maximum observed reading of 3.9 ppm. The TVOC Action Level (5 ppm) was not exceeded during the program. The average levels of PM₁₀ ranged from 14 to 28 µg/m³. There were exceedances of the PM₁₀ Action Level (150 µg/m³) during 31 days of the 749 day monitoring effort. Approximately 40% of these were associated with off-site sources or occurred during periods when there was no activity at the Site. The duration of periods of on-site exceedances were less than 30 minutes and were addressed by simple mitigation efforts such as the use of water spray.

Constituent-specific samples were collected on a weekly basis throughout the remediation activities. They were collected over a 24-hr period at two perimeter locations during each sampling period. The results indicate that low levels of volatile organic constituents (VOCs) that can be associated with residuals from former MGP operations were present at the perimeter locations. They included benzene, toluene, ethylbenzene, xylenes and naphthalene at average levels that typically ranged from 0.2 to 0.9 parts per billion (ppb). A review of the results indicates that the levels of these constituents are consistent with the ambient background concentrations referenced in NYSDOH guidance documents (NYSDOH, 2006).

Additional monitoring was conducted on a daily basis to evaluate odor intensity and sound levels at locations along the perimeter of the site. The odor intensity levels were determined to be less than the screening levels established for the site on all but two occasions in May and August of 2013. In these cases, mitigation measures were applied and the compliance with the screening levels was documented by the next round of daily monitoring. The results from the monitoring for sound level demonstrated that the remediation equipment operated at levels that were consistent with the expected ranges for construction equipment (NYSDEC, 2001). Exceedances of the screening level

established for the Site was limited to one occasion in July 2012 and was associated with landscaping activities.

Area-specific monitoring was conducted during a 5-day period during March 2013 when remediation activities included the excavation of soil from an area containing low levels of mercury contamination. Real-time measurements of TVOC, PM₁₀ and mercury (in air) were collected on an hourly basis at four locations surrounding the excavation area. The results indicated that levels of TVOC and mercury were less than the detection limits of the instrumentation and that levels of respirable particulate were consistent with background conditions at the Site.

1.0 Introduction

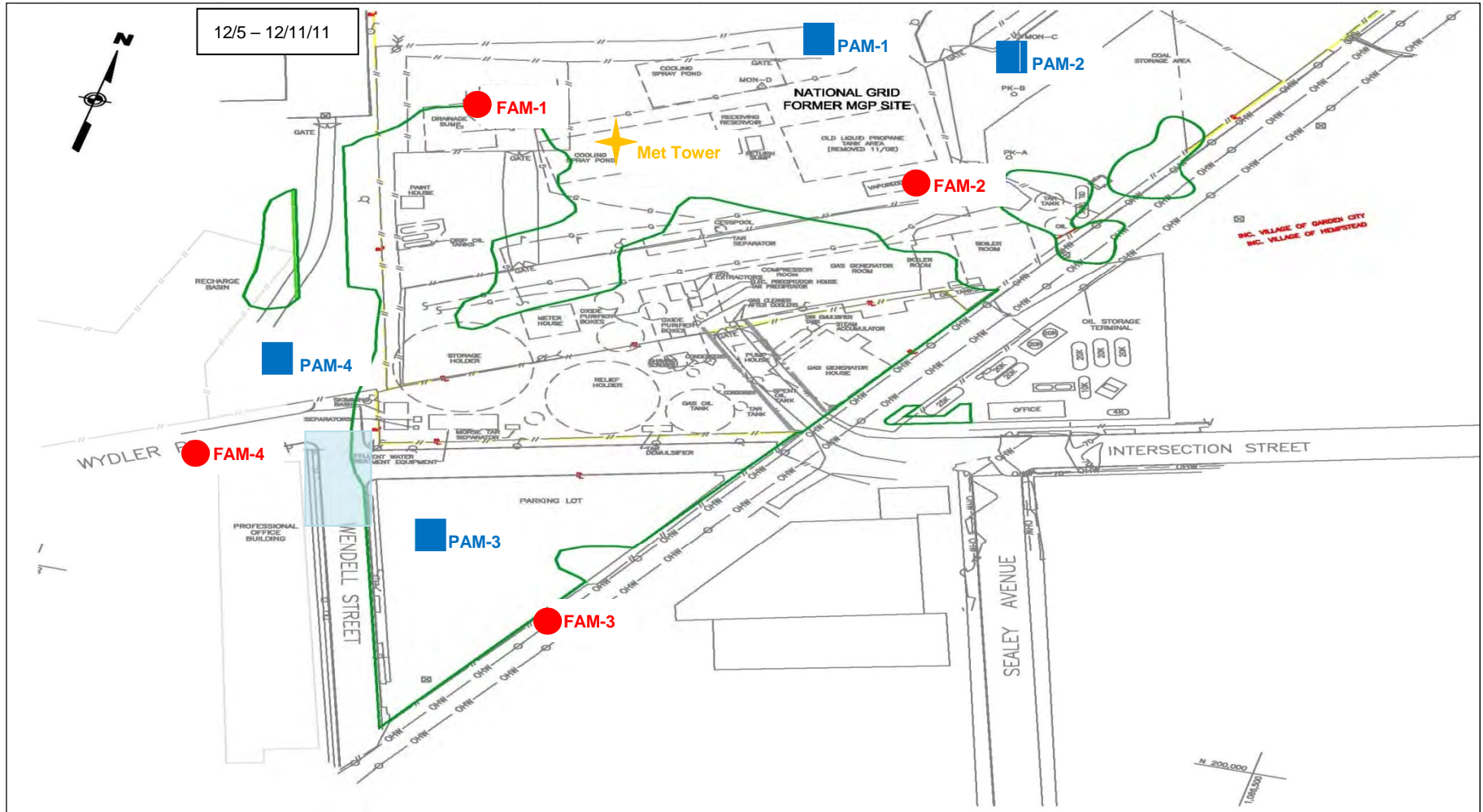
The Community Air Monitoring (AM) Program for the Hempstead Intersection Street Former Manufactured Gas Plant (MGP) site was developed to provide specific procedures for measuring, documenting, and responding to potential airborne emissions during remedial activities associated with the excavation of shallow manufactured gas plant (MGP) source material at the site. The program, as detailed in the Community Air Monitoring Plan (CAMP) was designed to complement the work zone monitoring activities conducted by the remediation contractor. The AM Program was based on, and builds on, the guidelines established by the New York State Department of Health (NYSDOH) in the New York State Department of Environmental Conservation (NYSDEC) DER-10 Technical Guidance for Site Investigation and Remediation (DER-10, NYSDEC, May 2010).

During periods of active remediation, levels of total volatile organic compounds (TVOC) and respirable particulate matter (PM₁₀) were monitored on a real-time basis at the following locations along the site perimeter: 4 fixed locations, 24 hours a day/7 days a week, and 4 portable locations during work day activities (see Figure 1-1 for original locations of all fixed and portable AM locations during the operational period). Meteorological monitoring for wind direction, wind speed, air temperature, relative humidity, and sigma theta was also conducted at a central onsite location. Additional constituent-specific data was collected on a weekly basis and relative odor intensity measurements were conducted to support the evaluation of real-time results. The objectives of the AM Program were as follows:

- Provide the data to evaluate the effectiveness of site engineering controls to mitigate airborne emissions from remedial activities.
- Identify periods when elevated levels of airborne emissions are present so that additional controls could be implemented in a timely manner.
- Develop a permanent record that includes a database of perimeter air monitoring results and meteorological conditions, equipment maintenance, calibration records, and other pertinent information.

The following report describes and summarizes the monitoring that was conducted and the data collected during remedial activities at the site.

Figure 1-1 Operational Phase Original Site Layout



Legend

- FAM – Fixed Air Monitoring Station
- PAM – Portable Air Monitoring Station
- Met – Meteorological Tower
- TCB – Temporary Containment Building

2.0 Sampling and Analytical Procedures

This section presents a summary of the AM sampling and analytical procedures that were used during the ground intrusive activities at the Site that include the excavation and solidification of MGP impacted media. The Community AM Plan (included as Appendix A) provides a more detailed description of the air monitoring sampling and analytical procedures.

In general, real-time sampling methods were utilized to determine ambient air concentrations during the project. Real-time continuous monitoring for TVOC and PM₁₀ occurred at four (4) fixed locations and four (4) portable locations. Meteorological conditions were monitored in real time at a central location onsite. Supplemental perimeter monitoring for TVOC, PM₁₀, sound levels and odor intensity were performed. A description of monitoring procedures for HCN and hydrogen sulfide (H₂S) was also included in the Community AM Plan but their implementation were not required by site conditions.

2.1 Real-Time Air Quality Monitoring

Real-time AM for TVOCs and PM₁₀ was conducted upwind and downwind of the work area along the site perimeter. The intent of the real-time monitoring program was to provide early detection in the field of short-term emissions and off-site migration of site-related TVOCs and PM₁₀. The perimeter AM system consisted of four Fixed Air Monitoring (FAM) Stations, four Portable Air Monitoring (PAM) Stations, one meteorological tower, and one central computer system. The central computer system was located in the project trailer located on the Site. The data collected during the program is provided on CD as Appendix B.

Refer to Figure 1-1 for locations of all the AM locations.

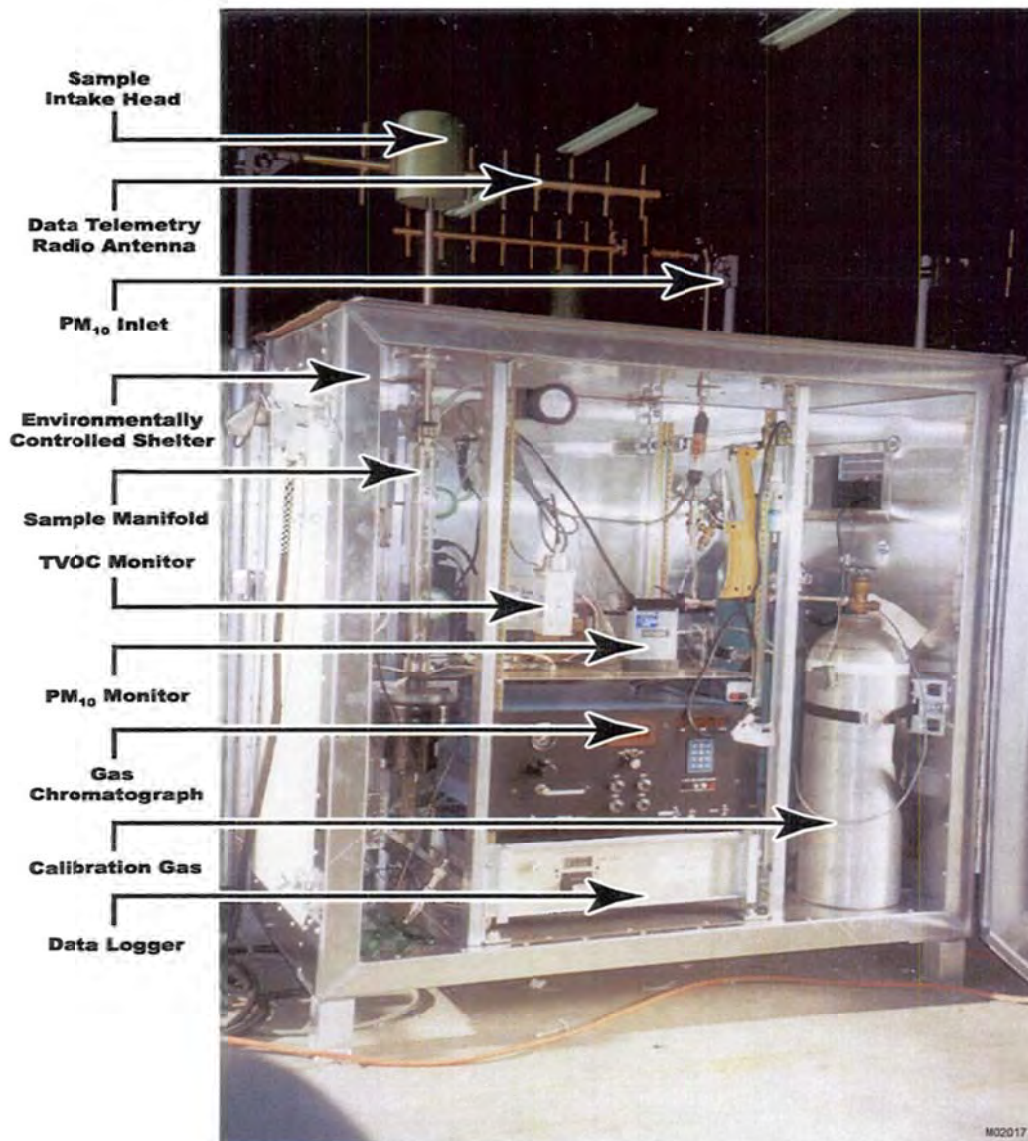
2.1.1 Fixed Station Monitoring

The FAM stations were set up to continuously monitor TVOCs and PM₁₀ 24 hours a day, 7 days per week during periods of excavation activity. These units were powered by site electricity and provided running 15-minute averages of TVOC and PM₁₀. Any exceedances of TVOCs would automatically trigger the gas chromatograph (GC) at that station to continuously sample and measure in the compound-specific mode. In the compound-specific mode, quantitative concentrations of benzene, toluene, ethyl benzene, and xylene (BTEX) in ambient air would be determined. Each FAM station included the following:

1. Station enclosure with sample manifold system
2. An organic vapor analyzer (RAE portable PID) plus a separate gas chromatograph (GC)
3. A particulate monitor (MIE PDR 1200)
4. A data logger plus communications device
5. Environmental control devices (heater/AC)

Each monitoring station was housed in a weather-tight NEMA-4 type enclosure. The internal capacity of each AM shelter is illustrated in Figure 2-1. All TVOC, BTEX, and PM₁₀ data were stored in data-loggers located within each monitoring station. Stored analytical data along with system performance data from each station was sent in real-time, via radio telemetry, to the central computer system located in the field office trailer for monitoring and analysis.

Figure 2-1 Internal Capacity of Each Fixed Air Monitoring Shelter



2.1.2 Portable Station Monitoring

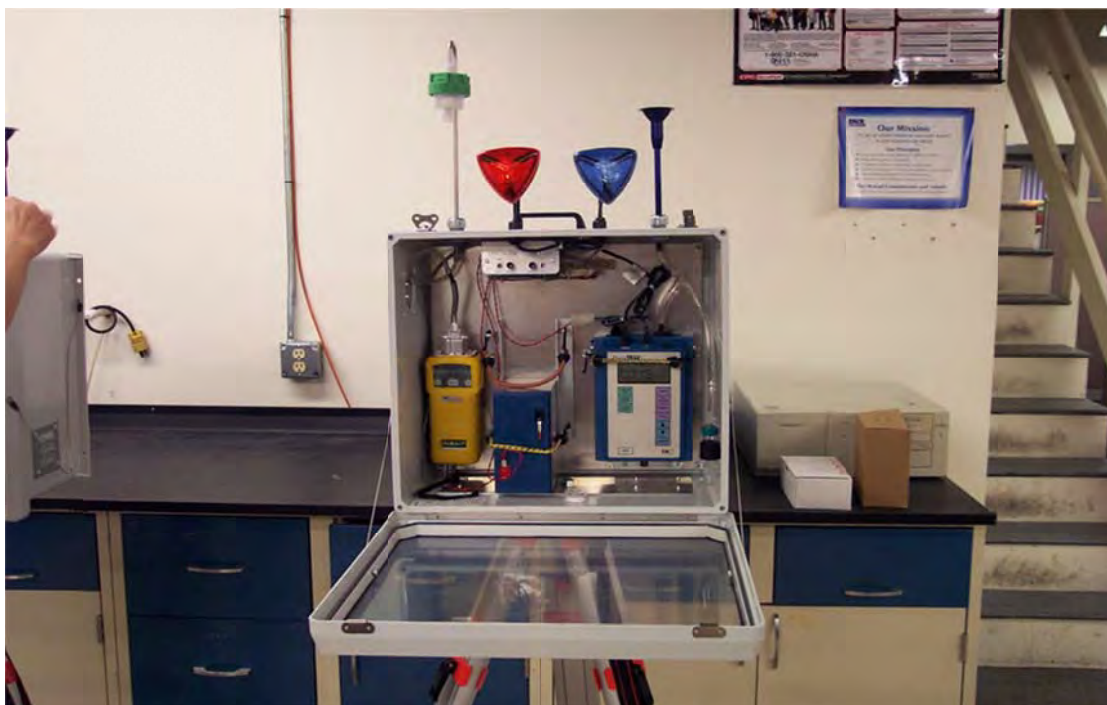
The PAM stations were set up to continuously monitor TVOCs and PM₁₀ during periods of excavation activity during normal work hours (Monday through Friday). These units were powered using

rechargeable batteries and provided running 15-minute averages of TVOC and PM₁₀. Each PAM station included the following:

1. Station enclosure with sample manifold system
2. An organic vapor analyzer (RAE portable PID)
3. A particulate monitor (MIE PDR 1200)
4. A data logger plus communications device

Each monitoring station was housed in a weather-tight NEMA-4 type enclosure. The internal capacity of each AM shelter is illustrated in Figure 2-2. All TVOC and PM₁₀ data were stored in data-loggers located within each monitoring station. Stored analytical data along with system performance data from each station was sent in real-time, via radio telemetry, to the central computer system located in the project office or trailer for monitoring and analysis.

Figure 2-2 Internal Capacity of Each Portable Air Monitoring Shelter



2.1.3 Meteorological Monitoring

A 10-meter meteorological station was installed prior to the start of remediation activities. The meteorological system was set at a central location clear of buildings, trees or other obstructions (Figure 1-1). The tower location was equipped with a Climatronics F460 system that provided the capability to measure wind speed and direction, sigma theta, temperature, and relative humidity on a continuous basis during remedial activities. Sigma theta is a calculated value representing the standard deviation of the wind direction which is a good measure of the variability of the wind

direction. Continuous 15-minute average values for each meteorological parameter was stored in the meteorological system and downloaded continuously into the on-site central database.

2.2 Data Telemetry and Computer Control/Alarm Systems

A data logger was included in each FAM and PAM station, and also as part of the on-site meteorological monitoring station. The data loggers were programmed to assimilate data from the continuous air quality monitors and meteorological sensors once every 10 seconds, and store digital data in its internal memory. 15-minute data averages were computed and stored in the data logger at the end of each data period. Once the 15-minute value was formed, the data averages from each continuous monitoring parameter were transmitted by a line-of-site radio transmitter network to a central desktop-based Data Acquisition and Handling System (DAHS). The data was also compared automatically with the pre-programmed Response and Action Limit concentrations for exceedance conditions.

If a Response and/or Action Limit were exceeded in the PM₁₀ and/or TVOC sampling modes, the system automatically went into an alarm condition and the appropriate visual and auditory alarms were illuminated in the central trailer. In addition to the visual and auditory alarms the AECOM AM staff was notified of the exceedance via text messaging. In the event of an alarm condition, the construction contractor's Field Project Manager or designated representative was informed by the AECOM AM staff of the exceedance. The construction contractor's Field Project Manager or his/her authorized representative then identified the source and took actions to mitigate the condition, if the source was associated with on-site activities. When all Site concentrations dropped below the Response Limit, the system turned the alarms off automatically. If a TVOC or PM₁₀ Response Limit or Action Limit was reached during non-working hours, the system was checked remotely and an appropriate response action was determined.

2.3 Supplemental Walk-Around Monitoring

The Community AM Plan (shown in Appendix A) details the specific sampling and analytical procedures for the supplemental walk around monitoring for TVOC, PM₁₀, odor intensity, noise, HCN and H₂S. The only supplemental walk around monitoring required for this program was instantaneous sound level and odor intensity measurements that were taken and recorded at eight locations twice per day (one measurement at each FAM and PAM location) during on-site activities. The recorded measurements for these parameters are provided in Appendix C.

2.3.1 Integrated Volatile Organic Compound Measurements

Integrated VOC samples (24 hours) were collected once per week at two air-monitoring stations (plus one collocated sample per month). The samples were collected to demonstrate that the real-time monitoring stations were effective in measuring the concentration of the VOC target compounds. VOC samples were collected using 6-liter Summa™ canisters and analyzed using United States Environmental Protection Agency (USEPA) Method TO-15, modified to include naphthalene.

3.0 Operational Plan

The operational plan (see Appendix A, CAMP) was developed to identify potential site control measures that may be implemented in response to elevated levels of target compounds or odor measured during ground intrusive or impacted soil activities. In general, a tiered approach to site conditions with corresponding response actions was implemented during the Community AM Program.

3.1 Response Limit and Action Limit

A Response Limit was defined as a contaminant concentration that when exceeded triggers contingent measures. An Action Limit was defined as a contaminant concentration that when exceeded required a work stoppage.

The target compounds and corresponding Response and Action Limits were developed in accordance with the NYSDOH Generic CAMP and are shown in Table 3-1.

Table 3-1 Target Compounds Response and Action Limits

Target Compounds	Response Limit
TVOCs (15-minute average concentration)* PM ₁₀ (15-minute average concentration)*	25.0 ppm greater than background** 100 µg/m ³ greater than background**
Target Compounds	Action Limit
TVOCs (15-minute average concentration)* Benzene (15-minute average concentration)* PM ₁₀ (15-minute average concentration)* Odor (n-butanol scale) (15-minute sustained) Odor (nuisance)	5 ppmv greater than background** 1.0 ppmv (actual measurement) 150 µg/m ³ greater than background** 3 (Verified related to construction) Public complaints that are verified to be related to construction
Naphthalene (15-minute average concentration) Hydrogen cyanide	440 µg/m ³ or 0.084 ppmv 0.6 ppmv

Notes:

Ppmv - parts per million volume

µg/m³ - micrograms per cubic meter

* 15-minute average concentrations updated every 1 minute

** Background is defined as the current upwind 15-minute average concentration.

4.0 Air Monitoring Results

The results for the Hempstead Former MGP Site Air Monitoring Program are presented in the following sections.

4.1 Real-Time Monitoring

As required by the guidelines established by NYSDEC and NYSDOH, real-time measurements of TVOC and PM₁₀ were collected during periods of ground intrusive activities. The Hempstead program also included the collection of real-time data during a pre-remediation period to provide an indication of background conditions in the immediate vicinity of the site, as well meteorological monitoring to support the evaluation of the data from the remediation, or operational period.

4.1.1 Baseline Period

Air monitoring activities were conducted prior to the start of remedial site work to establish an initial baseline condition for TVOC and PM₁₀ levels in the immediate vicinity of the Site. Real-time samples were collected on a continuous basis at four (4) FAM locations along the Site perimeter during the period of December 2 – 4, 2011. Monitoring was also conducted at four (4) additional PAM locations during the initial day of sampling, a week day, when field staff was available to operate the units.

A summary of the TVOC results is presented in Table 4-1. As illustrated, the TVOC concentrations typically ranged from 0.1 to 0.3 ppm with a maximum value of 0.9 ppm at the location nearest the Village City Park (FAM-1) during a weekday (Friday 12/2/11).

The respirable particulate results for the baseline period are summarized in Table 4-2. The average values for FAM 2, 3 and 4 ranged from 61.6 to 96.0 µg/m³, with a maximum value of 116.4 µg/m³ observed at a location proximate to Oswego Oil (FAM 2) during a weekend day (Sunday, 12/4/11). Note that the data from FAM 1 was not recorded due to a poor connection between the instrument and the data logger.

4.1.2 Site Set Up Period

Pre-remediation monitoring was also conducted during the period of October 24 to November 19, 2011 when site utility lines were being installed and site soil was disturbed by localized trenching activities. Monitoring for TVOC and PM₁₀ was conducted using portable equipment that was set up at the locations illustrated in Figure 1-1. The data from the portable stations was compiled as average 15-minute concentrations that were updated every one minute during periods of Site activities. PAM 1 and 2 were operated during the entire set up period, while PAM 3 and 4 were operated during those times when trenching activities extended into areas that were proximate to those locations.

Summaries of the TVOC and PM₁₀ results for this period are presented in Tables 4-3 and 4-4, respectively. As illustrated, the TVOC concentrations typically ranged from 0.1 to 0.3 ppm, with all locations recording similar concentrations. PM₁₀ levels ranged from 13 to 94 µg/m³, with the greater concentrations occurring at PAM-1 and PAM-2. Note that all results are consistent with the levels observed during the baseline period.

4.1.3 Operational Period Continuous Fixed and Portable Air Monitoring Results

Continuous monitoring was conducted during the period of December 5, 2011 – December 21, 2013 to document site conditions associated with Site remediation activities. Samples were collected from the fixed and portable locations illustrated in Figure 1-1. Copies of the weekly monitoring summaries are presented in Appendix D.

A summary of the TVOC results from the program, provided as monthly averages, is presented as Table 4-5. As illustrated, the average concentrations ranged from 0.1 to 0.3 ppm and are consistent with the baseline values for the Site. The maximum observed value was 3.9 ppm. There were no observed exceedances of the TVOC Action Level and the fixed monitoring stations were not required to operate in the compound-specific mode. As a result, real time data for benzene, toluene, ethyl benzene and xylenes was not collected during the program.

Table 4-1 Baseline Period - Daily Averages of Real-Time TVOC Measurements (ppm)

Date	Fixed Air Monitoring Locations ¹				Portable Air Monitoring Locations ²			
	1	2	3	4	1	2	3	4
Fri 12/2/11	0.9	0.1	0.1	0.1	0.1	0.1	0.2	0.1
Sat 12/3/11	0.3	0.1	0.1	0.1	---	---	---	---
Sun 12/4/11	0.2	0.1	0.1	0.1	---	---	---	---
<i>Period Averages</i>	<i>0.5</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
<i>Period Maximum</i>	<i>0.9</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>

Notes:

--- = Data Not Collected

¹ Fixed stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week.

² Portable stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7 AM and 4 PM).

Table 4-2 Baseline Period – Daily Averages of Real-Time PM₁₀ Measurements (µg/m³)

Date	Fixed Air Monitoring Locations ¹				Portable Air Monitoring Locations ²			
	1	2	3	4	1	2	3	4
Fri 12/2/11	---	65.0	34.3	35.2	77.4	78.0	28.6	20.7
Sat 12/3/11	---	106.5	74.9	76.5	---	---	---	---
Sun 12/4/11	---	116.4	79.7	72.6	---	---	---	---
<i>Period Averages</i>	<i>---</i>	<i>96.0</i>	<i>63.0</i>	<i>61.4</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
<i>Period Maximum</i>	<i>---</i>	<i>116.4</i>	<i>79.7</i>	<i>76.5</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>

Notes:

--- = Data Not Collected

¹ Fixed stations collect average 15-minute concentrations updated every one minute 24-hour and 7-days per week.

² Portable stations collect average 15-minute concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7 AM and 4 PM).

Table 4-3 Initial Site Set Up Period – Daily Averages of Real-Time TVOC Measurements (ppm)

Date	Portable Monitoring Locations			
	1	2	3	4
Mon 10/24/11	0.1	0.1	NA	NA
Tue 10/25/11	0.2	0.1	NA	NA
Wed 10/26/11	0.1	0.1	NA	NA
Thu 10/27/11	0.1	0.1	NA	NA
Fri 10/28/11	0.2	0.1	NA	NA
Mon 10/31/11	0.3	0.1	NA	NA
Tue 11/1/11	0.2	0.1	NA	NA
Wed 11/2/11	0.1	0.1	NA	NA
Thu 11/3/11	0.1	0.1	0.1	NA
Fri 11/4/11	0.1	0.1	0.1	NA
Mon 11/7/11	0.1	0.1	NA	NA
Tue 11/8/11	0.1	0.1	NA	NA
Wed 11/9/11	0.1	0.1	NA	NA
Thu 11/10/11	0.1	0.1	NA	NA
Wed 11/16/11	0.1	0.1	0.2	0.1
Thu 11/17/11	0.1	0.1	0.1	0.1
Fri 11/18/11	0.1	0.1	0.1	0.1
Sat 11/19/11	0.1	0.1	0.1	0.1
<i>Period Average</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>
<i>Period Maximum</i>	<i>0.3</i>	<i>0.2</i>	<i>0.1</i>	<i>0.1</i>

Table 4-4 Initial Site Set Up Period – Daily Averages of Real-Time PM₁₀ Measurements (µg/m³)

Date	Portable Monitoring Locations			
	1	2	3	4
Mon 10/24/11	40.0	33.9	NA	NA
Tue 10/25/11	51.4	34.1	NA	NA
Wed 10/26/11	45.0	31.9	NA	NA
Thu 10/27/11	85.5	71.8	NA	NA
Fri 10/28/11	13.0	18.3	NA	NA
Mon 10/31/11	46.8	47.4	NA	NA
Tue 11/1/11	48.0	35.0	NA	NA
Wed 11/2/11	83.1	72.9	NA	NA
Thu 11/3/11	49.1	57.6	62.1	NA
Fri 11/4/11	48.1	34.0	44.8	NA
Mon 11/7/11	90.0	45.7	NA	NA
Tue 11/8/11	71.2	64.1	NA	NA
Wed 11/9/11	77.0	76.4	NA	NA
Thu 11/10/11	43.6	94.1	NA	NA
Wed 11/16/11	55.0	45.4	54.1	45.3
Thu 11/17/11	15.6	21.9	17.7	11.2
Fri 11/18/11	36.3	21.7	14.3	12.4
Sat 11/19/11	50.0	19.1	26.3	17.4
<i>Period Average</i>	<i>52.7</i>	<i>45.9</i>	<i>36.6</i>	<i>21.6</i>
<i>Period Maximum</i>	<i>90.0</i>	<i>94.1</i>	<i>62.1</i>	<i>45.3</i>

Table 4-5 Operational Period – Monthly Averages of Real-Time TVOC Measurements (ppm)

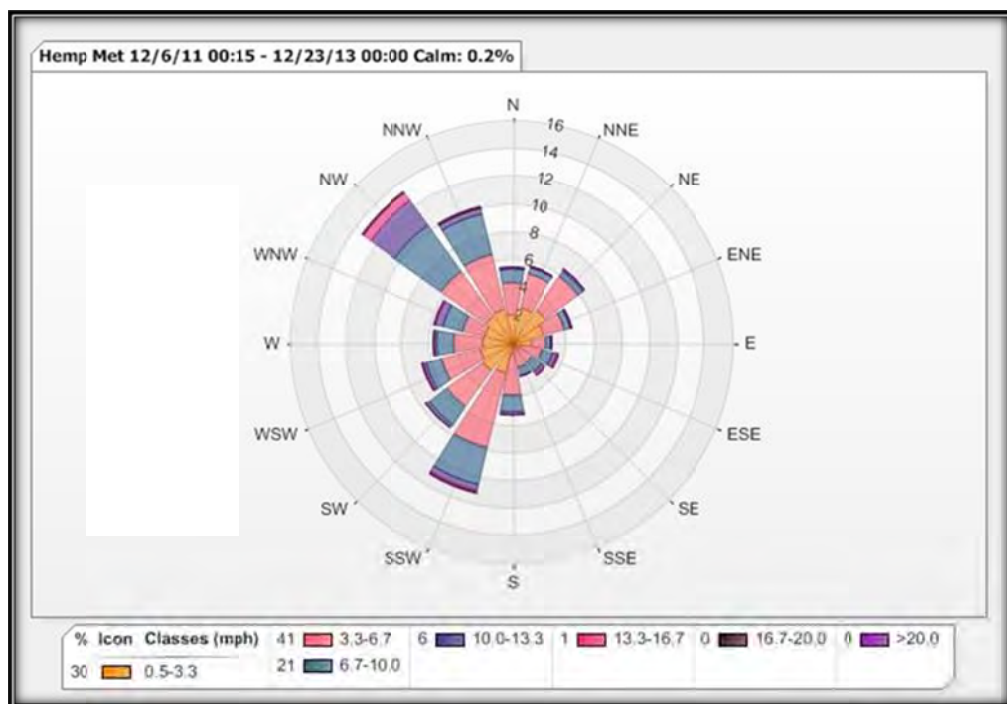
Period	Fixed Monitoring Locations				Portable Monitoring Locations			
	1	2	3	4	1	2	3	4
January 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
February 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
March 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
April 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
May 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
June 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
July 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
August 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
September 2012	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
October 2012	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
November 2012	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
December 2012	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1
January 2013	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
February 2013	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
March 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
April 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
May 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
June 2013	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
July 2013	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
August 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
September 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
October 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
November 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
December 2013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<i>Period Averages</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>
<i>Period Maximum</i>	<i>1.6</i>	<i>0.9</i>	<i>0.8</i>	<i>0.5</i>	<i>2.0</i>	<i>1.7</i>	<i>0.9</i>	<i>3.9</i>

A summary of the PM₁₀ results is presented in Table 4-6. Concentrations were relatively consistent at all locations, with average levels for the operational period ranging from 14.5 to 28.1 µg/m³. A limited number of exceedances of the PM₁₀ Action Levels were observed at each location, with maximum values ranging from 156 to 986 µg/m³. The periods when exceedances were observed are summarized in Table 4-7. As illustrated, exceedances were limited to 31 days during the 2-year remediation program. Approximately 40 percent of the periods were associated with identified off-site sources or occurred during periods, such as overnight, when remedial activities were not being conducted. The duration of periods associated with on-site work were generally of limited duration (4 to 28 minutes) and were typically addressed by simple mitigation efforts, such as the use of water spray. Additional detail on the exceedance periods, e.g., wind direction, background PM₁₀ concentrations, details of the response are presented in Appendix E.

4.1.4 Meteorological Results

Wind direction, wind speed, temperature and relative humidity were collected in 15-minute increments for the duration of the program. A wind rose for the Operational Period is provided as Figure 4-1. During this period the winds were predominately light and out of the northwest. Additional time series plots of the wind speed, temperature and relative humidity results are provided in Appendix F.

Figure 4-1 Wind Rose (12/6/11 – 12/22/13) (Operational Phase Entire Program)



4.2 Integrated VOC Sample Results

Constituent - specific samples were collected on a weekly basis throughout the program. Copies of the analytical reports and monthly summaries of the results for MGP constituents of interest (benzene, toluene, ethylbenzene, xylenes and naphthalene) for each location are provided in Appendix G.

The constituent-specific results for the fixed monitoring locations are summarized in Table 4-8. The site-wide averages of the MGP constituents of interest ranged from 0.2 to 0.9 ppm. Although the constituent concentrations were generally consistent for each of the sampling locations, the levels at FAM 2 and 3 on the east side of the Site, were marginally greater than the other locations. The results are supported by the meteorological data summarized in Figure 4-1 which indicates that the wind was out of the NNW to SSW directions during approximately 60% of the operational period.

The maximum values observed at the fixed locations during the operational period are summarized in Table 4-9. The maximum concentrations ranged from 0.3 ppb (xylene) to 7.15 ppb (toluene). As illustrated, the maximum concentrations are consistent with the ambient background concentrations

referenced in guidance documents developed by NYSDOH (NYSDOH CEH BEEI Soil Vapor Intrusion Guidance, October 2006).

A limited number of samples were collected at the portable monitoring locations. The results from these samples are summarized in Table 4-10. The concentrations were generally consistent with the results from the fixed locations. However, the results from one sample (PAM-3, 12/7/2012) indicated concentrations of toluene, ethylbenzene, o, xylene and naphthalene that were greater than levels observed in other samples over the course of the program.

A review of the data also indicates that several other non-MGP constituents were detected on a relatively consistent basis over the course of the program, including:

- Propene – 0.3 to 3.3 ppb
- Dichlorofluoromethane – 0.3 to 0.5 ppb
- Ethanol – 4 to 3,200 ppb
- Acetone – 3.4 to 9.1 ppb
- Trichloromethane – 0.1 to 0.2 ppb

4.3 Supplemental Monitoring

Additional monitoring was conducted by field staff using portable equipment while on routine tours of the Site perimeter conducted twice daily during normal work hours. The results from these measurements, as presented in Appendix C, for odor intensity and noise levels are summarized below. Additionally, the following discussion addresses specialized monitoring that was conducted to document site conditions during the excavation of a relatively small quantity of soil that had been previously impacted by mercury.

4.3.1 Odor

Observations of odor were recorded at the four fixed monitoring locations and four portable monitoring locations during the twice-daily (mid-morning and mid-afternoon) monitoring rounds. The monitoring was conducted during 749 days over the duration of the program. The scale used to evaluate odor intensity ranged from 0 (lowest) to 8 (highest) based on a set of standards developed using mixtures of n-butanol. As illustrated in Table 4-11, the majority of observations ranged between 0 and 1. Four observations recorded an odor intensity greater than 2, with only two of these reaching the Action Level of 3. These were recorded at PAM-3 on 5/13/13 and FAM-3 on 8/16/13. Intensity levels at both locations returned to 1 and 0, respectively at the time of the next reading.

4.3.2 Noise

The results demonstrate that the equipment at the Site operated at sound levels that are consistent with the expected ranges for construction equipment provided in NYSDEC guidance, e.g., augered earth drill/bulldozer – 80 dB, paving breaker- 82 dB, truck – 91 dB (NYSDEC, 2001).

Since sound levels vary inversely with distance from the source, i.e. decrease with increased distance, a screening level of 85dB was established at the perimeter of the site as appropriate to achieve the 65 dB criterion provided in the NYSDEC guidance and the Village of Hempstead Code at the locations of residential properties in the vicinity of the Site. A summary of the maximum values observed during the program is provided as Table 4-12. As illustrated, the screening level was

exceeded only once during the program, on July 11 (87dB), 2012 due to tree trimming adjacent to FAM3. A review of the data indicates that sound levels returned to 65dB at the location later in the day.

4.3.3 Mercury Monitoring

Supplemental monitoring was conducted during the period of 3/18 to 3/22/2013 to document potential fugitive emissions during the excavation of soil from the Mercury Area. Real-time readings for TVOC, PM₁₀ and mercury were collected on an hourly basis during work hours from four locations adjacent to the excavation area. The maximum readings observed during the monitoring are summarized in Table 4-13. The measurements of TVOC and mercury were all determined to be less than the sensitivity of the instruments. The levels of respirable dust ranged from 0.01 to 0.05 mg/m³. All results were less than the applicable Action Levels.

Table 4-6 Summary of Maximum Results Air Monitoring During Excavation Mercury Area

Date	TVOC (ppm)	PM ₁₀ (mg/m ³)	Mercury (mg/m ³)
3/18/2013	<0.1	0.048	<0.01
3/19/2013	<0.1	0.050	<0.01
3/20/2013	<0.1	0.052	<0.01
3/21/2013	<0.1	0.052	<0.01
3/22/2013	<0.1	0.044	<0.01
Level	5	0.15	0.05

Table 4-7 Operational Period – Monthly Averages of Real-Time PM₁₀ Measurements (µg/m³)

Period	Fixed Monitoring Locations				Portable Monitoring Locations			
	1	2	3	4	1	2	3	4
January 2012	13.4	20.0	15.1	14.0	27.0	21.8	23.0	20.4
February 2012	17.4	26.9	18.1	18.1	31.2	23.6	28.2	22.1
March 2012	14.2	22.8	15.1	16.5	28.8	24.9	25.7	21.9
April 2012	10.3	17.2	10.3	12.7	20.7	22.2	16.9	18.6
May 2012	15.6	25.1	16.8	16.3	24.5	24.1	17.8	17.4
June 2012	19.3	27.5	21.9	21.3	22.5	21.1	25.8	17.3
July 2012	27.9	25.4	22.9	24.9	25.2	27.2	27.9	20.7
August 2012	24.0	28.6	24.4	23.0	28.0	34.3	23.4	21.2
September 2012	21.4	17.5	15.2	13.5	21.5	29.8	15.5	13.0
October 2012	15.9	17.5	15.0	16.6	20.0	29.3	18.2	15.4
November 2012	18.2	19.0	14.9	13.4	29.1	24.9	23.8	21.9
December 2012	15.9	17.5	14.6	16.4	27.4	32.6	26.1	19.2
January 2013	25.9	23.3	20.2	20.5	27.0	30.6	31.8	34.7
February 2013	22.0	18.7	14.0	14.1	21.3	23.0	27.6	33.6
March 2013	10.2	8.7	6.5	8.3	15.1	18.6	18.8	29.8
April 2013	10.5	7.6	9.9	8.7	20.3	22.3	18.8	32.9
May 2013	10.1	11.3	10.0	10.3	28.9	35.7	22.3	35.4
June 2013	19.3	27.5	21.9	21.3	22.5	21.1	25.8	17.3
July 2013	28.8	19.9	16.3	16.6	32.1	41.9	25.7	42.5
August 2013	33.8	17.0	12.9	13.2	25.2	41.8	22.4	46.8
September 2013	17.6	10.0	6.7	7.1	21.5	31.6	21.1	42.6
October 2013	17.7	10.0	8.8	7.1	26.0	24.3	21.5	38.4
November 2013	20.7	6.7	6.8	4.9	18.0	22.6	14.8	28.6
December 2013	18.4	12.9	12.3	12.5	38.7	48.2	37.5	45.8
<i>Period Averages</i>	<i>18.6</i>	<i>18.2</i>	<i>14.5</i>	<i>14.5</i>	<i>25.4</i>	<i>28.8</i>	<i>23.1</i>	<i>28.1</i>
<i>Period Maximum</i>	<i>416.2</i>	<i>428.8</i>	<i>441.4</i>	<i>457.8</i>	<i>986.0</i>	<i>241.6</i>	<i>156.1</i>	<i>181.2</i>

Table 4-8 Operational Period - Summary of Observed Exceedances of PM₁₀ Action Limit

Date	Station	Duration (mins)	PM ₁₀ Conc. (µg/m ³)	Potential Source/ Response
On-Site Source				
4/10/12	PAM-2	15	225.3	use of shovels, heavy equipment and power tools in close proximity to PAM-2, water spray was applied
4/11/12	PAM-4	8	165.7	excavation activities, water spray was applied
4/16/12	PAM-1	2	100.7	truck traffic and excavation activities in the vicinity of PAM-1, water spray was applied
7/3/12	PAM-4	6	132.9	drill rig activity and pad movement, water spray was applied
7/27/12	FAM-1	17	393.2	worker smoking near FAM-1.
2/6/13	PAM-3	26	180.6	open excavation activity in area, operator was directed to stop and let the dust clear.
2/11/13	FAM-2	8	157.2	excavation activity in area, operations were stopped until concentrations returned below the Action Limit.
2/18/13	FAM-2	6	181.2	excavation activity and Bio Solve spraying in area, operations were stopped and Bio Solve sprayer was relocated.
2/20/13	FAM-2	11	166.6	excavation activity and Bio Solve spraying in area, operations were stopped and Bio Solve sprayer was relocated.
2/21/13	FAM-2	4	162.2	excavation activity and Bio Solve spraying in area, operations were stopped and Bio Solve sprayer was relocated.
4/9/13	PAM-3	11	203.8	dust from load-out, water spray was applied
5/7/13	PAM-2	21	215.7	equipment movement and load out in the vicinity, water spray was applied
5/17/13	PAM-4	14	215.2	excavation activities along the south fenceline, work was stopped and water spray was applied
6/17/13	PAM-1	10	164.6	backfilling activities coupled with equipment traffic in the Oswego area, water spray was applied
6/26/13	PAM-4	10	149.5	equipment traffic in the area of PAM-4, water spray was applied
8/13/13	PAM-1	18	213.0	excavators in area, equipment moved.
10/7/13	PAM-3	13	162.8	mist from water spray.
11/11/13	PAM-4	28	246.5	heavy traffic and shallow excavation in POB parking lot near PAM-4 unit.
12/20/13	PAM-4	14	188.8	paving in the POB Lot.
12/21/13	PAM-4	28	248.3	traffic and the use of a leaf blower in the POB Lot.
Off-Site Source				
5/19/12	FAM-3	15	293.4	off-site asphalt patch work and sealing in the POB parking lot adjacent to the fence line in the vicinity of FAM-3.
6/21/12	PAM-3	8	105.7	atmospheric conditions (high humidity) as well as excavation and truck load-outs during the day.
7/27/12	FAM-1	48	260.7	unknown source, work had concluded for the day.
9/21/12	PAM-1	38	984.5	landscaping activities (weed-whacking and leaf-blowing) off-Site in the vicinity of PAM-1.
2/23/13	FAM-2	66	212.9	unknown source, work had concluded for the day.
4/10/13	FAM-3	15	263.6	off-site concrete demolition
6/27/13	FAM-1	13	139.4	unknown source, no site activity.
7/4/13	FAM-1	62	144.7	unknown source, no site activity
7/5/13	FAM-1	16	183.4	unknown source, no site activity.
8/20/13	FAM-1	348	282.0	atmospheric conditions (high relative humidity), work had concluded for the day.
10/26/13	FAM-3	9	194.1	unknown source, no site activity
10/28/13	FAM-3	44	258.1	FORD employees' excavation activity at the offsite FORD property located near FAM unit.
10/28/13	PAM-1	1	145.5	FORD employees' excavation activity at the offsite FORD property located near PAM unit.
10/29/13	FAM-3	41	191.5	FORD employees' excavation activity at the offsite FORD property located near FAM unit.
11/23/13	FAM-3	11	173.1	Elevated concentrations occurred over the weekend when routine Site activities were not being conducted. The source is unknown.

Table 4-9 Summary of Constituent-Specific Results Fixed Monitoring Locations Average Over the Duration of the Program (ppb)

Location	MGP Constituents of Interest					
	Benzene	Toluene	Ethylbenzene	m, p Xylenes	o Xylene	Naphthalene
1	0.19	0.56	0.11	0.29	0.12	0.15
2	0.33	0.97	0.18	0.36	0.15	0.31
3	0.25	1.35	0.22	0.54	0.21	0.30
4	0.23	0.64	0.16	0.30	0.14	0.23
<i>Sitewide Avg.</i>	<i>0.25</i>	<i>0.88</i>	<i>0.17</i>	<i>0.37</i>	<i>0.16</i>	<i>0.25</i>

Table 4-10 Summary of Constituent-Specific Results Fixed Monitoring Locations Maximum for the Duration of the Program (ppb)

Location	MGP Constituents of Interest					
	Benzene	Toluene	Ethylbenzene	m, p Xylenes	o Xylene	Naphthalene
1	0.89	2.75	0.42	3.89	1.07	0.72
2	2.37	3.85	0.67	1.78	0.59	1.05
3	0.98	7.15	0.95	3.20	1.42	1.71
4	0.51	1.76	0.49	0.78	0.32	1.67
<i>Background</i>	<i>2.53 1</i>	<i>13.53 2</i>	<i>1.00 2</i>	<i>4.34 3</i>	<i>1.65 2</i>	<i>1.9 2</i>

Notes:

- 1 Control Home Database 95th percentile, NYSDOH 1997
- 2 Building Assessment and Survey Evaluation 95th percentile, EPA 2001
- 3 Control Home Database 99th percentile, NYSDOH 1997

**Table 4-11 Hempstead Intersection Street Former MGP Site Summary of Constituent-Specific Results
Portable Monitoring Locations (ppb)**

Location	Date	MGP Constituents of Interest					
		Benzene	Toluene	Ethylbenzene	m,p Xylenes	o Xylene	Naphthalene
1	9/11/2013	NDa	0.44	NDa	NDb	NDa	NDa
2	12/20/2012	0.26	0.36	NDa	NDb	NDa	0.14
	3/14/2012	NDa	NDa	NDa	NDb	NDa	NDa
3	12/7/2012	1.87	159.50	1.99	3.89	1.55	3.99
	12/12/2012	0.54	0.83	0.37	0.64	0.25	1.27
	1/11/2013	0.63	1.35	0.72	0.94	0.43	1.67
	3/6/2013	0.73	0.96	0.35	0.73	0.30	0.65
	9/17/2013	NDa	0.41	NDa	NDb	NDa	NDa
	9/18/2013	0.44	1.54	0.46	1.51	0.69	1.44
4	1/16/2013	0.35	0.55	0.35	0.34	0.21	1.29
	5/23/2013	NDa	0.83	NDa	NDb	NDa	NDa

Notes:

NDa = 0.19 ppb

NDb = 0.36 ppb

Table 4-12 Summary of Odor Intensity Results Number of Measurements at Odor Intensity Level

Odor Intensity Level ^a	Fixed Air Monitoring Locations				Portable Air Monitoring Locations			
	1	2	3	4	1	2	3	4
0 and 1	1,494	1491	1,492	1,497	1,496	1,498	1,473	1,481
2	3	7	5	1	2	---	24	17
2.5	1	---	---	---	---	---	---	1
3 ^b	---	---	1	---	---	---	1	---

Notes:

^a dimensionless^b Action Level

--- no observations at this Intensity Level

Table 4-13 Summary of Noise Monitoring Results Maximum Observed Values (dB)

Month	Week				
	1	2	3	4	5
July 2012	80	81	87	73	---
August 2012	81	80	76	77	76
September 2012	80	73	78	---	---
October 2012	81	79	79	78	---
November 2012	NA	78	78	77	---
December 2012	75	84	78	NA	---
January 2013	NA	76	72	75	---
February 2013	78	79	75	---	---
March 2013	72	73	76	78	
April 2013	75	74	77	77	---
May 2013	76	80	74	67	68
June 2013	78	72	79	79	---
July 2013	78	75	78	83	---
August 2013	72	75	79	79	75
September 2013	74	83	79	76	---
October 2013	71	71	70	70	---
November 2013	74	75	71	73	67
December 2013	62	62	64	71	---

Notes:

--- =Month did not include this number of weeks

NA = no site activity during this period

Bold = maximum value exceeded the 85dB screening level.

Appendix A

Community Air Monitoring Plan (CAMP)



Environment

Prepared for:
National Grid
Hicksville, NY

Prepared by:
AECOM
Chelmsford, MA
60214741
October 26, 2011

Community Air Monitoring Plan Hempstead Intersection Street Former MGP Site Villages of Hempstead and Garden City, NY





Environment

Prepared for:
National Grid
Hicksville, NY

Prepared by:
AECOM
Chelmsford, MA
60214741
October 26, 2011

Community Air Monitoring Plan Hempstead Intersection Street Former MGP Site Villages of Hempstead and Garden City, NY

A handwritten signature in black ink that reads "Melissa Wellman".

Prepared By: Melissa Wellman

A handwritten signature in black ink that reads "Leo J. Gendron".

Reviewed By: Leo J. Gendron

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List of Acronyms

AM – Air Monitoring

ASTM – American Society for Testing and Materials

BTEX – Benzene, Toluene, Ethylbenzene, and Xylenes

CAMP – Community Air Monitoring Plan

COI – Constituents of Interest

DER-10 – DER-10 Technical Guidance for Site Investigation and Remediation

EPA – Environmental Protection Agency

FAM – Fixed Air Monitoring

GC – Gas Chromatograph

HASP – Health and Safety Plan

HCN – Hydrogen Cyanide

Hg - Mercury

H₂S – Hydrogen Sulfide

MGP – Manufactured Gas Plant

PAM – Portable Air Monitoring

PID – Photoionization Detector

PM₁₀ – Particulate Matter with a diameter 10 micrometers or less

NYSDEC – New York State Department of Environmental Conservation

NYSDOH - New York State Department of Health

SO₂ – Sulfur Dioxide

TVOC – Total Volatile Organic Compound

VOC – Volatile Organic Compound

Executive Summary

This Site-specific Community Air Monitoring Plan (CAMP) has been developed to provide specific procedures for measuring, documenting, and responding to potential airborne contaminants during the remedial action at the Former Hempstead Intersection Street Manufactured Gas Plant site, referred to herein as the Site. The procedures in this CAMP are focused on the monitoring of airborne contaminants at the Site perimeter and complement the work zone monitoring conducted to protect Site workers as described in the Site Health and Safety Plan (HASP). This CAMP is based on and builds on the air monitoring guidelines established by the New York State Department of Health (NYSDOH) in the New York State Department of Environmental Conservation (NYSDEC) DER-10 Technical Guidance for Site Investigation and Remediation (DER-10) (May 2010). DER-10 is designed to provide monitoring procedures, Response Limits, Action Limits, and contingency measures if any concentration of the constituents of interest (COI) is approached. DER-10 defines a Response Limit as a contaminant concentration or odor intensity that triggers contingent measures. A contaminant or odor intensity greater than the Response Limit does not suggest the existence of a health hazard, but serves instead as a screening tool to trigger contingent measures if necessary, to assist in minimizing offsite transport of contaminants and odors during remedial activities. Additionally, DER-10 defines an Action Limit as a contaminant concentration or odor intensity that triggers a series of contingent measures and/or work stoppage. National Grid has created an Alert Limit for total volatile organic compound (TVOC) concentrations to provide notification of increasing TVOC concentrations. Contingent measures triggered by a Response and/or Action Limit concentration are defined in the Site-specific Emissions Control Plan as well as the National Grid Alert Limit.

During times of active remedial activities, perimeter air monitoring (AM) will be conducted using a combination of real-time (continuous and nearly instantaneous) AM at fixed locations (24 hours a day/7 days a week) and portable locations (Monday – Friday, 7:00 AM – 5:00 PM), walk-around supplemental monitoring using hand-held instruments on an as-needed basis, and continuous meteorological monitoring during active periods of the remedial program.

Contaminants commonly found at former MGP sites will be monitored, including volatile organic compounds (VOCs) and respirable particulate matter (PM₁₀) 10 micrometers or less in diameter. Relative odor intensity will also be monitored using an American Society for Testing Materials (ASTM) method. The Contingency Plan included in this document defines the Site-specific Alert, Response, and Action Limits, and response activities to be implemented during working hours if concentrations above an Alert, Response, and/or Action Limit concentration for a measured contaminant occurs. Although hydrogen cyanide (HCN) has not been detected in the soil or groundwater, there will be a separate contingency plan for monitoring for its presence if cyanide-containing material is encountered during excavation.

The CAMP describes the AM to be conducted during activities on the main site where there is reasonable expectation of encountering MGP-impacted materials. Where appropriate, an alternative level of monitoring which is in compliance with DER-10 and equally protective of the community may be employed. Based on specific field activities, a decision will be made as to the appropriate level of monitoring.

1.0 Introduction

The purpose of the air monitoring program is to provide early detection in the field of potential short-term emissions. The early detection of potential emissions and associated contingency measures is intended to expedite any necessary mitigation measures, and to reduce the potential for the community and public to be exposed to hazardous constituents at levels above accepted regulatory limits and guidelines provided in DER-10.

During remedial activities at the Site, the CAMP will be implemented using a combination of real-time AM at fixed and temporary locations, as well as supplemental walk-around perimeter monitoring using hand-held instruments as appropriate. An aerial overview and a site map showing the preliminary locations of the AM stations are shown in **Figure 1-1** and **Figure 1-2**, respectively.

The objectives of the CAMP are as follows:

- Provide an early warning system to alert National Grid that concentrations of total organic compounds (TVOC), PM₁₀, odor, and hydrogen cyanide (HCN) in ambient air are approaching Action Limits due to Site activities;
- Provide details for a Site Contingency Plan that is designed to reduce the offsite migration of contaminants/odors if established Action Limits are approached or exceeded;
- Determine whether engineering controls are effective in reducing ambient air concentrations to below Action Limits and make appropriate and necessary corrective actions; and
- Develop a permanent record that includes a database of perimeter air monitoring results and meteorological conditions, equipment maintenance, calibration records, and other pertinent information.

1.1 General Approach

The general approach to meet the objectives of the CAMP is two-fold:

1. Utilize a real-time air monitoring system to measure the constituents of interest (COI). Real-time monitoring data will be used as an early warning system so that the air monitoring contractor can alert National Grid and the Site Construction Manager (CM) if concentrations of COI are approaching the Action Limits. Under this scenario, National Grid, the Site CM, and the air monitoring contractor can then begin to evaluate and implement appropriate Site controls to maintain acceptable ambient air concentrations.
2. Develop comprehensive data management and analysis procedures. Data will be generated from a variety of sources, including real-time fixed and portable air monitoring, integrated VOC sampling, pre-construction baseline sampling, supplemental hand-held equipment, and meteorological monitoring. These data will be reduced, evaluated, verified, and presented to National Grid and the Site CM in a timely manner to facilitate timely decision-making.

Prior to the start of remedial activities, several preliminary periods of excavation will be conducted within the scope of this CAMP. These preliminary phase excavations will include: an approximately

one to three day soil remediation for Mercury impacted soils and a 30 to 45 day excavation near the temporary parking lot area. Monitoring during these preliminary periods of excavation is outlined in more detail in **Sections 3.4** and **3.5**. The locations of these areas of excavation and the air monitoring locations are shown in **Figure 1-3** and **Figure 1-4**, respectively.

Figure 1-1: Aerial View

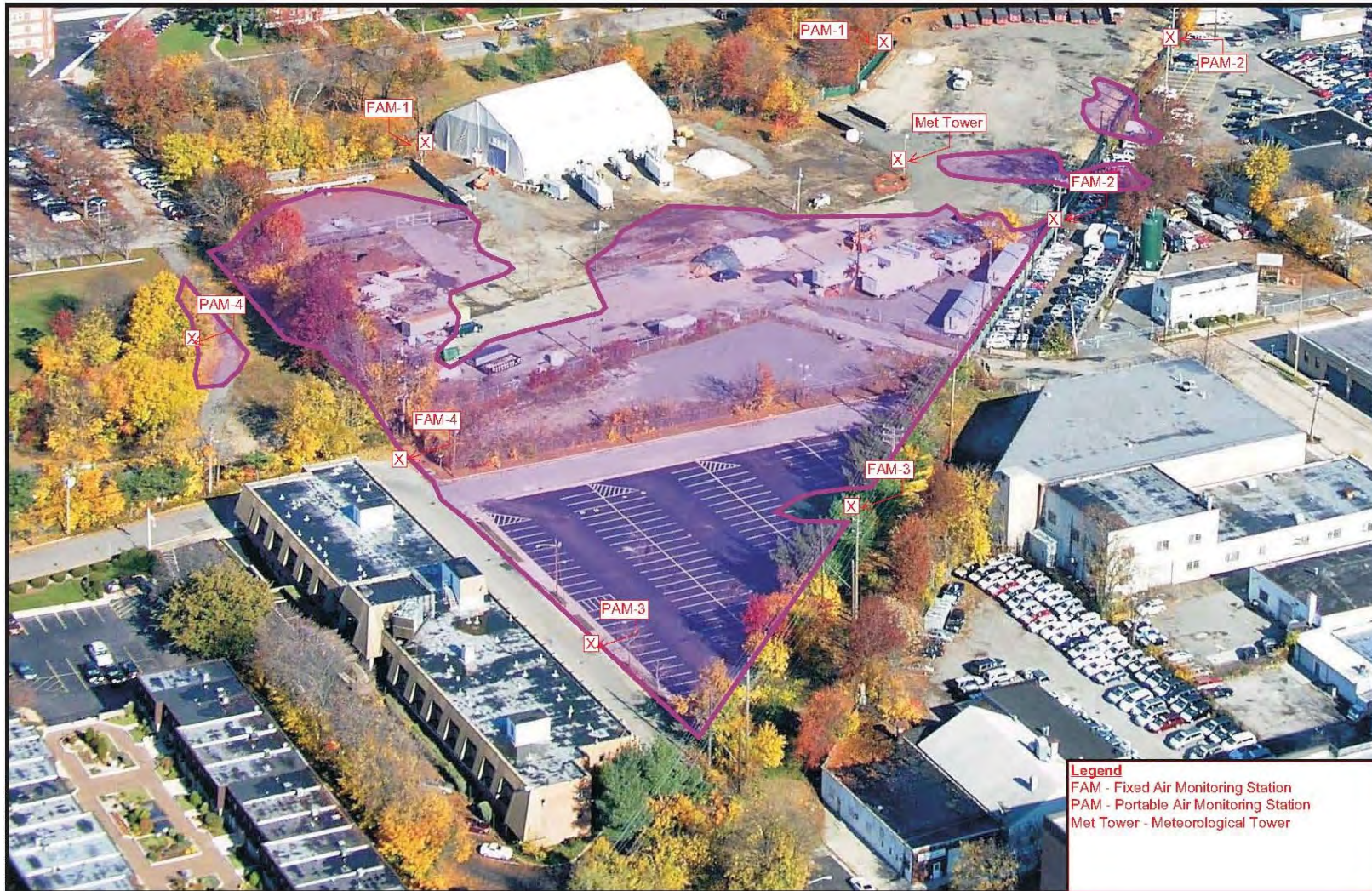


Figure 1-2: Site Map

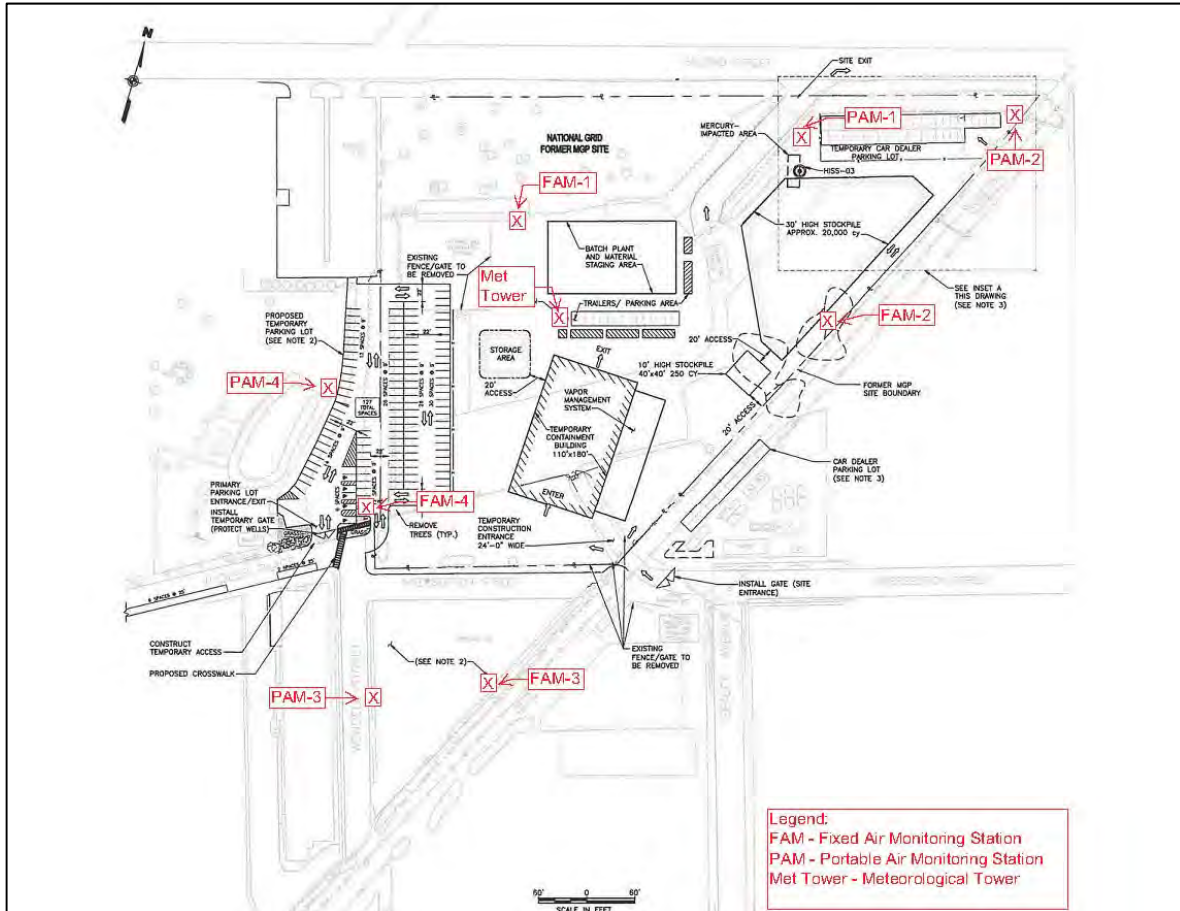


Figure 1-3: Site Map for Preliminary Excavation of Mercury Impacted Materials

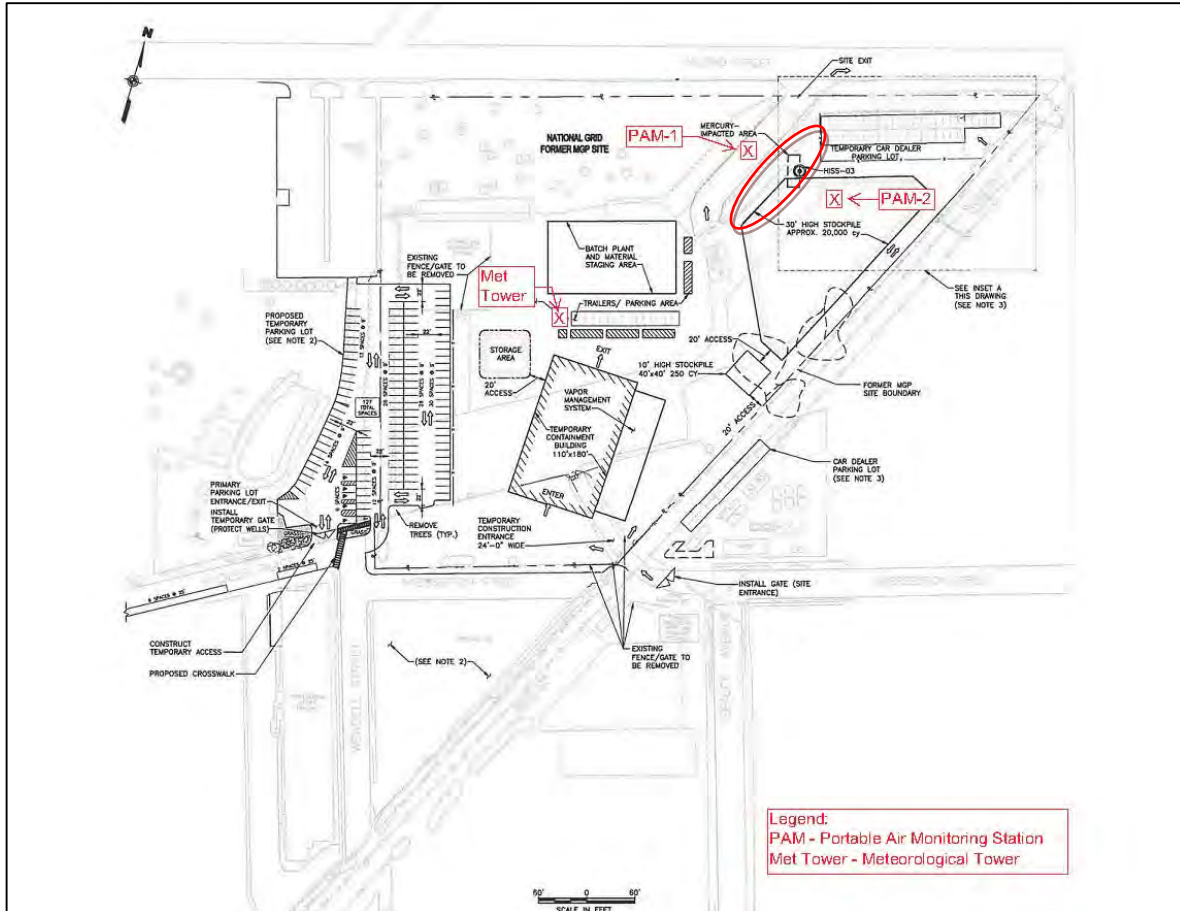
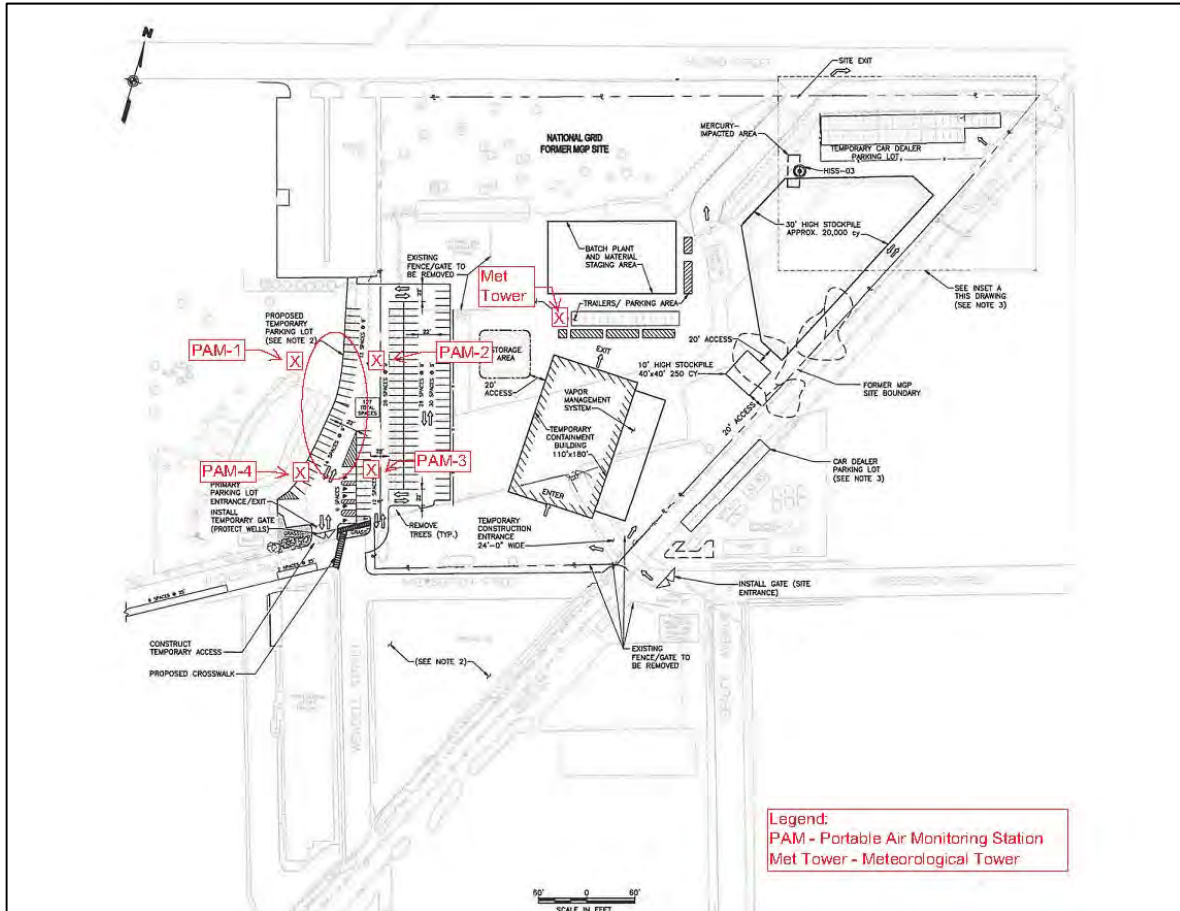


Figure 1-4: Site Map for Preliminary Excavation of Parking Area



2.0 Alert, Response, and Action Limits

Alert, Response, and Action Limits will be used as a real-time screening tool to manage remediation activities to minimize the potential for offsite emissions and/or potential long term health risk. If concentrations are above the Action Limits during the excavation, prompt implementation of operational modifications should be effective in preventing adverse impacts to offsite air quality in the vicinity of the Site.

2.1 Alert, Response, and Action Limits

The Alert, Response and Action Limits shown in **Table 2-1** are consistent with the 15-minute recommended concentrations listed in DER-10. These Action Limits were developed by the DER-10 as a Site management tool used to maintain existing air quality standards and guidelines at the Site perimeter.

The following COI and corresponding Response and Action Limits were developed in accordance with DER-10 and the Alert Limit (TVOC) was developed by National Grid to help manage the Site.

Table 2-1: Target Concentrations (above Background) and Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	N/A		1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor ² - n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – $\mu\text{g}/\text{m}^3$	NA	NA	440	$[C_{avg}] \leq 440$	NA	NA	$[C_{avg}] > 440$
Hydrogen Cyanide – ppm	Odor threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds</p> <p>PID = Photoionization Detector</p> <p>PM₁₀ = Particulate Matter</p> <p>ppm = parts per million volume</p> <p>$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter</p> <p>[C] = Concentration of target collected from a discrete sample</p> <p>[C_{avg}] = 15-minute average concentration of target</p> <p>DT = Dräger Tubes</p> <p>OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.</p> <p>NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOC's and PM₁₀ during the final evaluation of the Site conditions as part of the weekly data summaries.</p> <p>² Odor intensity observations are based on the n-butanol scale.</p> <p>³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) that this could provide an indication for HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

3.0 Monitoring and Sampling Procedures

This section of the CAMP presents a detailed description of the air monitoring and sampling procedures that will be used during the Site ground intrusive activities.

Air monitoring activities will be conducted throughout the program to evaluate conditions at the property line (fenceline) and other locations as specified below to ensure that the measures used to control potential fugitive emissions are effective, and document ambient air quality/conditions at the Property. The monitoring program will consist of the following real-time monitoring and integrated constituent-specific sampling during active periods of remediation:

- Continuous real-time monitoring for TVOCs and PM₁₀ will be conducted at four (4) fixed air monitoring (FAM) stations (24-hours per day, 7-days per week);
- Continuous real-time monitoring for TVOCs and PM₁₀ will be conducted at four (4) portable air monitoring (PAM) stations (8- to 10-hours per day, 5-days per week (Monday through Friday, 7:00AM through 5:00PM));
- Continuous real-time monitoring for TVOCs will be supplemented with an automatic benzene, toluene, ethylbenzene, and xylenes (BTEX) monitoring in the event the Action Level for TVOCs is exceeded at any of the FAM stations;
- Hand-held and observational monitoring for TVOCs, naphthalene, PM₁₀, odor, HCN, Hydrogen Sulfide (H₂S) and visible dust will be conducted, as warranted, during periods of remediation;
- Integrated sampling for VOCs will be conducted using SUMMA canisters; and
- Continuous meteorological monitoring.

3.1 Real-Time Air Monitoring

Continuous real-time AM for TVOCs and PM₁₀ will be conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time AM program is to provide an early detection of short-term emissions and potential offsite migration of remediation related TVOCs and PM₁₀. Real-time FAM stations will operate 24-hours, 7-days per week, during periods of remediation activity, and the PAM stations will operate 8 to 10-hours, 5-days per week, estimated to be Monday through Friday 7:00 AM – 5:00 PM, during periods of ground intrusive activities. The real-time perimeter AM system consists of FAM stations and PAM stations, supplemented by routine hand-held and observational air monitoring; one (1) meteorological tower, one (1) central computer system, and one (1) alarm notification system.

3.1.1 Fixed Air Monitoring Stations

AECOM will conduct continuous real-time TVOC and PM₁₀ monitoring at four (4) FAM stations around the perimeter of the Site. Locations of the FAM stations are shown in **Figure 1-2**. The FAM stations will be programmed to measure 15-minute average TVOC and PM₁₀ concentrations that will be updated continuously every 1-minute. Each FAM station will include an in-station Gas

Chromatograph (GC) programmed to speciate for individual BTEX compounds when the average 15-minute TVOC concentration exceeds the Response Limit. Note that the AECOM system is capable of speciating for the individual BTEX compounds and measure TVOC concentrations concurrently.

Each FAM station contains the following:

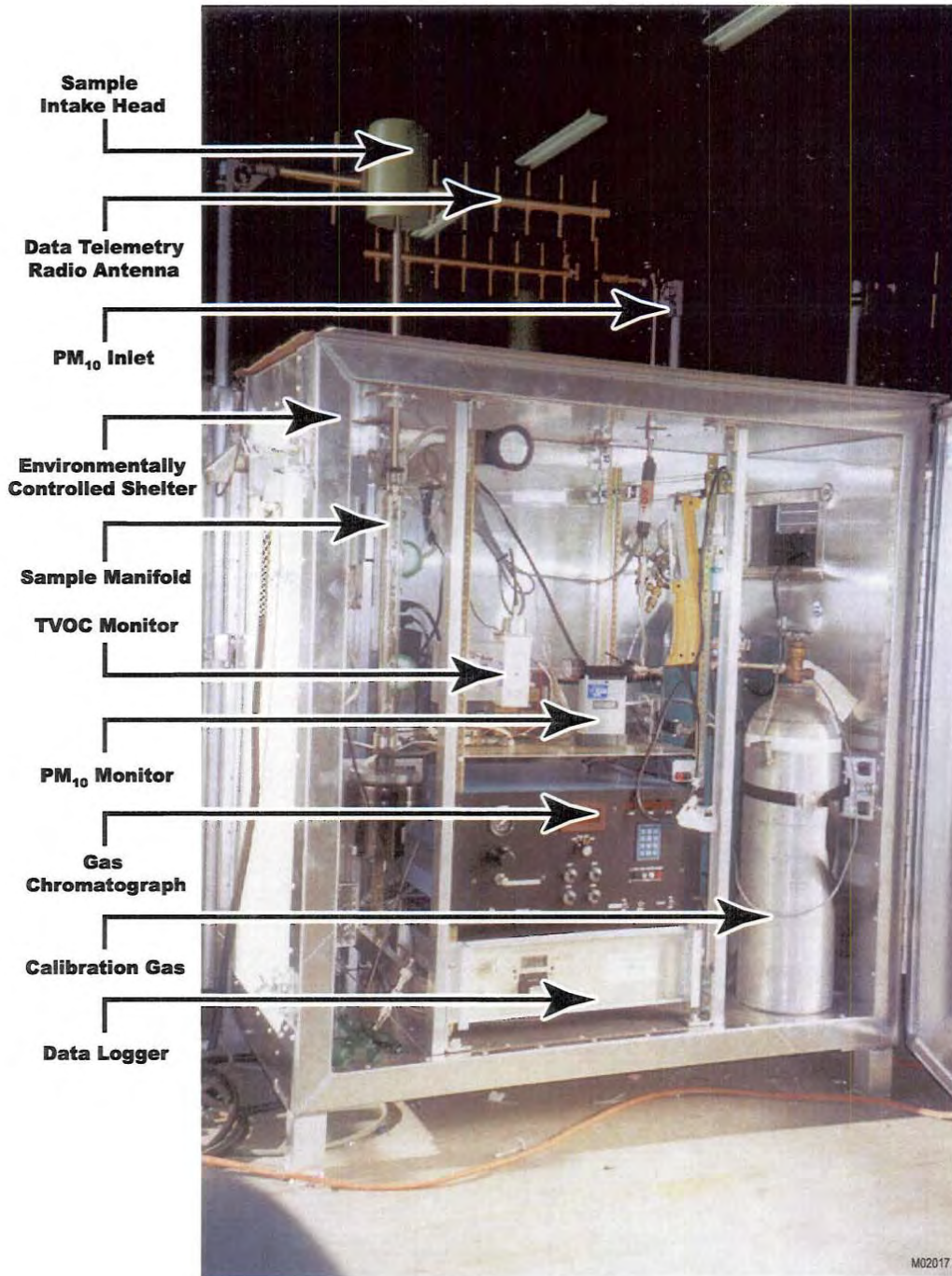
- Insulated station enclosure;
- Sample manifold system with humidity reduction;
- Photoionization detector (PID) (RAE PID or equivalent) plus a separate GC;
- Particulate monitor equipped with a PM₁₀ particle size separator (DustTrak or equivalent);
- Data logger;
- Wireless radio communications device; and
- Environmental control system (insulated panels, heater, and air conditioning system).

Each monitoring station is housed in a weather-tight NEMA-4 type enclosure. The internal capacity of each air shelter is illustrated in **Figure 3-1**.

The PIDs will operate in the TVOC mode to determine the TVOC concentration in ambient air. In TVOC mode, the PIDs will collect and analyze samples at a rate of one sample every 10-seconds, producing 1-minute averages which are then used to make 15-minute data averages. If the subsequent 15-minute average TVOC concentration measured at a station reaches the Response Limit then the PID will continue to measure TVOCs and the GC at that station will begin to continuously sample and measure in the compound-specific mode. In the compound-specific mode, quantitative concentrations of BTEX compounds in ambient air will be determined.

Each particulate meter will also be equipped with a PM₁₀ sampler to monitor particulate matter 10 micrometers or less in diameter. Particulate meters analyze samples once every 10-seconds and produce 1-minute averages. These 1-minute averages will be used to make 15-minute data averages.

Figure 3-1: Fixed Air Monitoring Station



3.1.2 Portable Air Monitoring Stations

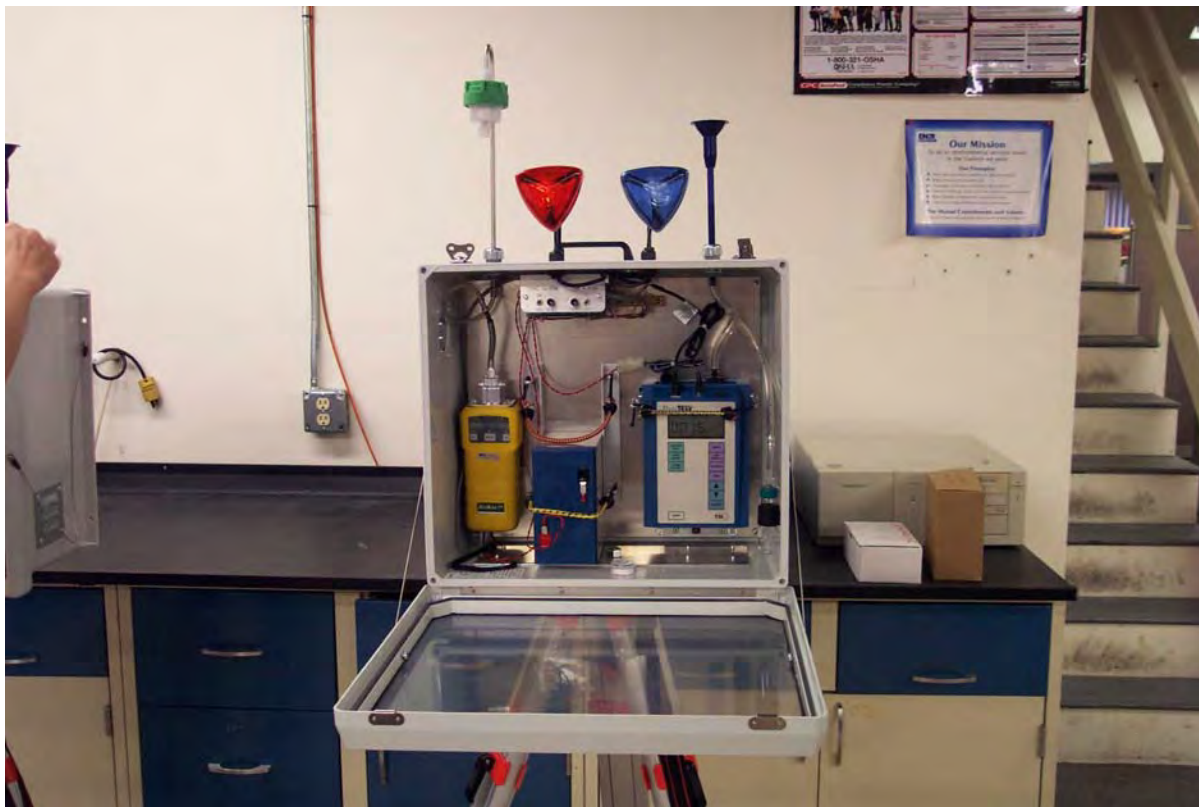
AECOM will conduct continuous real-time TVOC and PM₁₀ monitoring at four (4) PAM stations around the perimeter of the Site. Locations of the PAM stations are shown in **Figure 1-2** and can change with proximity of work relative to wind conditions. The PAM stations will be programmed to measure 15-minute average TVOC and PM₁₀ concentrations updated continuously every 1-minute, 8 to 10-hours a day 5-days a week (estimated to be Monday through Friday 7:00AM to 5:00PM). Each PAM station will be positioned to monitor from the breathing zone and can be repositioned each work day to better target the fence-line concentrations in the vicinity of active work areas. The location of each station, the work zone, and the wind direction will be noted daily.

Each PAM station will include the following:

- Station tripod;
- PID (RAE PID or equivalent);
- Particulate monitor equipped with a PM₁₀ particle size separator (DustTrak or equivalent);
- Data logger; and
- Wireless communication device.

Each PAM station will continuously measure and record TVOCs and PM₁₀. TVOC and PM₁₀ data will be stored in data-loggers located within each PAM station. Similar to the FAM stations, data from each piece of equipment will be telemetered to the central location and stored on a central computer system. At each PAM station, the 15-minute data averages (60 concentrations per hour) of TVOC and PM₁₀ will be recorded and updated every 1-minute. In the event of elevated concentrations of TVOC and/or PM₁₀, the 15-minute average value of TVOC or PM₁₀ data from the upwind and downwind stations will be compared and the resultant concentration will be calculated and recorded.

Figure 3-2: Portable Air Monitoring Station



3.1.3 Supplemental Walk-Around Monitoring

Supplemental perimeter monitoring for TVOC, PM₁₀, odor, HCN, and H₂S will occur along the perimeter of the project Site on an as-needed basis. Additional hand-held monitoring for Mercury (Hg) will be conducted during the preliminary excavation of Hg impacted soils referenced in **Section 3.4**.

Specific Site conditions that may trigger walk-around perimeter monitoring include:

- Visible dust;
- Odor complaints;
- Detection of TVOCs and/or PM₁₀ at a FAM or PAM where concentrations exceed an Alert, Response and/or Action Limit;
- Elevated HCN levels within the exclusion zone from purifier waste or other materials, or if HCN (bitter almond) odors are detected onsite or in the vicinity of the Site; and
- Direction by National Grid, the Site CM, or NYSDEC.

When a triggering condition is observed during ground intrusive activity, the supplemental downwind perimeter monitoring will occur continuously until the conditions that triggered the monitoring have subsided.

3.1.3.1 Total Volatile Organic Compounds

TVOC concentrations will be measured and recorded using a portable real-time PID (RAE PID or equivalent).

3.1.3.2 Particulate Matter

PM₁₀ will be measured and recorded using a portable real-time particulate monitor (DustTrak or equivalent) equipped with a PM₁₀ impactor.

3.1.3.3 Odor Intensity

Odors will be observed based on the n-butanol scale, as adapted from ASTM E544-99. At each monitoring location, the data value, sample time, and sample location will be collected and recorded. Additional temporary monitoring points may be established due to changing Site and/or meteorological conditions.

Naphthalene concentrations will be measured if odor intensity is observed above the Action Limit. A separate GC specific for naphthalene will be installed at a central onsite location for this purpose. Samples will be obtained by collecting an air sample in a tedlar bag and subsequently analyzing the contents for naphthalene. 15-minute average naphthalene concentrations will be compared to the naphthalene Action Limit. The monitoring location, 15-minute average concentration, and the sample time will be recorded as part of the supplemental hand-held monitoring database.

3.1.3.4 Hydrogen Cyanide

If cyanide materials are encountered during excavation, work area monitoring detects a confirmed measurement of cyanide, or if HCN odors are detected in the vicinity of the site, cyanide will be monitored at the perimeter downwind. To monitor cyanide (as HCN gas), a real-time hand-held meter in conjunction with the Dräger standard tube measuring system will be used. The continuous monitoring equipment that will be used to measure HCN gas will be the Mini-Warn by Dräger Safety Systems. Due to potential interference from sulfur compounds, hydrogen sulfide gas (H₂S), Sulfur Dioxide (SO₂) and phosphine will also be monitored for comparison to any HCN gas levels detected. HCN gas detections will also be confirmed with standard Dräger tubes due to this interference. The Dräger tubes can quantify other gases that could potentially provide false positives for HCN gas (including sulfur dioxide, H₂S, phosphine gas, hydrogen chloride, and nitrogen dioxide) detected by the real-time meter.

3.1.4 Meteorological Monitoring

A Climatronics meteorological monitoring system, or equivalent, will be established onsite. The meteorological system will be set at a height of 10 meters (approximately 30 feet) above ground and located at the central air monitoring shelter that is clear of buildings, trees, or other obstructions. The meteorological system will continuously monitor temperature, dew point temperature (or relative humidity), wind speed, and wind direction. Fifteen-minute average values for each meteorological parameter will be stored in the meteorological system and downloaded continuously into the onsite central database.

A Campbell Scientific data logger (or equivalent) provided with the meteorological system also includes a digital standard deviation (sigma) processor which calculates the wind fluctuation (sigma theta). Sigma theta is an important parameter to observe during remediation activity, so that the

potential for fugitive emissions to change direction during slow wind periods can be assessed and documented.

3.1.5 Central Computer System and Interactive Display

TVOC, individual VOC constituents (BTEX), PM₁₀, and meteorological data will be stored in data-loggers located within each monitoring station. Stored data along with system performance data from each station will be sent in real-time, via wireless communication device, to the central computer system located in the central air monitoring trailer. Results are then sent electronically to the data processing office for validation.

3.1.6 Real-Time Alarm Notification System

In the event that concentrations above the Response or Action Limit for TVOC or PM₁₀ are observed the air monitoring consultant will be notified via a 24/7 phone paging system. The central computer will be equipped with a modem or wireless card that is capable of sending text pages to cell phones. If a PM₁₀ and/or TVOC Response or Action Limit is reached during non-working hours, the system will be checked remotely and an appropriate response action will be determined.

Equipment calibration will be performed according to the manufacturer's instructions. Each PID will be calibrated once daily using a certified standard isobutylene gas for TVOC mode. A certified standard gas mixture for BTEX specific compounds will be used to calibrate the onsite GC daily at each location. Particulate monitors for PM₁₀ will be zeroed daily and a once-per-week upscale check will be performed on each instrument. Hand-held portable equipment will be calibrated before each use, and at a minimum of once per week when not in use.

3.2 Integrated Volatile Organic Compound Measurements

Integrated VOC samples (24 hours) will be collected once per week at two (2) air monitoring stations (plus one (1) collocated sample per month). The samples are collected to demonstrate that the real-time monitoring stations are effective in measuring the concentration of the VOC COI.

Integrated VOC samples will be collected using 6-liter Summa® canisters (or equivalent vacuum canisters) and analyzed using United States Environmental Protection Agency (EPA) Method TO-15 (modified to include naphthalene). An accredited laboratory will perform the analytical testing on the canisters and will provide Category B deliverables as required by the New York Analytical Services Protocol. The data will be validated according to EPA and New York State requirements.

3.3 Pre-Construction Baseline Monitoring and Sampling

Pre-construction monitoring and sampling will be performed to establish baseline ambient air concentrations prior to the start of the principle excavation and solidification of MGP impacted media. Baseline conditions will be developed for TVOCs and PM₁₀ in ambient air using the real-time FAM and PAM system. In addition, a baseline odor survey plus integrated TO-15 VOC sampling at two (2) locations per day will be completed during the baseline monitoring and sampling period. Monitoring and sample collection and analysis methods will follow those described in **Section 3.0** (Real-Time Air Monitoring).

Pre-construction real-time monitoring will take place at the four (4) FAM stations and four (4) PAM stations to determine TVOC and PM₁₀ baseline conditions. TVOC plus PM₁₀ data will be recorded 24-hours per day for a minimum of three days.

Pre-construction odors will also be established for 3 days prior to construction activities. Onsite and offsite odor surveys will be conducted using the 8-point n-butanol scale. The onsite odor surveys will be conducted along the perimeter of the Site. The offsite odor surveys will be conducted throughout adjacent neighborhoods.

3.4 Preliminary Mercury Soil Excavation Air Monitoring

AECOM will conduct AM during the preliminary excavation and removal of Hg impacted soil in the area shown in **Figure 1-3**. This preliminary excavation will be conducted prior to the baseline monitoring and sampling program.

The following AM will be conducted in accordance with the procedures outlined herein:

- Continuous real-time monitoring for TVOCs and PM₁₀ will be conducted at two (2) PAM stations during periods of excavation;
- Hand-held and observational monitoring for Hg (with a Jerome Hg type analyzer), TVOCs, PM₁₀, odor, and visible dust may be conducted, as warranted, during periods of remediation; and
- Continuous meteorological monitoring.

Differences in monitoring procedures or types are outlined in the following sections.

3.4.1 Portable Air Monitoring

AECOM will conduct real-time PM₁₀ and TVOC monitoring at two (2) PAM stations during periods of work activities. Each PAM station will be programmed to measure 15-minute average PM₁₀ and TVOC concentrations updated every 1-minute and compare them to the Site-specific Alert (TVOC only), Response, and Action Limits. Lights on the PAM stations will be turned on in the event of a period of elevated concentrations greater than the respective Alert, Response or Action Limit. Data will be downloaded at the conclusion of each work day.

3.4.2 Supplemental Walk-Around Monitoring

Supplemental walk-around monitoring will be conducted along the Site perimeter and will include measurements and/or observations of the following: Hg, TVOC, PM₁₀, odor, and visible dust.

Mercury monitoring will be conducted using a Jerome Model 432-X analyzer (or equivalent) as part of the supplemental walk-around monitoring. Hand-held measurements for vapor phase Hg will be obtained at upwind and downwind locations along the Site perimeter. Concentrations of Hg will be compared to the Response and Action Limits listed in **Table 3-1**.

Table 3-1: Preliminary Mercury Soil Excavation Alert, Response and Action Limits

COI	Alert Limit	Response Limit	Action Limit
Mercury ¹	NA	0.025 mg/m ³	0.05 mg/m ³
PM ₁₀ ²	NA	100 µg/m ³	150 µg/m ³
TVOC	3.7 ppm	5.0 ppm	25.0 ppm

mg/m³ – milligrams per cubic meter
µg/m³ – micrograms per cubic meter
ppm – parts per million
NA – not applicable

¹ Response and Action Limits for Mercury are based on the National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL) Time Weighted Average (TWA).
² The maximum ambient concentration of particulate (associated with Mercury) was calculated below and found to be less than the Site-specific Response and Action Limits for Mercury.

Particulate Action Limit Calculation:

C_{air} = (Action Level_{dust} x C_{soil}) x (10⁻⁶ kg/mg) where:

C_{air} = maximum predicted constituent concentration in air (mg/m³)
Action Level_{dust} = maximum particulate concentration in air (mg/m³)
C_{soil} = maximum constituent concentration in soil (mg/kg)

C_{air} = (0.15 mg/m³ x 30 mg/kg) x (10⁻⁶ kg/mg) = 4.5 x 10⁻⁶ mg/m³

3.4.3 Meteorological Monitoring

Meteorological monitoring will be conducted using a temporary 3-meter tower. Meteorological measurements for wind direction, wind speed, sigma theta, and temperature will be collected and calculated into 15-minute averages.

3.5 Preliminary Parking Area Excavation Air Monitoring

AECOM will conduct air monitoring during the preliminary excavation and removal of impacted soil in the temporary parking area shown in **Figure 1-4**. This preliminary remediation is expected to take 30 to 45 days to complete and will be completed prior to the start of the baseline monitoring and sampling program.

During this period AM will be conducted in accordance with the procedures outlined herein and will include:

- Continuous real-time monitoring for TVOCs and PM₁₀ conducted at four (4) PAM stations during periods of excavation;
- Hand-held and observational monitoring for TVOCs, naphthalene, PM₁₀, odor, HCN, H₂S and visible dust conducted, as warranted, during periods of remediation; and
- Continuous meteorological monitoring.

Monitoring conducted during this period will be conducted in accordance with the specifications and procedures outlined in the CAMP. The complete AM system will be delivered and mobilized to the Site during this period.

4.0 Quality Assurance

The CAMP includes several activities related to Quality Assurance and Quality Control (QA/QC) designed to ensure that the field program is being and has been properly conducted and that the analytical results have been reviewed for accuracy and overall quality. Goals of the QA/QC aspect of the program are, among other things: to assure that the field activities; laboratory results; the associated responses to periods of elevated concentrations; and the data reporting are appropriate and protective of the environment and public health.

4.1 Field Documentation

A field log book and measurement device calibration field forms along with monthly data listings, will be maintained by AECOM throughout the air monitoring program. Information to be recorded by the air monitoring contractor (AECOM) will include:

- Description of remediation activities conducted during elevated data values;
- Daily Site maps showing the locations of each FAM and PAM station and hand-held monitoring locations for the day;
- Any corrective actions conducted due to elevated real-time air monitoring concentrations such as foaming/watering, covering stockpiles, reduced work pace, etc.;
- Integrated VOC sample media receipt dates, conditions, and numbers;
- Copies of the COC forms;
- Sampling equipment installation, operation, and removal dates;
- Sampling equipment calibration dates and results;
- General field weather conditions on sampling days;
- Any unusual situations which may affect samples or sampling;
- Sample dates; and
- Start and stop times.

General QA/QC procedures related to the collection and analysis of representative field monitoring data and samples are discussed in the following sections.

4.2 Instrument Calibration

Instrument calibrations will be performed according to the AECOM SOPs and manufactures recommendations. Hard copies of the AECOM SOPs and the manufacture's instrument manuals will be kept onsite as part of the project notebook. SOPs to be kept onsite include:

- Operation of the RAE PID (or equivalent);
- Operation of the DustTrak (or equivalent); and
- Operation of the GC (or equivalent).

The following sections detail the specific calibration frequencies for each type of monitoring. Daily instrument calibration results will be maintained onsite for the duration of the project.

4.2.1 Real-Time Air Monitoring

Instrumentation associated with FAM, PAM, and hand-held activities will be calibrated on a daily basis in accordance with AECOM's direction and the manufacturers' instructions using either commercially available standards, or internal calibration points. Specific calibration checks may be conducted at the start of daily remediation activities. In certain circumstances similar calibration checks will be conducted at the conclusion of the measurement day. For example: a calibration check will be conducted if a device, such as an analyzer, is suspected to be functioning improperly or a calibration check may be conducted during the operational day if a device is suspected of malfunctioning. There may also be circumstances where a calibration check is conducted in conjunction with a period of elevated concentrations to verify or validate the instrument (device) measurements. This check could be conducted just after the period of elevated concentrations or in certain circumstances during the period of elevated concentrations.

Each PID will be calibrated (to zero and an upscale concentration) once daily using a certified standard isobutylene gas for TVOC mode. Particulate monitors for PM₁₀ will be zeroed daily plus a once-per-week upscale check will be performed on each instrument with a dust generator (i.e., smoke tube). Hand-held instrumentation will be calibrated before each use.

Each GC will go through a nightly zero and upscale check of target compounds. Full calibrations will be performed as indicated by the results of the nightly checks.

The meteorological instrumentation will be calibrated during the setup of the project, every six months during the project, and at the time of take down to document the condition of the equipment and assure the quality of the meteorological data recorded. Periodic observations and comparisons to other meteorological stations will be made by a technician to evaluate the overall air flow and weather conditions in the area.

4.3 Integrated VOC Air Monitoring

The 24-hour integrated VOC samples will be collected in a 6 Liter Summa Canister equipped with a flow control regulator during remediation activities. Spare flow control regulators will be supplied by the laboratory for use on the integrated VOC sample. The flow controllers will be calibrated by the laboratory to collect a sample at a flow rate that will allow the canister to fill over a 24-hour period.

The flow controllers will be returned to the laboratory for cleaning and recertification every 3-months, or when routine checks indicate a change in flow rate.

4.3.1 Field Quality Control Samples

Field duplicate (or collocated) samples will be collected and used to facilitate the evaluation of the precision and accuracy of the results from the laboratory samples. Collocated samples will be collected at a rate of one (1) collocated sample per month (approximately 1 collocated sample will be collected for every 8 samples). The results will be evaluated and it will be determined if the results are reasonable.

5.0 Data Management Procedures

This section of the CAMP discusses the data management procedures that will be used during the program. Data will be generated from a variety of sources, including real-time monitoring, hand-held and observational monitoring, and integrated VOC sampling. These data must be reduced, evaluated, verified, and presented to National Grid and the Site CM in a timely manner to facilitate decision-making. The data management process for each source of data is discussed below.

Analytical data generated at each FAM and PAM station are sent to the central computer system via wireless radio telemetry. The FAM and PAM baseline monitoring data will also be downloaded to the project database for data evaluation.

5.1 Exceedance Notifications

Monitoring results for TVOCs and PM₁₀ will be reported to the construction manager and NYSDEC when Response and/or Action Limits have been exceeded, to allow prompt evaluation and response to potential emissions. The AECOM air monitoring technician, together with National Grid and the Site CM, will decide when shut-down and start-up criteria are met.

In addition, if there is a period of confirmed concentrations above the Action Limit during off hours, an email notification will be provided within 24 hours of the incident to the NYSDEC and NYSDOH.

5.2 Weekly Data Summaries

The following weekly data summaries will be prepared and transmitted to National Grid and the Site CM:

- Maximum 15-minute average concentrations of TVOC, PM₁₀, and odor intensity;
- Upwind and downwind comparison and discussion of Response and Action Limits reached during the week;
- Average 15-minute wind speed, wind direction, relative humidity, and air temperature data;
- Summary of Site activities; and
- Air monitoring station location maps.

5.3 Monthly Summaries

In addition to the weekly data summaries, a monthly data CD will be provided to National Grid, the NYSDEC, and NYSDOH.

5.4 Final Air Monitoring Report

At the conclusion of the program, AECOM will prepare a summary of the real-time and integrated VOC air monitoring results. The report will include summaries of meteorological data, as well as real-time and integrated VOC data from each air monitoring location. AECOM will prepare up to two (2) hardcopies and one (1) electronic copy of the final report documenting the air monitoring results. Additionally, copies of the analytical data and QA/QC documentation will be provided on CD following

the completion of the program. The air monitoring report will be submitted to National Grid for review within 90-days of the project completion.

6.0 Contingency Plan

The Contingency Plan is designed to identify potential Site control measures that may be implemented in response to elevated levels of COI or odor measured during ground intrusive activities. In general, a tiered approach to Site conditions with corresponding response actions will be implemented during the air monitoring program.

The four (4) tiers of Site conditions are defined as follows:

- **Operational Condition:** Normal or ambient air-conditions where PM₁₀ concentrations are less than the Response Limit and TVOC concentrations are less than the Alert Limit;
- **Alert Condition:** Concentration of TVOC is greater than the Alert Limit, but less than the Response Limit;
- **Response Condition:** Concentration of PM₁₀ or TVOC is greater than the Response Limit, but less than the Action Limit; and
- **Action Condition:** Concentration of PM₁₀ or TVOC is greater than the Action Limit.

The Contingency Plan will rely on real-time data generated from the FAM, PAM, hand-held, odor intensity, and meteorological monitoring. These data sources will be evaluated together in order to make appropriate decisions concerning Site conditions and potential control measures. **Table 2-1** presents the Site Condition decision table that will be used to determine the appropriate Site Condition based on contaminant concentrations. Possible Alert, Response, and Action Condition corrective actions are listed in **Table 6-1** and are presented in detail in the Emissions Control Plan.

Explanations of the notification system, specific conditions, and response actions for TVOCs, PM₁₀, and odor are presented in the following sections.

Table 6-1: Site Conditions and Corrective Actions

Site Condition	Corrective Action
Operational Condition	<ul style="list-style-type: none"> • Normal Site operations – No Response Action Required.
Alert Condition	<ul style="list-style-type: none"> • Establish trend of data and determine if evaluation/wait period is warranted; • Apply VOC emission suppressant foam over open excavation areas; • Slow the pace of construction activities; • Cover all or part of the excavation area; • Slow the pace of construction activities; • Change construction process or equipment that minimizes air emissions; and/or • Evaluate Site activities as they relate to COI concentrations.
Response Condition	<ul style="list-style-type: none"> • Establish trend of data and determine if evaluation/wait period is warranted; • Temporarily stop work; • Temporarily relocate work to an area with potentially lower emission levels; • Apply water to area of activity or haul roads to minimize dust levels; • Reschedule work activities; • Cover all or part of the excavation area; • Apply VOC emission suppressant foam over open excavation areas; • Slow the pace of construction activities; and/or • Change construction process or equipment that minimizes air emissions.
Action Condition	<ul style="list-style-type: none"> • Assess work activity modifications; • Cease construction activities; and • Re-evaluate CAMP.
<p>Notes: The bulleted response actions specified under each Site condition can be implemented in any order that is most appropriate under the existing site conditions and are detailed in the Emissions Control Plan.</p>	

6.1 Total Volatile Organic Compounds

TVOC concentrations in air will be measured and recorded by the FAM and PAM stations. **Table 2-1** presents the TVOC decision table that will be used to determine the appropriate Site Condition based on contaminant concentrations.

6.1.1 Operational Condition

Operational Condition will be in effect when the 15-minute TVOC concentration from each FAM or PAM station is less than the Alert Limit of 3.7 ppm.

Under an **Operational Condition**, each PID located at FAM and PAM stations will operate in the TVOC mode and will collect and analyze a TVOC sample at a frequency of one 15-minute average each minute.

6.1.2 Alert Condition

An **Alert Condition** will occur if any 15-minute TVOC concentration measured at a FAM or PAM station is greater than the Alert Limit (3.7 ppm), but less or equal to the Response Limit (5.0 ppm).

At this time, the upwind and downwind TVOC concentrations will be compared to determine if the preliminary Alert Condition is due to Site activities. If downwind TVOC concentrations are greater than 3.7 ppm above the background concentration, then it will be assumed that the preliminary Site condition is due to Site activities.

6.1.3 Response Condition

A **Response Condition** will occur if any 15-minute TVOC concentration measured at a FAM or PAM station is greater than the Response Limit (5.0 ppm), but less than or equal to the Action Limit (25.0 ppm). Under a Response Condition, the GC at the elevated FAM will automatically begin to analyze for the individual BTEX compounds in the compound-specific mode and the 15-minute concentration for each BTEX compound will be determined.

If the above condition is true, then a Response Condition will be verified. Under a verified Response Condition, a contingency meeting attended by the air monitoring consultant, National Grid, NYSDEC and/or NYSDOH representatives (when possible), and the Site CM will be held to determine appropriate response actions. This meeting will be held within 60 minutes of the Response Condition verification.

6.1.4 Action Condition

If average TVOC concentrations exceed the Action Limit of 25.0 ppm or the benzene concentrations exceed 1.0 ppm during the GC speciation mode at any site, then the Site will enter into an **Action Condition**. An Action Condition will remain in effect if either of the following conditions is true:

- The 15-minute average benzene concentration is greater than 1.0 ppm (Action Limit); and/or
- The 15-minute average TVOC concentration is greater than or equal to 25.0 ppm (Action Limit).

Under an Action Condition, construction activities will be halted. A meeting attended by the air monitoring consultant, NYSDEC and/or NYSDOH representatives (when possible), National Grid, and the Site CM will be held within 60 minutes of the Action Condition notification to determine appropriate corrective actions. Possible Action Condition corrective measures/actions are listed in **Table 6-1**. After appropriate corrective measures/actions are taken, work activities may resume provided that the TVOC concentration at the Site perimeter is no more than 25.0 ppm above background for the 15-minute average and the benzene concentrations are below 1.0 ppm.

6.1.5 Evaluating Corrective Actions and Site Conditions

If average TVOC and benzene concentrations fall below the Action Limits, then the Site will be returned to a Response and/or Alert Condition at which time work activities may resume. The appropriate Site Condition can be determined as follows:

- Response Condition - The 15-minute average concentration for TVOC is greater than 5.0 ppm (Response Limit), but less than or equal to 25.0 ppm (Action Limit) above background;
- Alert Condition – The 15-minute average concentration for TVOC is greater than 3.7 ppm (Alert Limit), but less than or equal to 5.0 ppm (Response Limit) above background; and/or
- Operational Condition - The 15-minute average concentration for TVOC is less than or equal to 3.7 ppm (Alert Limit) above background.

Under the Operational Condition, the GCs in each of the FAM stations that were in VOC compound-specific (BTEX) sampling mode will be automatically turned off.

Specific TVOC target concentrations for Operational, Alert, Response and Action Conditions are summarized in **Table 2-1**.

6.2 Particulate Matter (PM₁₀)

PM₁₀ concentrations in air will be measured and recorded by the FAM and PAM stations. **Table 2-1** presents the PM₁₀ decision table that will be used to determine the appropriate Site Condition based on the contaminant concentrations.

6.2.1 Operational Condition

Operational Condition will be in effect when the 15-minute PM₁₀ concentration from each FAM or PAM station is less than the Response Limit of 100.0 µg/m³ (following an evaluation of background concentrations).

6.2.2 Response Condition

A **Response Condition** will occur if any 15-minute PM₁₀ concentration measured at a FAM or PAM station is greater than the Response Limit (100 µg/m³), but less than or equal to the Action Limit (150 µg/m³). At this time, the Site CM and National Grid will be notified of elevated measurements PM₁₀ concentrations and a possible Response Condition. Under a Response Condition, upwind and downwind PM₁₀ concentrations will be compared to determine if the Response Condition is due to Site activities. If downwind PM₁₀ concentrations are 100 µg/m³ (Response Limit) greater than upwind (background) concentrations (Response Limit), then it will be assumed that the Response Condition is due to Site activities.

The Response Condition will remain in effect as long as the 15-minute average PM₁₀ concentration is greater than or equal to 100 µg/m³ (Response Limit) above background and less than or equal to 150 µg/m³ (Action Limit). Under a Response Condition, dust suppression techniques must be implemented. At this point, routine monitoring continues and 15-minute averages continue to be evaluated. Work may continue with dust suppression techniques provided that downwind PM₁₀ levels do not exceed 150 µg/m³ above background, and provided that no visible dust is migrating offsite from the work area

If the above condition is true, then a Response Condition will be verified. Under a verified Response Condition, a contingency meeting attended by the air monitoring consultant, National Grid, NYSDEC and/or NYSDOH representatives (when possible), and the Site CM will be held to determine appropriate corrective actions. This meeting will be held within 60 minutes of the Response Condition if the elevated concentrations are not mitigated by dust suppression techniques.

6.2.3 Action Condition

An **Action Condition** will go into effect if the average 15-minute PM₁₀ concentration exceeds 150 µg/m³ (Action Limit) above background. Under an Action Condition, work must be stopped and a meeting attended by the AECOM, National Grid, the NYSDEC or NYSDOH representatives, and the Site CM will be held within 60 minutes of the Action Condition notification to determine appropriate corrective actions.

6.2.4 Evaluating Corrective Actions and Site Conditions

Work may resume provided that dust suppression measures and other controls are successful in reducing the downwind PM₁₀ concentrations below 150 µg/m³ above background and in preventing visible dust migration.

Specific PM₁₀ target concentrations for Operational, Response, and Action Conditions are summarized in **Table 2-1**.

6.3 Visible Dust

In addition to measured PM₁₀ concentrations, the CAMP requires monitoring of visible dust conditions. If visible airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM₁₀ levels do not exceed 150 µg/m³ above background and no visible dust is migrating from the work area.

6.4 Odor

Odors from MGP sites are generally negligible due to surface soil cover of contaminated materials. However, excavation work may expose these materials and odors may become detectable. Odors may cause concern among the nearby community, visitors to the site, and onsite workers regarding potential health risks. Health risks or the potential for health risks do not rely strictly on detectable odors. A detectable odor does not indicate health risks. However, controlling odor emissions from a site can allay public fears about health risks and provide additional means of controlling nuisance emissions during remediation activities.

For MGP sites, the characteristic odor during remediation has been attributed primarily to naphthalene and indene, although additional compounds may contribute to the overall odor. (Pure naphthalene has the characteristic odor of mothballs). EPA provides a threshold for the initial presentation of naphthalene odors at 440 µg/m³ (ATSDR, 1995; Amoores and Hautala, 1983). There is no reported odor threshold for indene. Odors emanating from the site will be monitored for general odor intensity, as described below.

Odor intensity levels will be noted and recorded as needed during perimeter walk-around monitoring. Intensity levels will be based on the n-butanol scale as adapted from ASTM E544-99. **Table 2-1** summarizes the Site Conditions and Odor Intensity observations. Naphthalene concentrations will be measured and recorded if odor intensity is observed above the Action Limit.

An Operational Condition will remain in effect if the odor intensity, based on the 8-point n-butanol scale, is less than 3 (Action Limit). An Action Condition will go into effect when odor intensities are greater than 3, based on the 8-point n-butanol scale, or there are odor complaints from the public.

If an Action Condition, due to odor, is verified, then a meeting attended by AECOM, National Grid, NYSDEC or NYSDOH representatives, and the Site CM will be held within 60 minutes of the Action Condition to determine appropriate corrective actions.

6.5 Hydrogen Cyanide

HCN will be monitored on the perimeter of the Site if cyanide-containing material (e.g. purifier waste) is encountered during excavation, or if exclusion zone monitoring detects confirmed levels of cyanide or if HCN (bitter almond) odors are detected in the vicinity of the Site. Sampling will be performed every fifteen minutes if sulfur odor or suspected purifier material is encountered. Measurements will be made downwind, and will be recorded into the field notebook. In the event that HCN is detected, the plan in **Table 6-2** will be used.

Table 6-2: Hydrogen Cyanide Gas Contingency Plan

Site Condition	Target Concentrations ¹	Contingent Measurements
Operational Condition	< odor threshold (0.6 ppm)	<ul style="list-style-type: none"> No contingent measurements
Alert Condition	> odor threshold (0.6 ppm) and > 0.6 ppm for 15-minute average using real-time meter	<ul style="list-style-type: none"> Run Dräger Tube; Continue monitoring with real-time meter; and Continue work, if Dräger Tube for HCN < 0.6 ppm.
Response Condition	> 1.0 ppm on Dräger tube	<ul style="list-style-type: none"> Stop work and move (with continuous monitoring meter) at least 25 feet upwind from excavation or until continuous monitoring meter registers < 1.0 ppm; Run Dräger Tube for HCN and re-evaluate activities; Continue monitoring with real-time meter; and Work may resume if Dräger Tube for HCN reads < 1.0 ppm.
Action Condition	> 2.5 ppm for 15-minute average using real-time meter and < 2.5 ppm on Dräger Tube.	<ul style="list-style-type: none"> Run Dräger Tube for HCN and confirm < 2.5 ppm concentration; Continue monitoring with real-time meter; Run Dräger Tube using SO₂, H₂S and phosphine tubes to evaluate potential interference; and Recalibrate the real-time meter and continue to monitor the work zone.
<p>Note:</p> <p>¹The ACGIH Threshold Limit Value (TLV) for HCN is 4.7 ppm.</p>		

Appendix B

CD of Real-Time Data

Appendix C

Hand Held Data and Maps

Appendix D

Weekly Summary Data Reports

Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 25 through July 1, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 6/25/12	76.2	0.1	65.1	0.1	90.1	0.1	67.4	0.1	55.3	0.1	53.6	0.1	56.7	0.1	50.0	0.1	X	X
Tue 6/26/12	64.1 ¹	0.1	81.3 ²	0.1	11.2	0.2	16.3	0.1	15.9	0.1	13.9	0.1	59.0	0.1	33.7	0.1	X	X
Wed 6/27/12	27.0 ¹	0.1	31.6	0.1	18.5	0.1	21.0	0.1	17.3	0.1	17.6	0.1	69.8	0.1	15.6	0.1	X	X
Thu 6/28/12	27.4	0.1	59.0	0.1	36.1	0.1	37.8	0.1	35.4	0.1	28.7	0.1	50.0	0.1	34.6	0.1	X	X
Fri 6/29/12	49.1	0.1	99.2	0.1	68.9	0.1	76.8	0.1	82.3	0.1	65.8	0.1	85.3	0.1	67.6	0.1	X	X
Sat 6/30/12	41.6	0.1	82.5	0.1	74.8	0.1	76.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/1/12	30.0	0.1	62.8	0.1	54.3	0.1	54.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ PM₁₀ concentrations were found to be invalid between 7:03PM on 6/26/12 and 7:30AM on 6/27/12 because atmospheric conditions (moist air and temperature fluctuations) caused there to be condensation in the sample lines. ² PM₁₀ concentrations were found to be invalid between 2:10AM and 8:21AM on 6/26/12 because atmospheric conditions (high humidity and precipitation) caused there to be moisture in the sample lines.</p>																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/25/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the Temporary Containment Building (TCB) (12 trucks); •Continued Batch Plant maintenance; •Performed pot hole repairs, excavated, and stock piled soil and debris; and •Routine air monitoring.
Tue 6/26/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (10 trucks); •Continued Batch Plant maintenance; •Continued pot hole repairs, excavation, and stock piling soil and debris; and •Routine air monitoring.
Wed 6/27/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (18 trucks); •Continued Batch Plant maintenance; •Continued pot hole repairs, excavation, and stock piling soil and debris; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 6/28/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (20 trucks); •Continued Batch Plant maintenance; •Continued pot hole repairs, excavation, and stock piling soil and debris; and •Routine air monitoring.
Fri 6/29/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (20 trucks); •Continued Batch Plant maintenance; •Continued pot hole repairs, excavation, and stock piling soil and debris; and •Routine air monitoring.
Sat 6/30/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/1/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

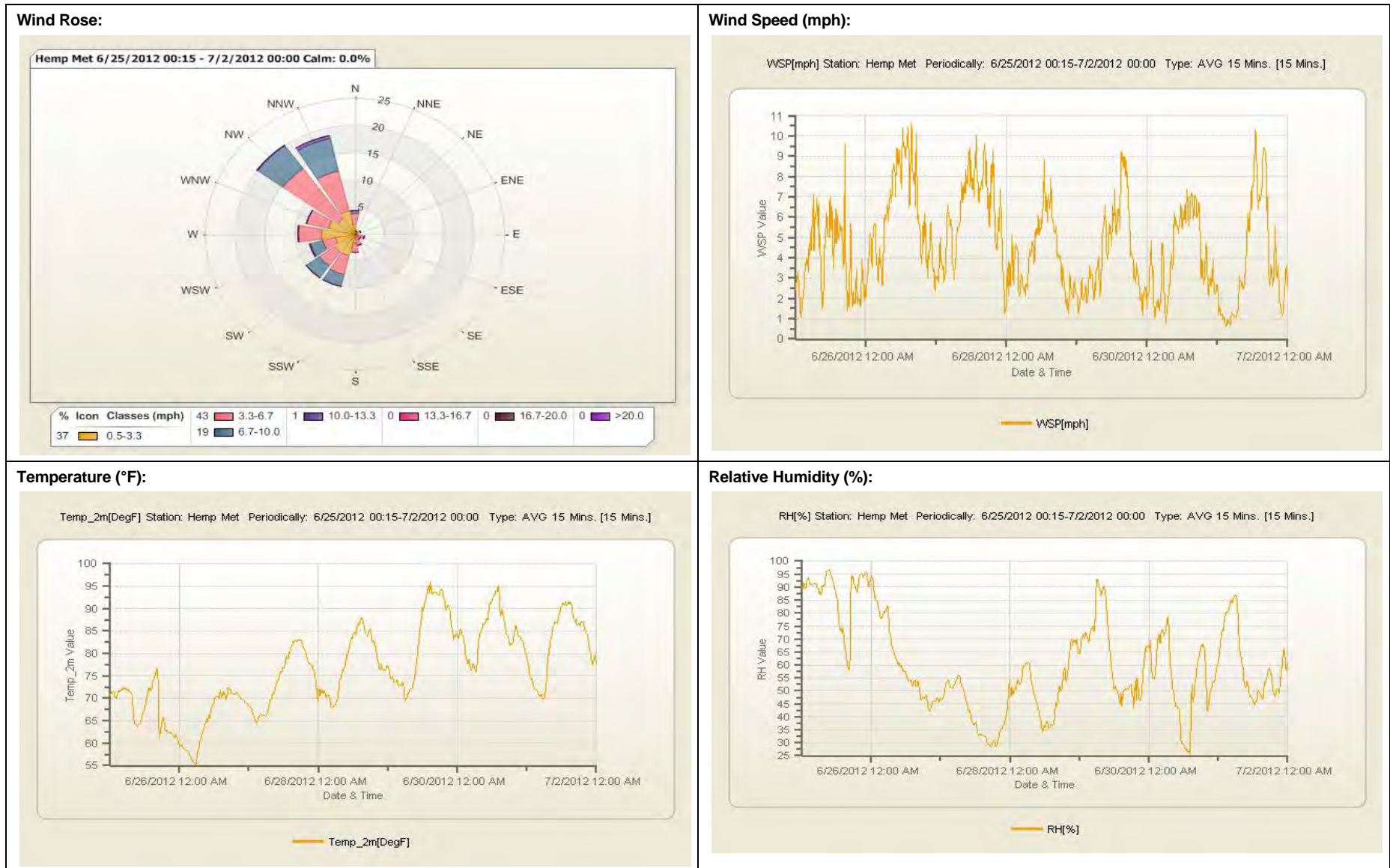
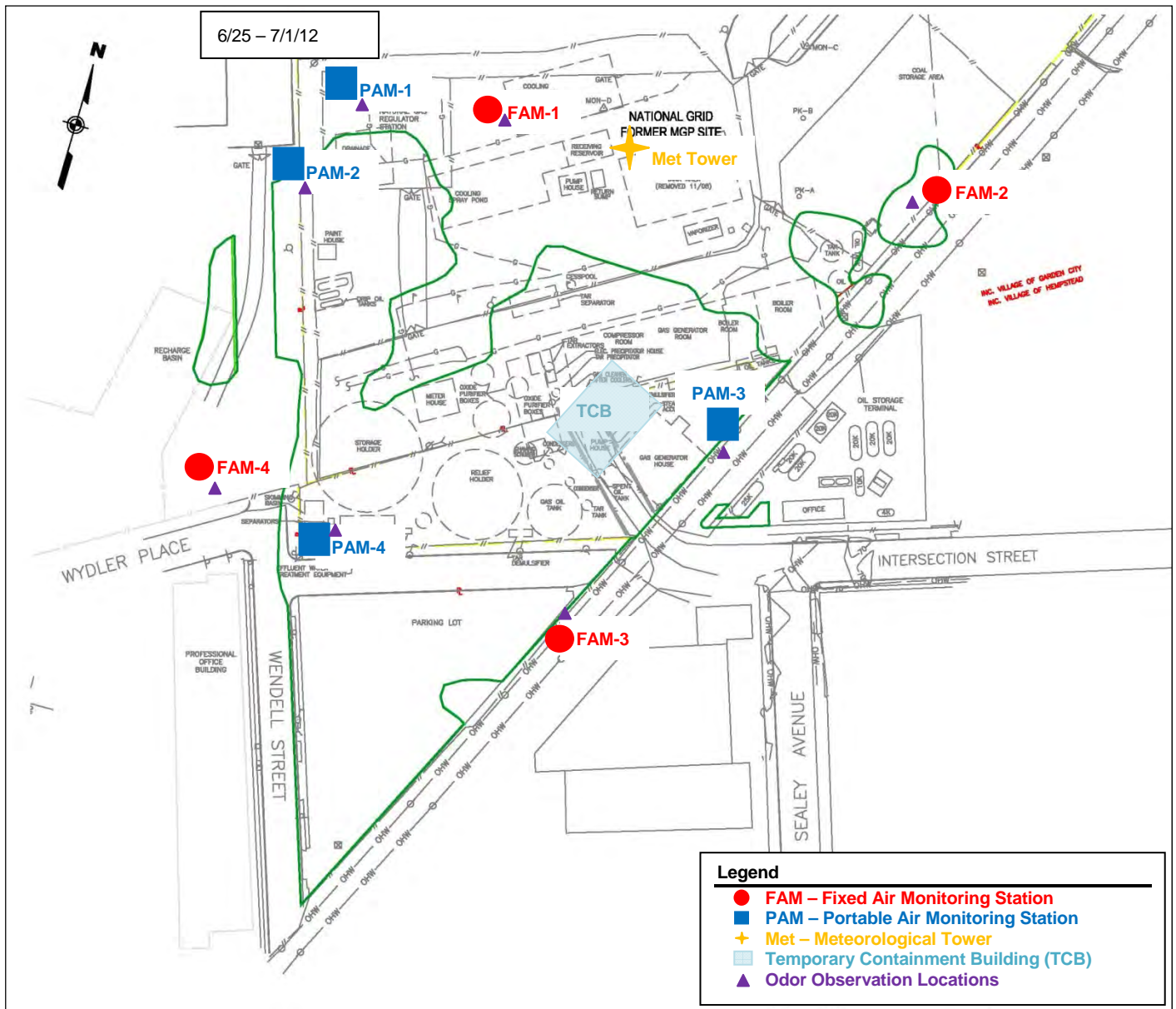


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 16 through December 22, 2013

During the report period there were no TVOC concentrations greater than the Action Limit. There were, however, PM₁₀ concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits. However, there were PM₁₀ concentrations that remained above the Response and Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/16/13	32.5	0.1	12.9	0.1	23.4	0.1	12.4	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	X	X
Tue 12/17/13	30.5	0.1	14.8	0.1	13.5	0.1	25.2	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	X	X
Wed 12/18/13	27.1	0.1	18.1	0.1	18.6	0.1	17.5	0.1	42.4	0.1	53.2	0.1	37.8	0.1	125.8*	0.2	X	X
Thu 12/19/13	25.5	0.1	44.2	0.1	21.2	0.1	21.5	0.1	43.7	0.1	52.1	0.1	43.1	0.1	47.4	0.2	X	X
Fri 12/20/13	21.0	0.1	16.3	0.1	17.2	0.3	16.6	0.1	49.0	0.1	74.8	0.1	82.4	0.1	188.8*	0.3	X	X
Sat 12/21/13	46.2	0.1	14.2	0.1	14.6	0.2	16.5	0.1	69.9	0.1	111.9*	0.2	103.6*	0.1	248.3*	0.2	X	X
Sun 12/22/13	1.1	0.1	5.6	0.1	ND ²	0.1	7.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for background concentrations.</p> <p>¹ PAM units were not in operation due to lack of ground intrusive remediation activities. ² FAM unit was inadvertently turned off on 12/21/13 @ 4:30PM.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based upon onsite and offsite activities (shown in the following tables if applicable). FAM stations collect average 25-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 25-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 25-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM₁₀	Fri 12/20/13	PAM-4	11:27AM	11:40AM	14	150	SW 9.3 mph	WSW 8.9 mph	FAM-4	198.2	9.4	188.8	Action	The elevated concentrations were caused by paving in the POB Lot.
PM₁₀	Sat 12/21/13	PAM-4	12:11PM 1:10PM	12:25PM 1:22PM	28	150	S 5.5 mph	S 6.5 mph	FAM-1	252.9	4.6	248.3	Action	The elevated concentrations were caused by a combination of traffic and the use of a leaf blower in the POB Lot.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 12/18/13	PAM-4	10:42AM	11:08AM	27	100	NW 10.8 mph	NW 7.2 mph	FAM-4	141.6	15.8	125.8	Response	The elevated concentrations were caused by grading work in the POB lot.
PM ₁₀	Fri 12/20/13	PAM-4	10:45AM 11:24AM 11:41AM 4:37PM	11:00AM 11:26AM 11:49AM 4:42PM	34	100	WSW 8.3 mph	SW 3.5 mph	FAM-4	146.4	9.6	136.8	Response	The elevated concentrations were caused by paving in the POB Lot.
PM ₁₀	Sat 12/21/13	PAM-3	7:35AM	7:54AM	20	100	S 3.2 mph	S 4.1 mph	FAM-2	112.9	9.3	103.6	Response	The elevated concentrations were caused by regional atmospheric conditions (high relative humidity).
PM ₁₀	Sat 12/21/13	PAM-2	7:50AM	8:47AM	58	100	S 4.1 mph	S 4.8 mph	FAM-4	119.9	9.4	110.5	Response	The elevated concentrations were caused by regional atmospheric conditions (high relative humidity).
PM ₁₀	Sat 12/21/13	PAM-4	12:26PM 1:09PM 1:23PM	--- --- 1:24PM	4	100	SSW 6.0 mph	S 6.5 mph	FAM-1	148.7	4.0	144.7	Response	The elevated concentrations were caused by a combination of traffic and the use of a leaf blower in the POB Lot.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 12/16/13	<ul style="list-style-type: none"> •Installed fence along southeast side of POB parking lot; and •Routine air monitoring.
Tue 12/17/13	<ul style="list-style-type: none"> •Cut/graded south access road and RCA; •Installed permahedge; and •Routine air monitoring.
Wed 12/18/13	<ul style="list-style-type: none"> •RFC installed fencing on the eastern fenceline of the POB lot area; •Bancker Inc. graded the surface of the POB lot area to prepare for paving; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 12/19/13	<ul style="list-style-type: none"> •Bancker Inc. graded and compacted the path that is going to be the on-site access road; •Spread and compacted surface gravel; and •Routine air monitoring.
Fri 12/20/13	<ul style="list-style-type: none"> •Began paving POB lot; •Compacted site access road; and •Routine air monitoring.
Sat 12/21/13	<ul style="list-style-type: none"> •Completed paving POB Lot; and •Routine air monitoring.
Sun 12/22/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 9 through December 15, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there were PM₁₀ concentrations that remained above the Response Limit after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/9/13	16.2 ¹	0.1	30.3	0.1	29.7	0.4	30.9	0.1	23.5	0.1	27.2	0.1	16.8	0.1	11.5	0.1	X	X
Tue 12/10/13	55.7	0.1	22.8	0.1	21.5	0.4	22.1	0.1	X	X	X	X	X	X	X	X	X	X
Wed 12/11/13	70.9	0.1	19.3	0.1	14.7	0.1	26.4	0.1	33.0	0.1	43.0	0.1	28.9	0.1	140.1*	0.2	X	X
Thu 12/12/13	36.8	0.1	8.4	0.1	7.7	0.1	8.4	0.1	10.5	0.1	33.7	0.1	9.4	0.1	34.6	0.2	X	X
Fri 12/13/13	19.4	0.1	20.8	0.1	19.8	0.1	20.2	0.1	X	X	X	X	X	X	X	X	X	X
Sat 12/14/13	10.5	0.1	21.3	0.1	21.2	0.5	20.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/15/13	1.1	0.1	13.1	0.1	11.6	0.6	12.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for background concentrations.</p> <p>¹ FAM-1 PM₁₀ data invalid between 12/7/13 7:06PM – 12/9/13 7:18AM due to an instrument drift.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based upon onsite and offsite activities (shown in the following tables if applicable). FAM stations collect average 25-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 25-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 25-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM_{2.5} = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 12/11/13	PAM-4	2:42PM 2:51PM	2:49PM 2:55PM	13	100	W 9.3 mph	WSW 9.8 mph	FAM-4	149.9	10.2	139.7	Response	The elevated concentration was caused by LIPA work in the POB Lot.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₂₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

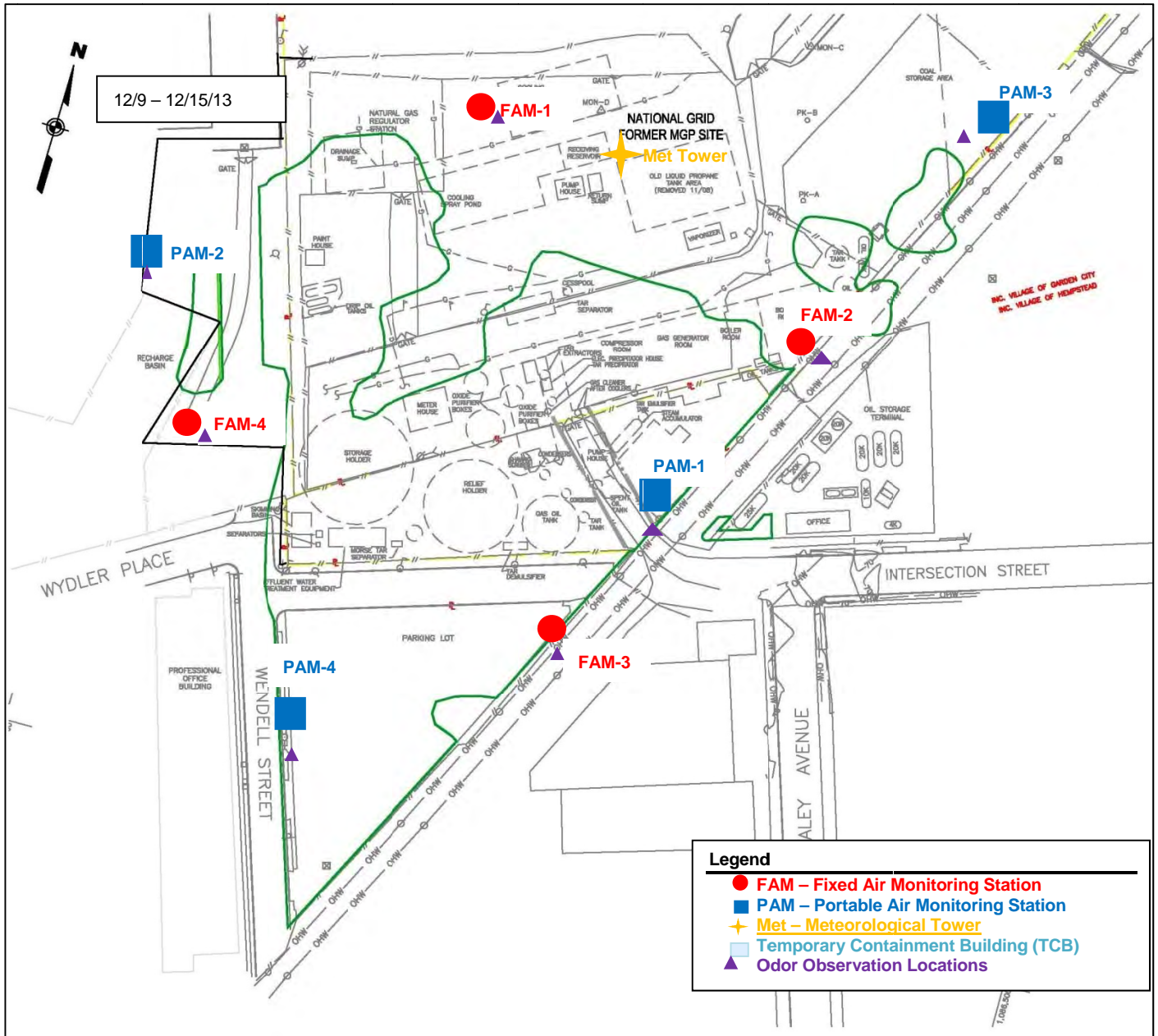
Table 5: Weekly Site Activities

	Site Activities
Mon 12/9/13	<ul style="list-style-type: none"> •Loaded and removed some office furniture from trailers; and •Routine air monitoring.
Tue 12/10/13	<ul style="list-style-type: none"> •Performed snow removal and salting in POB temporary parking lot and walkways; and •Routine air monitoring.
Wed 12/11/13	<ul style="list-style-type: none"> •Performed snow removal and salting in POB temporary parking lot and walkways; •Installed 6 wood electrical pools on Intersection and Wendell Streets; •Buried north O2 lines and covered with sand; and •Routine air monitoring.
Thu 12/12/13	<ul style="list-style-type: none"> •Saw cut north end of Wendell Street; •Built a ramp at north end of Wendell Street for asphalt trucks; •Adjusted manholes and valves on Wendell and Intersection Streets; •Started connecting underground utility power to POB but had to stop at 9AM due to workers in the building; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 12/13/13	<ul style="list-style-type: none"> •Installed fence posts along southeast side of POB parking lot; and •Routine air monitoring.
Sat 12/14/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/15/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 2 through December 8, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. However, there were PM₁₀ concentrations above the Action Limit before background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit. However, there were PM₁₀ concentrations greater than the Response Limit after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/2/13	31.9 ¹	0.1	31.4	0.1	27.0	0.2	30.6	0.1	82.1	0.1	98.5	0.1	82.2	0.1	91.6	0.3	X	X
Tue 12/3/13	47.7	0.1	45.4	0.1	58.9	0.1	46.4	0.1	97.8	0.1	129.1*	0.1	90.2*	0.1	96.7	0.2	X	X
Wed 12/4/13	42.1	0.1	41.5	0.1	37.6	0.1	43.6	0.1	91.0	0.1	117.7*	0.1	87.3	0.1	64.4*	0.2	X	X
Thu 12/5/13	26.2 ²	0.1	39.2	0.1	34.6	0.1	44.9	0.1	80.0	0.1	99.3	0.1	75.5	0.1	90.1	0.1	X	X
Fri 12/6/13	52.3 ³	0.1	19.6	0.1	32.7	0.1	20.7	0.1	86.9	0.1	88.4	0.1	97.5	0.1	68.2	0.2	X	X
Sat 12/7/13	99.3 ³	0.1	9.4	0.1	8.9	0.1	9.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/8/13	ND ³	0.1	15.9	0.1	15.2	0.1	14.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for background concentrations.</p> <p>¹ FAM-1 PM₁₀ data invalid from 11/30/13 @ 3:52PM through 12/2/13 @ 7:22AM due to an instrument drift. ² FAM-1 PM₁₀ data invalid from 3:01AM through 7:08AM due to an instrument drift. ³ FAM-1 PM₁₀ data invalid from 12/7/13 @ 7:06PM through 12/8/13 @ 11:59PM due to an instrument drift.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based upon onsite and offsite activities (shown in the following tables if applicable). FAM stations collect average 25-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 25-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 25-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM_{2.5} = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 12/3/13	PAM-2	9:01AM 9:36AM	9:26AM 10:10AM	61	100	VAR	NW 3.8 mph	FAM-3	149.5	29.0	120.5	Response	Elevated concentrations were caused by atmospheric conditions (high relative humidity).
PM ₁₀	Wed 12/4/13	PAM-2	8:05AM	9:45AM	101	100	VAR	SW 3.0 mph	FAM-3	148.1	30.4	117.7	Response	Elevated concentrations were caused by atmospheric conditions (high relative humidity).
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₂₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 12/2/13	<ul style="list-style-type: none"> •Installed curbs in POB work area; and •Routine air monitoring.
Tue 12/3/13	<ul style="list-style-type: none"> •Installed concrete sidewalk and curbs on Wendell Street; •Performed general Site cleanup; and •Routine air monitoring.
Wed 12/4/13	<ul style="list-style-type: none"> •Completed curb and sidewalk installation for POB, Wendell Street, and Intersection Street; •Graded north of POB area; •Loaded out two connex boxes; •Removed PVC piping and cones from POB south side; and •Routine air monitoring.
Thu 12/5/13	<ul style="list-style-type: none"> •Performed final RCA grading in POB parking lot, Intersection Street, and Wendell Street; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 12/6/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 12/7/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/8/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

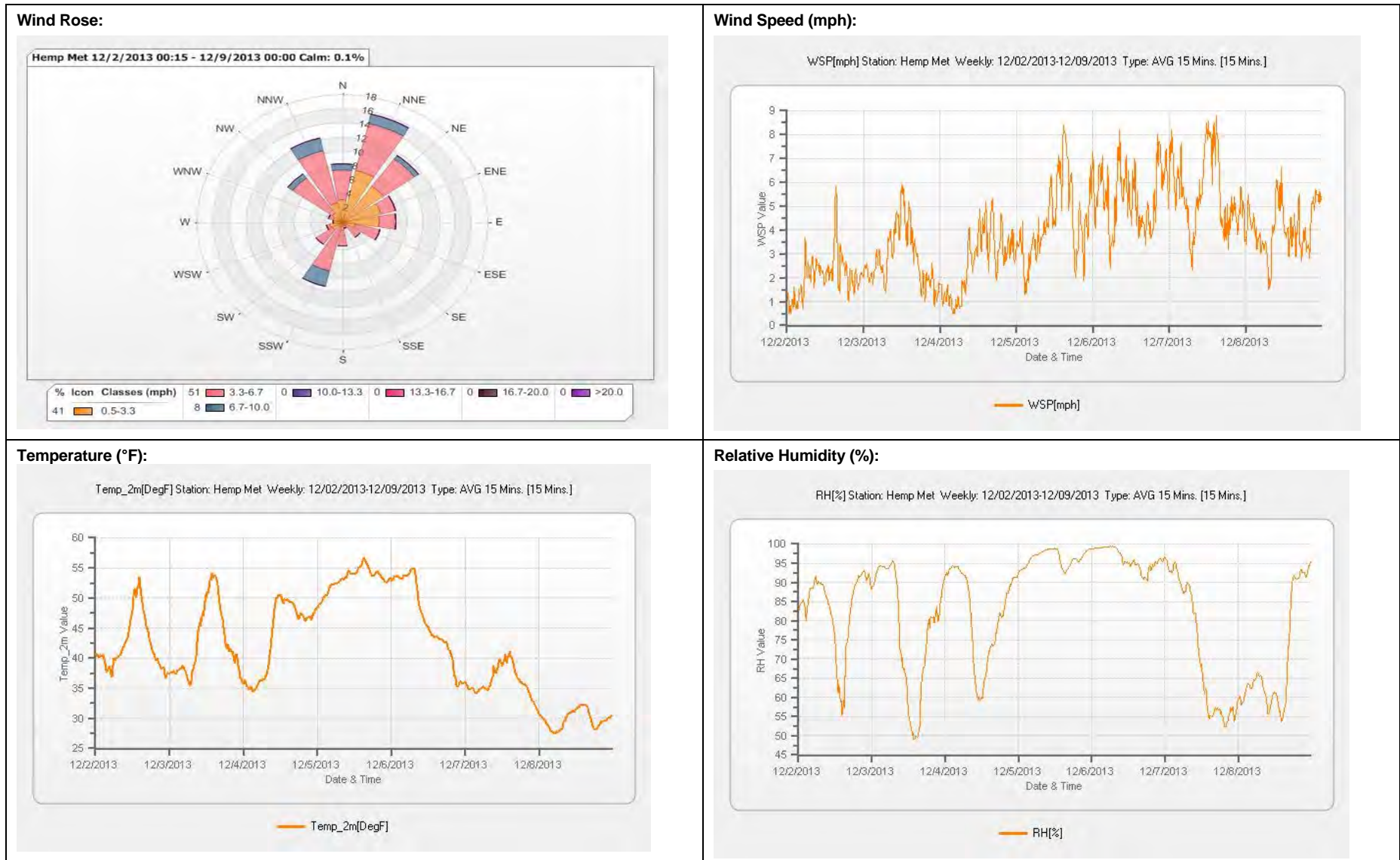
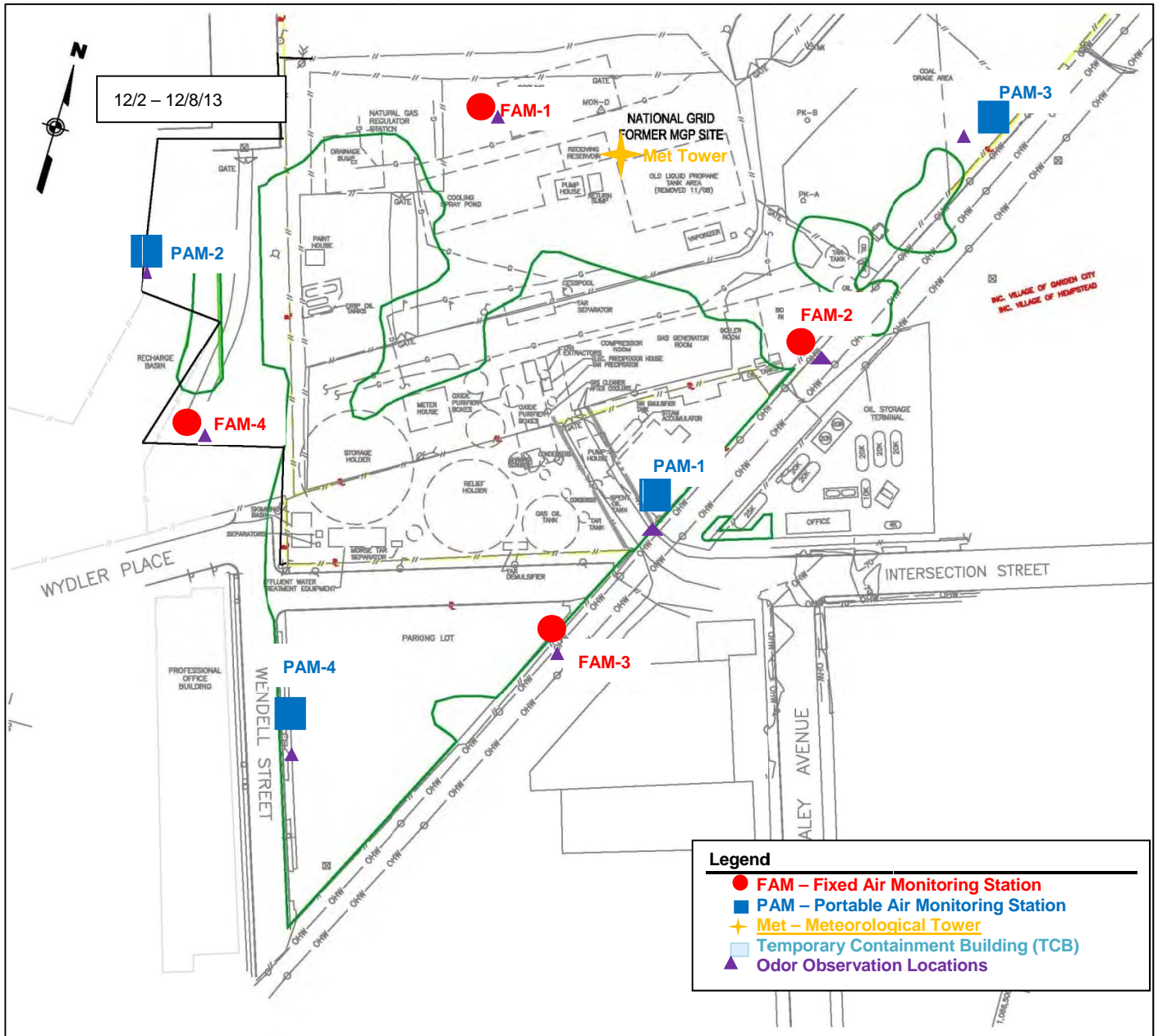


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 25 through December 1, 2013

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/25/13	14.4 ¹	0.1	15.2	0.1	16.0	0.1	13.6	0.1	28.1	0.1	38.0	0.1	17.7	0.1	60.2	0.1	X	X
Tue 11/26/13	6.2	0.1	12.4	0.1	16.0	0.4	13.1	0.1	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X	X
Wed 11/27/13	1.7 ³	0.1	5.6	0.1	6.9	0.5	6.8	0.1	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X	X
Thu 11/28/13	ND ³	0.1	15.7	0.1	14.0	0.5	14.6	0.1	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X	X
Fri 11/29/13	19.1 ³	0.1	17.6	0.1	16.7	0.4	18.6	0.1	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X	X
Sat 11/30/13	20.1	0.1	18.0	0.1	15.9	0.1	16.7	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/1/13	1.1	0.1	24.8	0.1	26.0	0.2	25.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₂₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ FAM-1 PM₁₀ data invalid from 11/25/13 @ 12:01AM through 11/25/13 @ 7:50AM due to an instrument drift. ² Site closed for Thanksgiving holiday (no Site activities). ³ FAM-1 PM₁₀ data invalid from 11/27/13 @ 3:32PM through 11/29/13 @ 12:18PM due to an instrument drift.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 25-minute PM₂₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 25-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 25-minute PM₂₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM_{2.5} = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₂₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 280 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/25/13	<ul style="list-style-type: none"> •Hauled RCA; •Graded Wendell Street; •Compacted O2 trench area; and •Routine air monitoring.
Tue 11/26/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Wed 11/27/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Thu 11/28/13	<ul style="list-style-type: none"> •No Site activities and •Routine air monitoring.
Fri 11/29/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 11/30/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/1/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

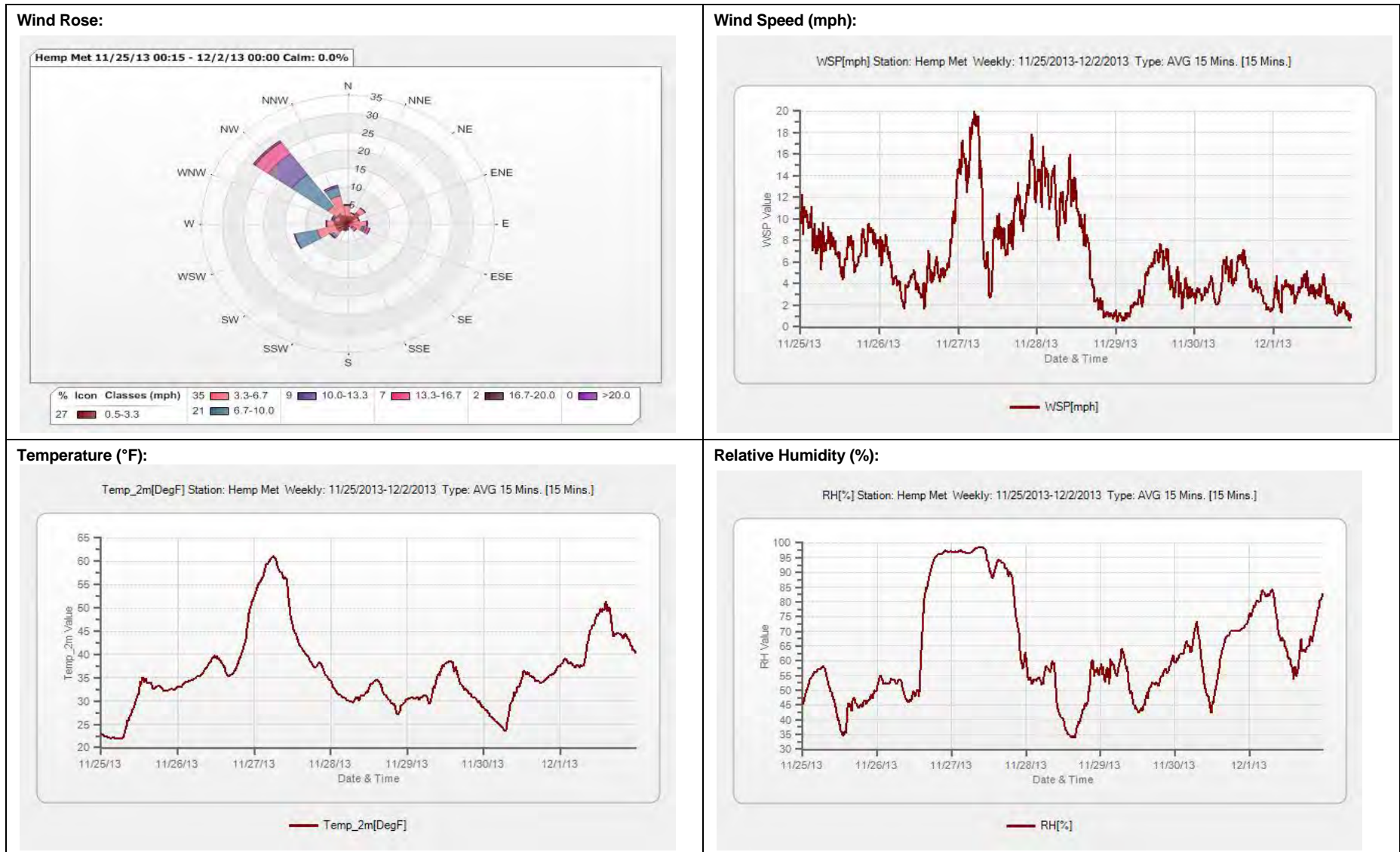
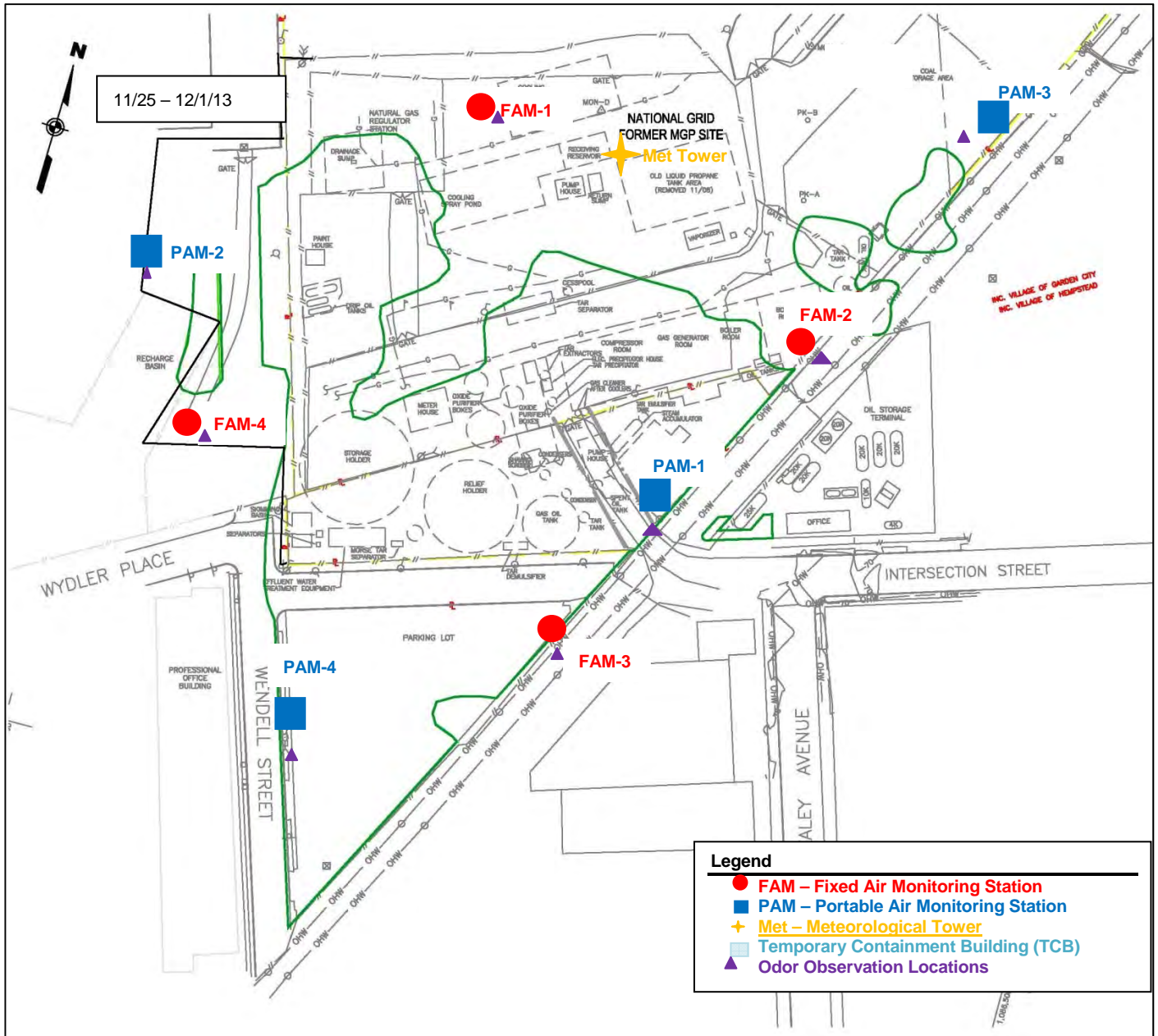


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 18 through November 24, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. However, there was a period of PM₁₀ that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. However, there was a period of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Table 3**). The results of the real-time air monitoring are presented in the following tables:

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Weekly Site Activities, Meteorological Observations, and Site Maps

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- **Table 5:** Weekly Site activities summary;
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- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

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- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/18/13	77.6	0.1	6.4	0.1	17.8	0.1	4.6	0.1	27.0	0.1	89.3	0.2	63.1	0.1	49.0	0.1	X	X
Tue 11/19/13	88.2	0.1	6.8	0.1	38.3	0.1	4.9	0.1	15.7	0.1	52.8	0.1	17.7	0.1	15.9	0.1	X	X
Wed 11/20/13	42.4	0.1	10.1	0.1	20.4	0.1	7.8	0.1	12.0	0.1	49.9	0.1	18.6	0.1	35.9	0.1	X	X
Thu 11/21/13	15.8	0.1	13.4	0.1	11.2	0.1	23.7	0.1	44.2	0.1	41.7	0.1	86.1	0.1	55.5	0.1	X	X
Fri 11/22/13	18.8	0.1	17.5	0.1	18.2	0.1	24.1	0.1	55.8	0.1	57.8	0.1	47.6	0.1	59.7	0.1	X	X
Sat 11/23/13	89.9 ¹	0.1	17.5	0.1	173.1*	0.1	17.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/24/13	ND ¹	0.1	5.4	0.1	4.1	0.1	2.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sat 11/23/13	FAM-3	4:14AM	4:24AM	11	150	NW 10.8mph	NNW 9.3mph	FAM-4	175.4	2.3	173.1	Action	Elevated concentrations occurred over the weekend when routine Site activities were not being conducted. The source is unknown.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sat 11/23/13	FAM-3	4:11AM 4:25AM	4:13AM “	4	100	NW 10.8mph	NNW 9.3mph	FAM-4	145.3	2.0	143.3	Response	Elevated concentrations occurred over the weekend when routine Site activities were not being conducted. The source is unknown.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/18/13	<ul style="list-style-type: none"> •Spread/compacted RCA in POB parking lot; •Installed curbs at Intersection street and POB parking lot; •Began installation of oxygen lines and south box; •Removed excavated material from Wendell Street; and •Routine air monitoring.
Tue 11/19/13	<ul style="list-style-type: none"> •Spread/compacted RCA in POB parking lot; •Installed curbs on sidewalks at Intersection Street and POB parking lot; •Began installation of ¾" tubing for oxygen system; and •Routine air monitoring.
Wed 11/20/13	<ul style="list-style-type: none"> •Spread/compacted RCA in POB parking lot; •Installed forms on Intersection Street and POB parking lot; •Continued installation of tubing for oxygen system; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 11/21/13	<ul style="list-style-type: none"> •Backfilled and compacted oxygen trench; and •Routine air monitoring.
Fri 11/22/13	<ul style="list-style-type: none"> •Installed light bases in POB parking lot; •Installed electrical conduit; •Removed recycle material; •Removed excavated material from Wendell Street and placed RCA; and •Routine air monitoring;
Sat 11/23/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 11/24/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

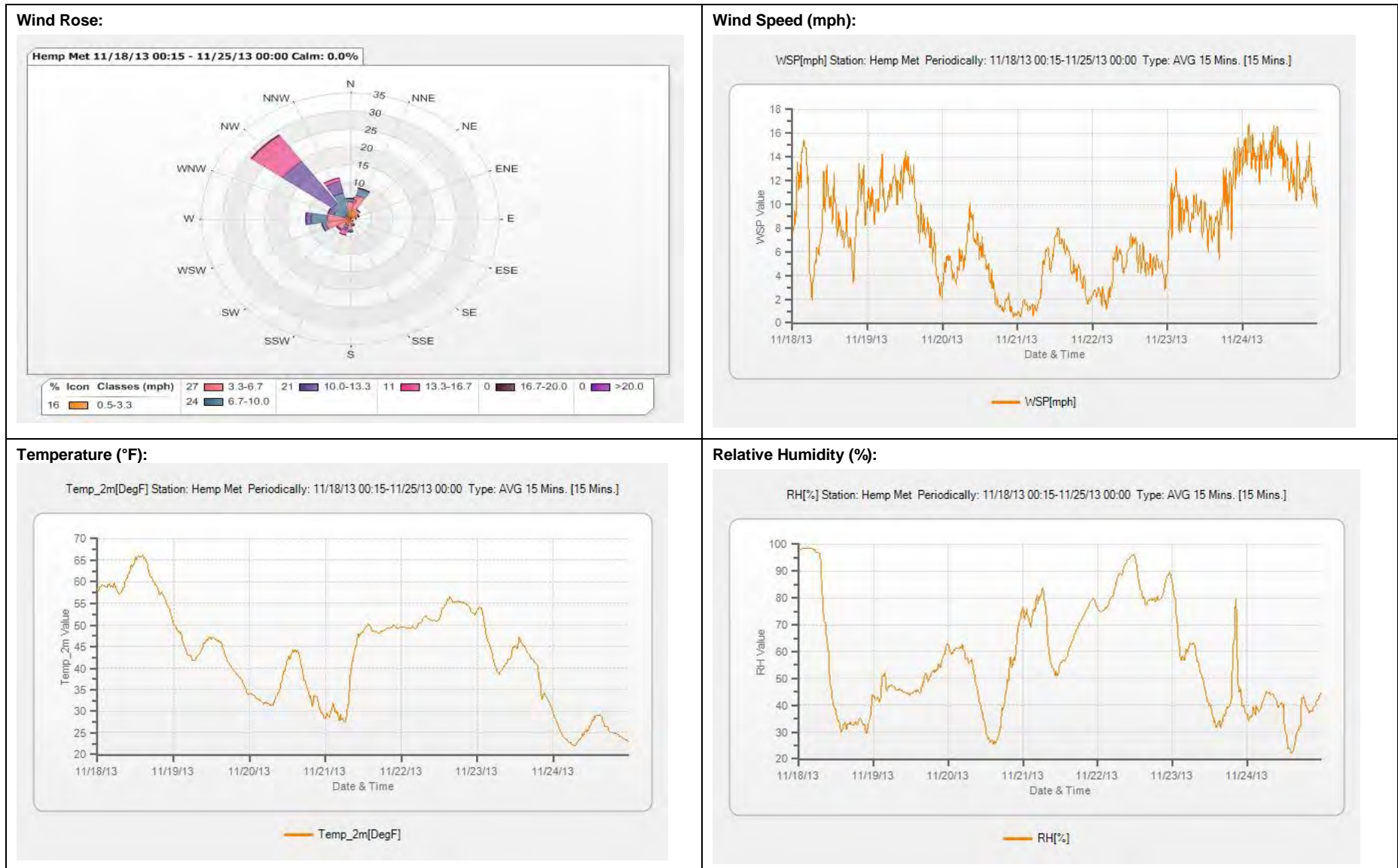
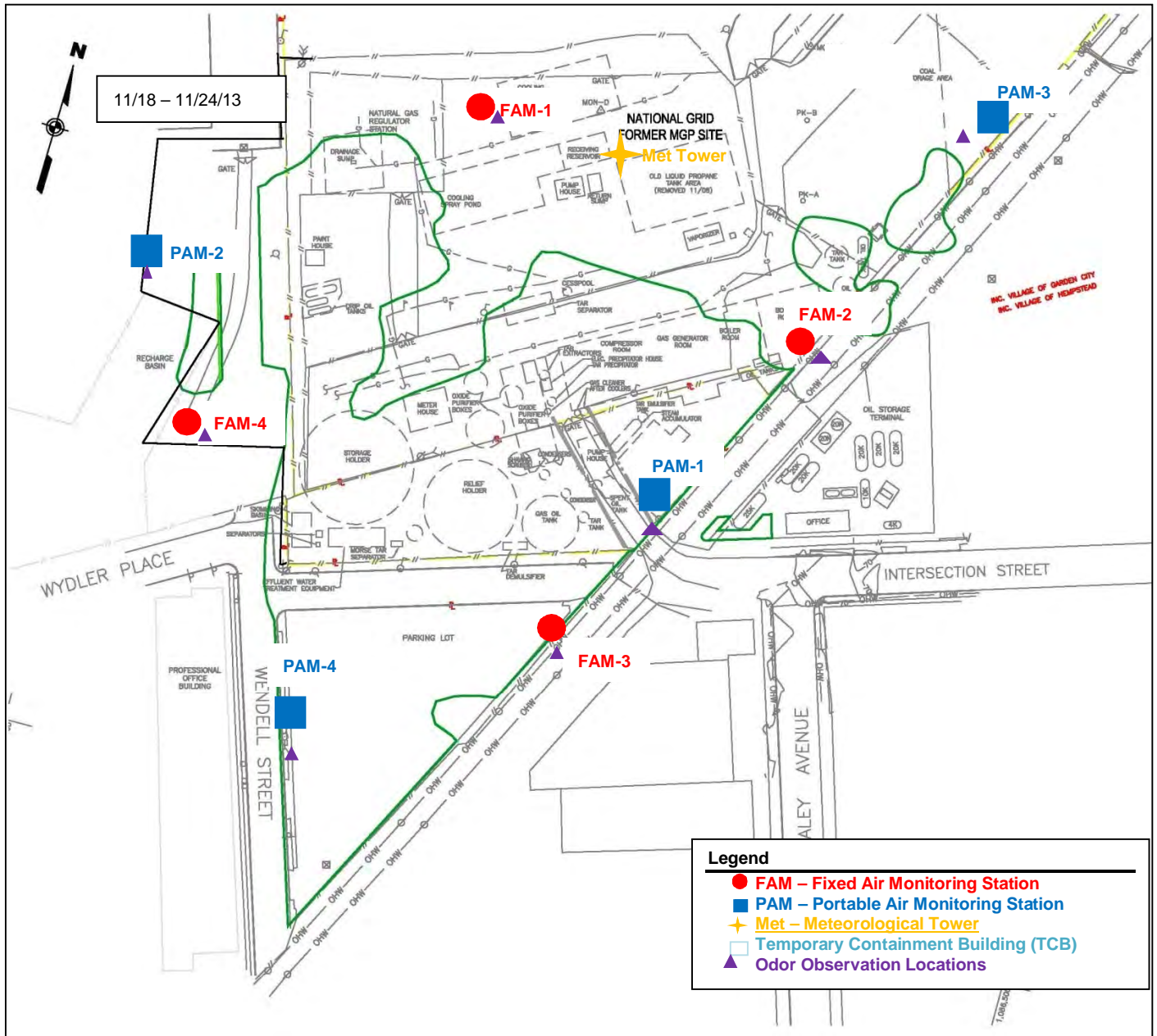


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 11 through November 17, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. However, there was a period of PM₁₀ that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were however periods of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Tables 3 and 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/11/13	40.0	0.1	7.5	0.1	54.1	0.1	5.0	0.1	31.9	0.1	28.6	0.1	14.1	0.1	246.5*	0.1	X	X
Tue 11/12/13	58.6	0.1	11.6	0.1	27.7	0.1	8.8	0.1	12.1	0.1	7.2	0.1	25.6	0.1	18.0	1.6	X	X
Wed 11/13/13	66.6	0.1	10.1	0.1	17.5	0.1	4.8	0.1	8.5	0.1	24.4	0.1	4.1	0.1	18.8	0.2	X	X
Thu 11/14/13	21.4	0.1	17.2	0.1	15.3	0.1	15.9	0.1	25.1	0.1	39.2	0.1	35.4	0.1	53.7	0.2	X	X
Fri 11/15/13	47.1	0.1	28.9	0.1	34.6	0.1	34.9	0.1	65.8	0.1	73.9	0.1	48.0	0.1	84.2	0.1	X	X
Sat 11/16/13	29.3	0.1	31.4	0.1	31.4	0.1	29.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/17/13	11.4	0.1	36.0	0.1	35.0	0.1	35.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 11/11/13	PAM-4	1:47PM 2:49PM	2:01PM 3:01PM	28	150	WSW 7.4mph	WSW 8.6mph	FAM-4	249.0	2.5	246.5	Action	Elevated concentrations were caused by heavy traffic and shallow excavation in POB parking lot near PAM-4 unit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 11/11/13	PAM-4	1:46PM 2:02PM 2:47PM 3:02PM	“ “ 2:48PM 3:03PM	6	100	WSW 7.4mph	WSW 8.6mph	FAM-4	147.1	2.2	144.9	Response	Elevated concentrations were caused by heavy traffic and shallow excavation in POB parking lot near PAM-4 unit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/11/13	<ul style="list-style-type: none"> •Installed catch basins and approx. 600LF of curbs; •Stockpiled swell materials from catch basin installations; and •Routine air monitoring.
Tue 11/12/13	<ul style="list-style-type: none"> •Installed catch basins and curb forms; •Stockpiled swell materials from catch basin installations at intersection street area; and •Routine air monitoring.
Wed 11/13/13	<ul style="list-style-type: none"> •Relocated lay down area; •Moved cutters to north fence line; and •Routine air monitoring.
Thu 11/14/13	<ul style="list-style-type: none"> •Disassembled and loaded RH40 on to trucks for demob; •Spread select stone on east side of Site; and •Routine air monitoring.
Fri 11/15/13	<ul style="list-style-type: none"> •Disassembled and loaded RH40 on to trucks for demob; •Installed curbs on Intersection Street and POB parking lot; •Removed asphalt at Wendell Street; •Removed ~100' of curb on west side of POB parking lot and ~25' of curb on the south corner of the POB lot; •Collected integrated VOC samples; and •Routine air monitoring;
Sat 11/16/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 11/17/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

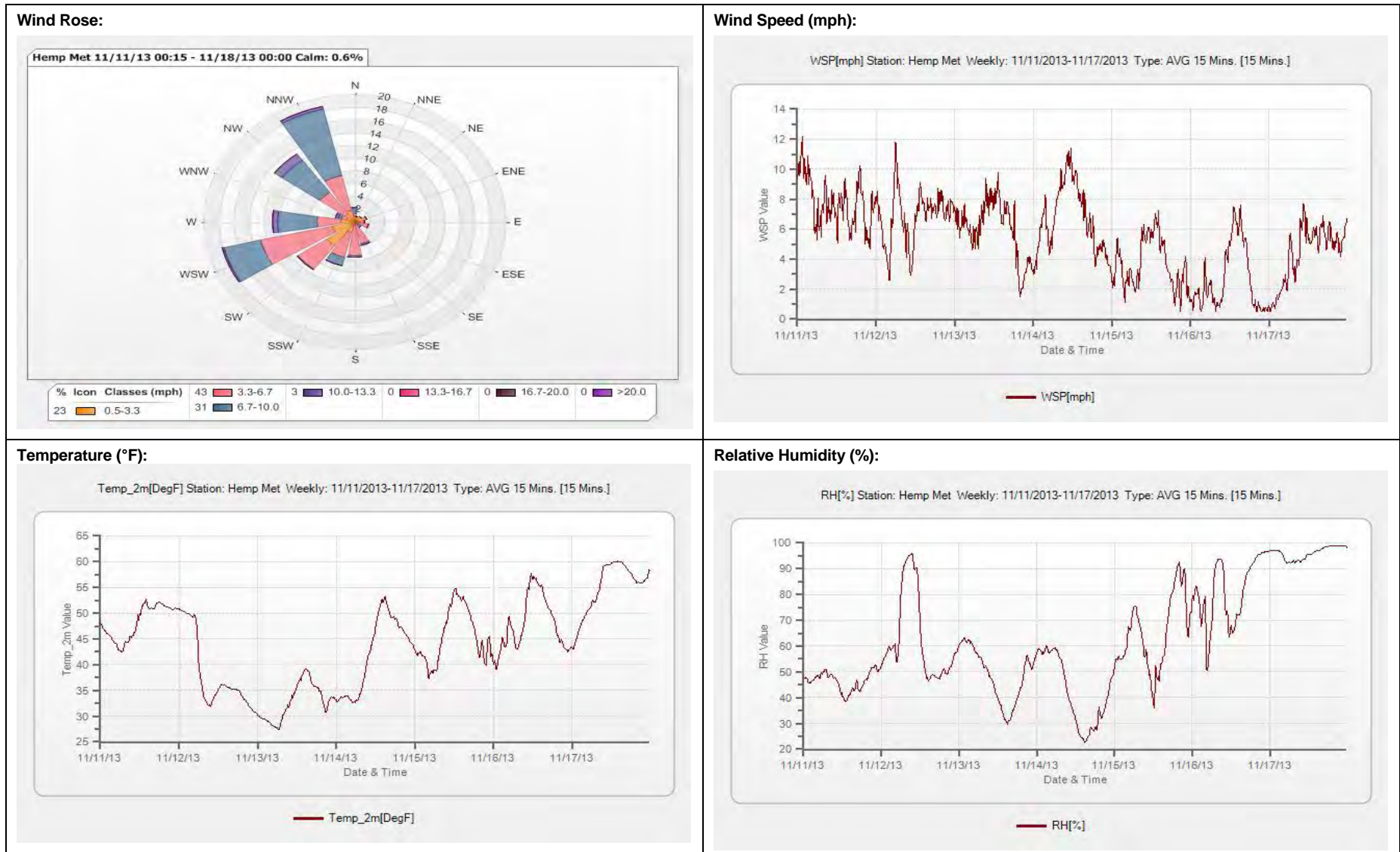
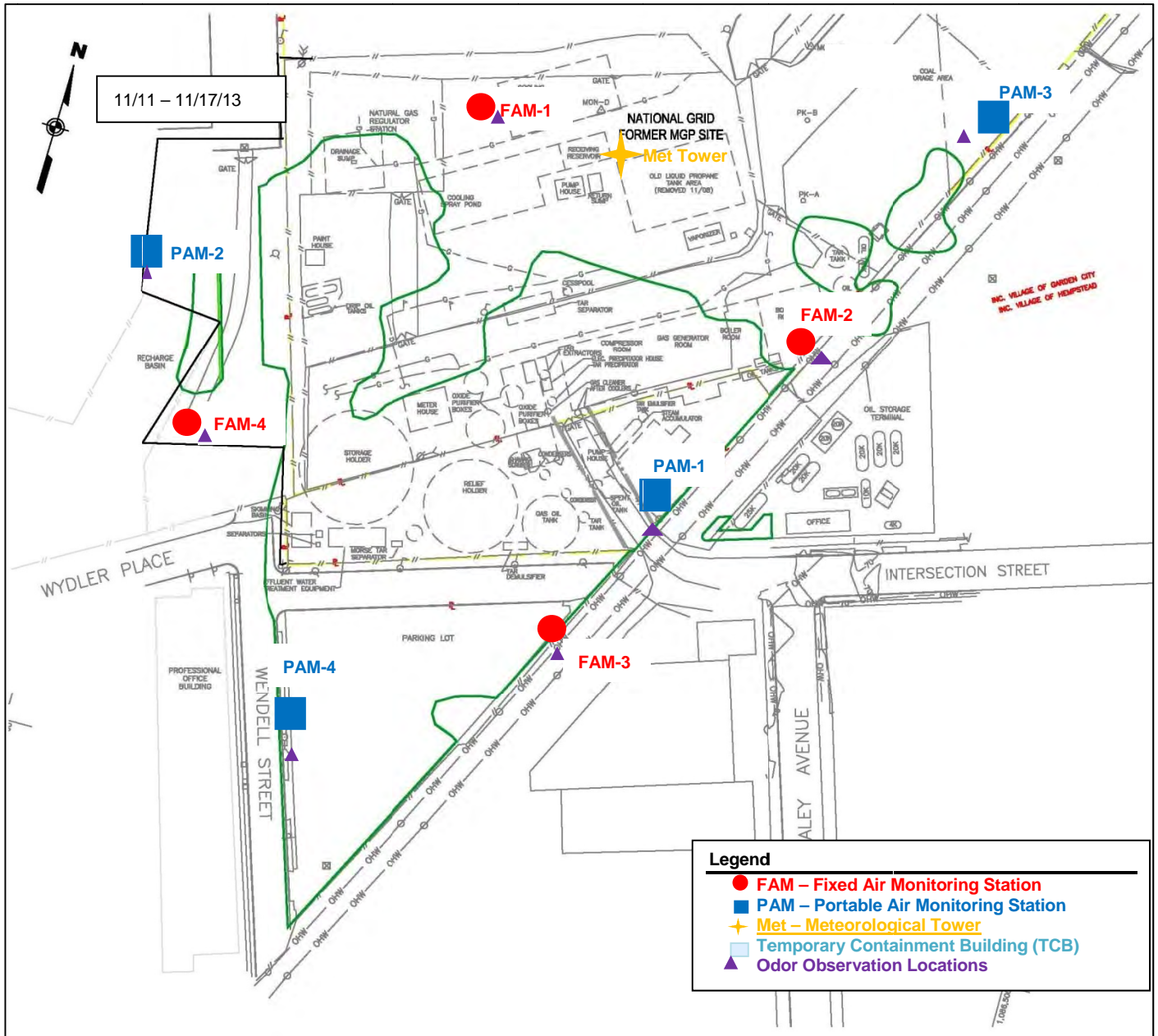


Figure 2: Site Map



Legend

- FAM – Fixed Air Monitoring Station
- PAM – Portable Air Monitoring Station
- ★ Met – Meteorological Tower
- Temporary Containment Building (TCB)
- ▲ Odor Observation Locations

Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 4 through November 10, 2013

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/4/13	75.9	0.1	9.1	0.1	15.9	0.1	5.0	0.1	17.3	0.1	36.7	0.1	21.3	0.1	41.5	0.1	X	X
Tue 11/5/13	21.9	0.1	10.5	0.1	12.1	0.1	7.9	0.1	26.6	0.1	53.8	0.1	22.6	0.1	55.6	0.1	X	X
Wed 11/6/13	17.1	0.1	16.8	0.1	16.4	0.1	13.1	0.1	39.5	0.1	64.0	0.1	59.8	0.1	66.5	0.2	X	X
Thu 11/7/13	55.1	0.1	12.6	0.1	13.1	0.1	9.4	0.1	36.8	0.1	70.0	0.1	54.4	0.1	63.2	0.1	X	X
Fri 11/8/13	62.2	0.1	9.6	0.1	7.6	0.1	3.2	0.1	37.3	0.1	65.8	0.1	26.6	0.1	55.9	0.1	X	X
Sat 11/9/13	40.5	0.1	14.0	0.1	13.8	0.1	11.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/10/13	31.9	0.1	15.6	0.1	15.1	0.1	11.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/4/13	<ul style="list-style-type: none"> •Broke down SR100 for demob; •Developed relief wells in POB area; and •Routine air monitoring.
Tue 11/5/13	<ul style="list-style-type: none"> •Broke down SR100 for demob; •Developed relief wells in POB area ; and •Routine air monitoring.
Wed 11/6/13	<ul style="list-style-type: none"> •Broke down SR100 for demob; •Installed 10x10 dry wells in POB parking lot ; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 11/7/13	<ul style="list-style-type: none"> •Broke down SR100 for demob; •Loaded out swell; and •Routine air monitoring.
Fri 11/8/13	<ul style="list-style-type: none"> •Broke down & loaded trailers for SR100 demob; •Loaded out swell; and •Routine air monitoring.
Sat 11/9/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 11/10/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

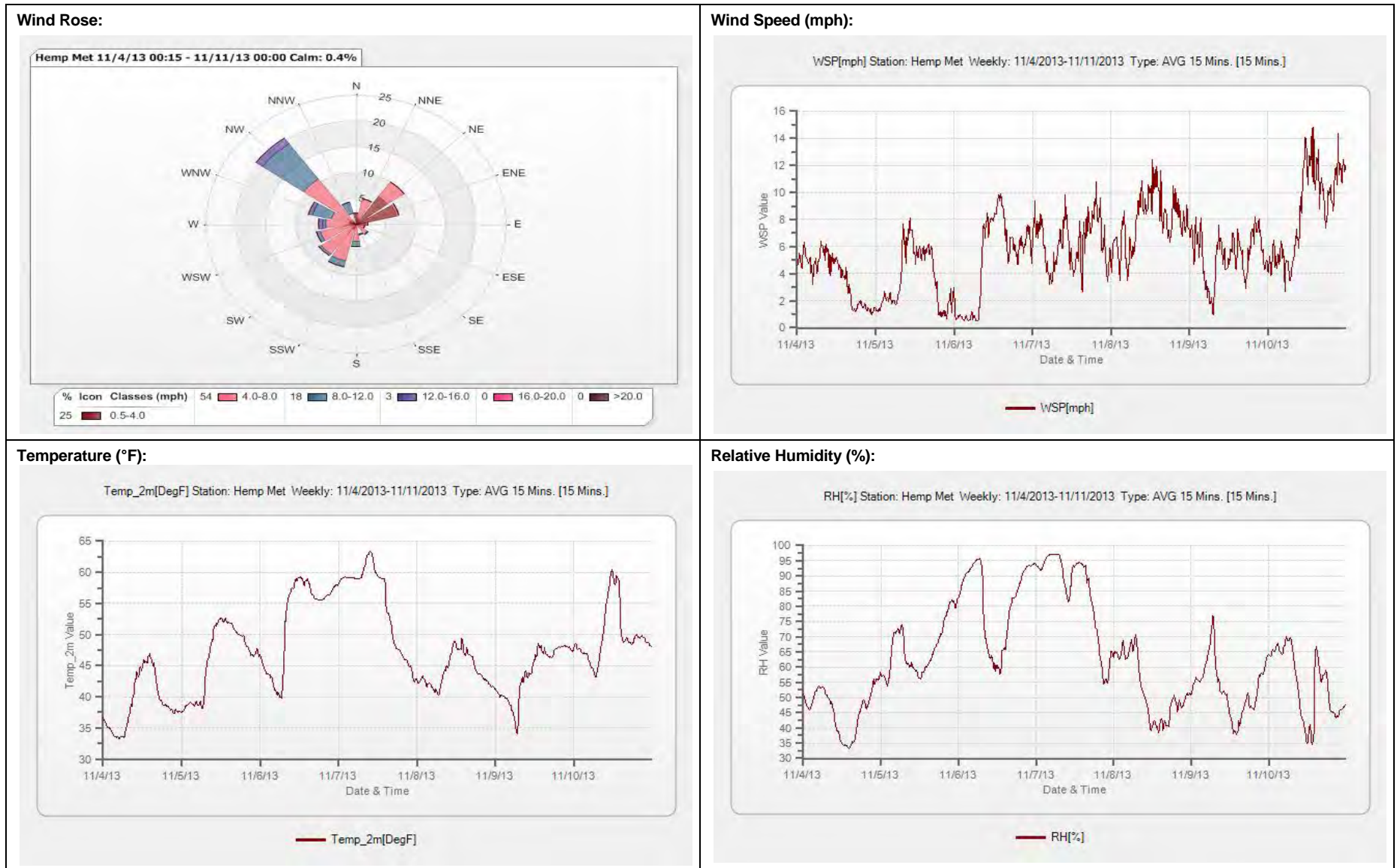
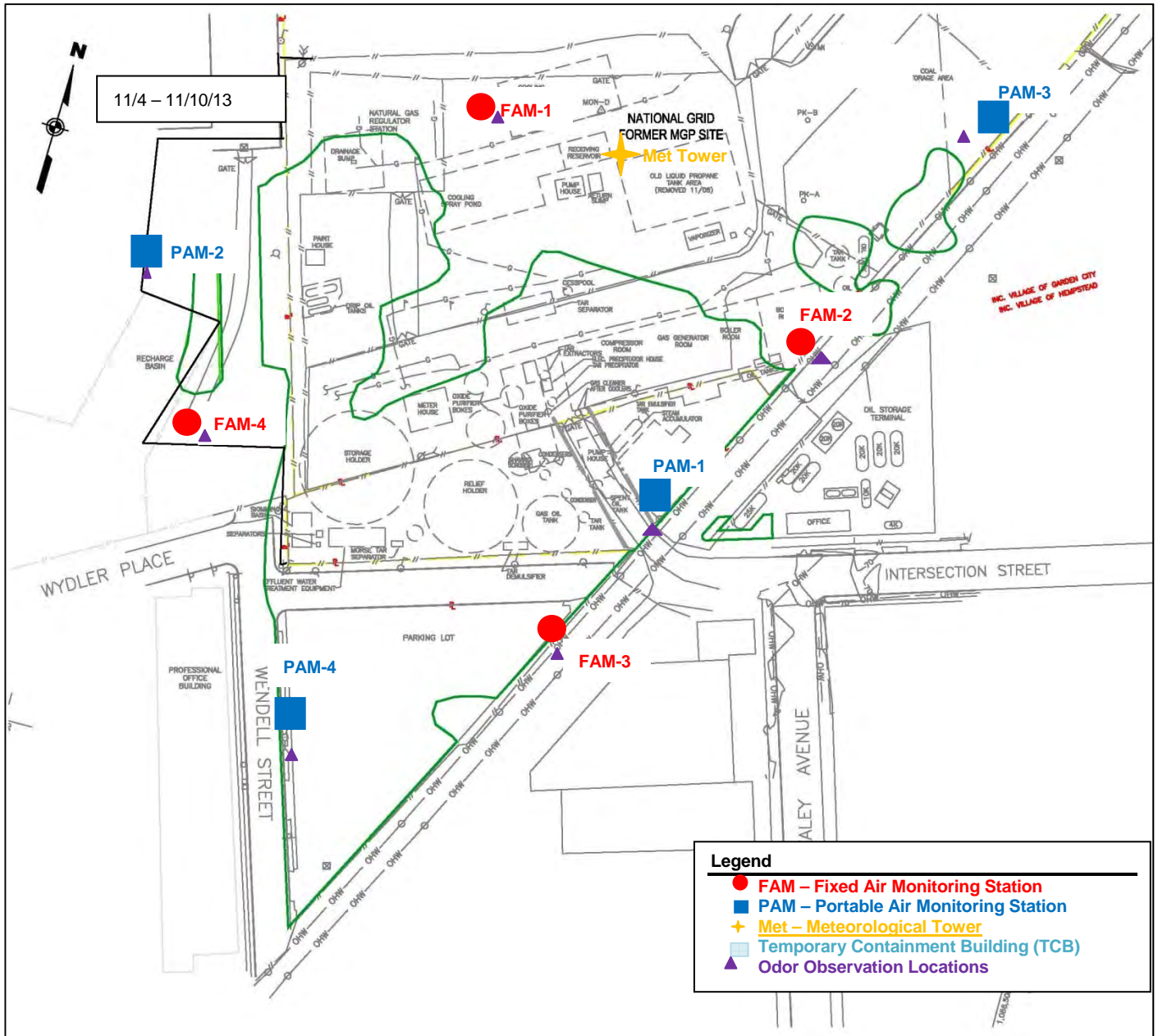


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 28 through November 3, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. There were however periods of PM₁₀ concentrations greater than the Action Limit (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were, however periods of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Tables 3 & 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/28/13	26.5	0.2	19.2	0.1	258.1*	0.1	31.0	0.1	145.5*	0.1	47.5	0.2	63.2	0.1	50.6	0.1	X	X
Tue 10/29/13	20.7	0.2	24.9	0.1	191.5*	0.1	9.1	0.1	20.8	0.1	27.1	0.1	28.4	0.1	42.5	0.1	X	X
Wed 10/30/13	17.3	0.2	23.2	0.1	49.2	0.1	23.8	0.1	40.9	0.1	34.2	0.1	54.2	0.1	53.3	0.1	X	X
Thu 10/31/13	26.7	0.2	30.2	0.1	30.4	0.1	30.8	0.1	70.1	0.1	77.3	0.1	72.4	0.1	58.4	2.7	X	X
Fri 11/1/13	13.3	0.2	10.8	0.1	35.4	0.1	11.9	0.1	40.5	0.1	54.3	0.1	37.7	0.1	25.1	1.7	X	X
Sat 11/2/13	29.7	0.1	12.5	0.1	9.9	0.1	9.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/3/13	55.3	0.1	8.1	0.1	6.8	0.1	6.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 10/28/13	FAM-3	1:14PM 4:26PM 6:18PM	1:38PM 4:31PM 6:30PM	44	150	W 8.5 mph	VAR	FAM-4	263.1	5.0	258.1	Action	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near FAM unit.
PM ₁₀	Mon 10/28/13	PAM-1	1:45PM	-	1	150	W 8.6 mph	W 8.6 mph	FAM-4	150.4	4.9	145.5	Response	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near PAM unit.
PM ₁₀	Tues 10/29/13	FAM-3	1:42PM 3:11PM 4:00PM	1:54PM 3:24PM 4:13PM	41	150	NNE 4.5 mph	NNE 4.1 mph	PAM-1	206.2	14.7	191.5	Action	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near FAM unit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 10/28/13	FAM-3	10:37AM 10:44AM 11:41AM 1:13PM 1:39PM 4:25PM 4:32PM 6:17PM 6:31PM	10:42AM 10:47AM 11:53AM - 1:40PM - 4:37PM - -	35	100	W 5.2 mph	VAR	FAM-4	149.8	6.4	143.4	Response	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near FAM unit.
PM ₁₀	Mon 10/28/13	PAM-1	1:34PM 1:46PM	1:44PM 1:48PM	14	100	WNW 8.1 mph	W 8.6 mph	FAM-4	149.8	4.9	144.9	Response	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near PAM unit.
PM ₁₀	Tue 10/29/13	FAM-3	1:41PM 1:55PM 2:37PM 3:10PM 3:25PM 3:57PM 4:14PM	- - 2:42PM - - 3:59PM 4:21PM	21	100	NNE 4.5 mph	NNE 4.1 mph	PAM-1	149.1	14.5	134.6	Response	Elevated concentrations were caused by excavation activity at the offsite FORD property located near FAM unit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/28/13	<ul style="list-style-type: none"> •Spread 4" stone in MGP area; •Deconned crane mats; •Excavated north gate wheel wash pad; and •Routine air monitoring.
Tue 10/29/13	<ul style="list-style-type: none"> •Spread 4" stone in MGP area; •Backfilled stone at north gate entrance; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 10/30/13	<ul style="list-style-type: none"> •Spread 4" stone in MGP area; •Installed relief wells in POB area; •Performed load out to Bayshore; and •Routine air monitoring.
Thu 10/31/13	<ul style="list-style-type: none"> •Spread 4" stone in MGP area; •Installed relief wells in POB area; and •Routine air monitoring.
Fri 11/1/13	<ul style="list-style-type: none"> •Spread 4" stone in MGP area; •Installed relief wells in POB area; and •Routine air monitoring.
Sat 11/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 11/3/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

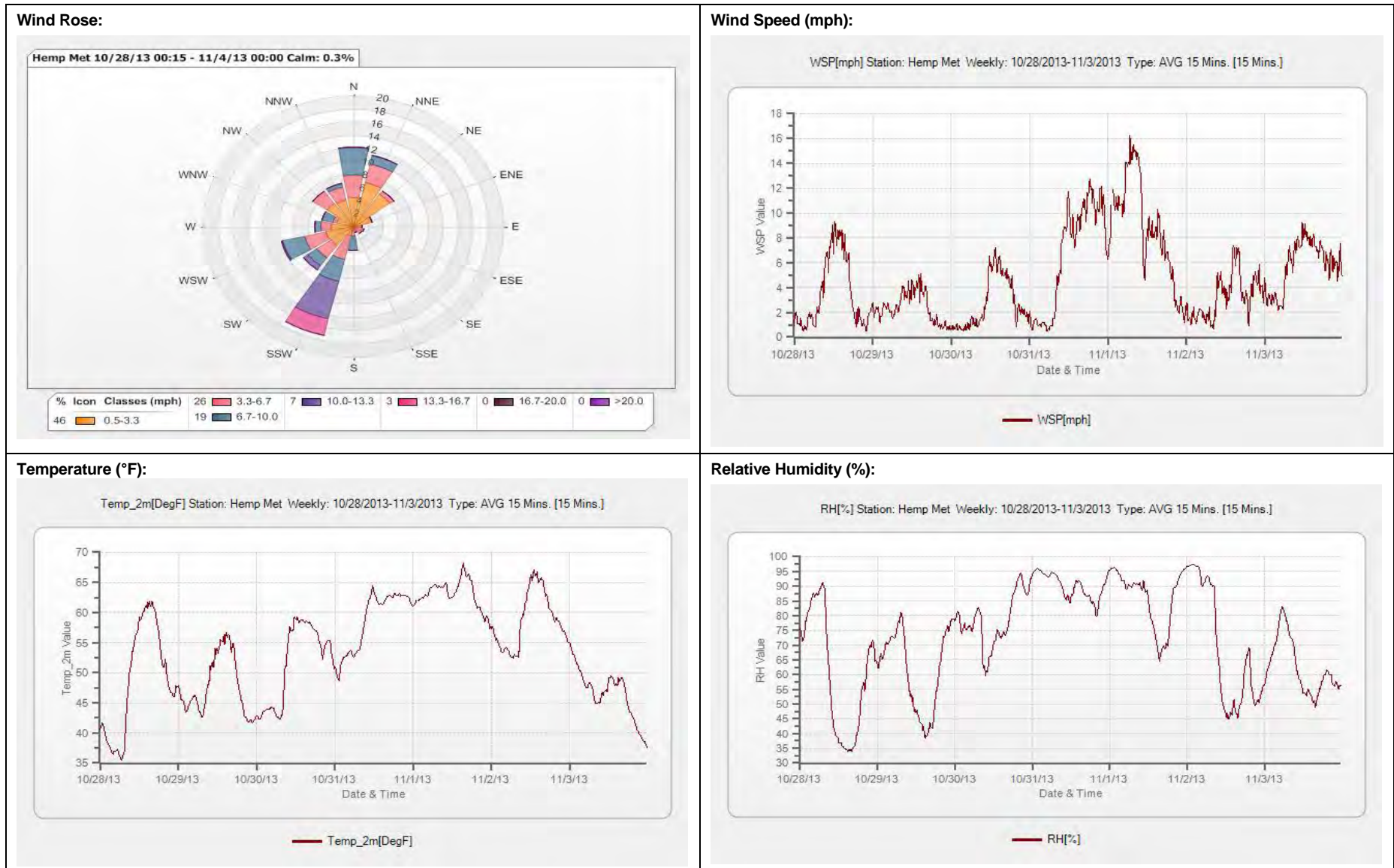
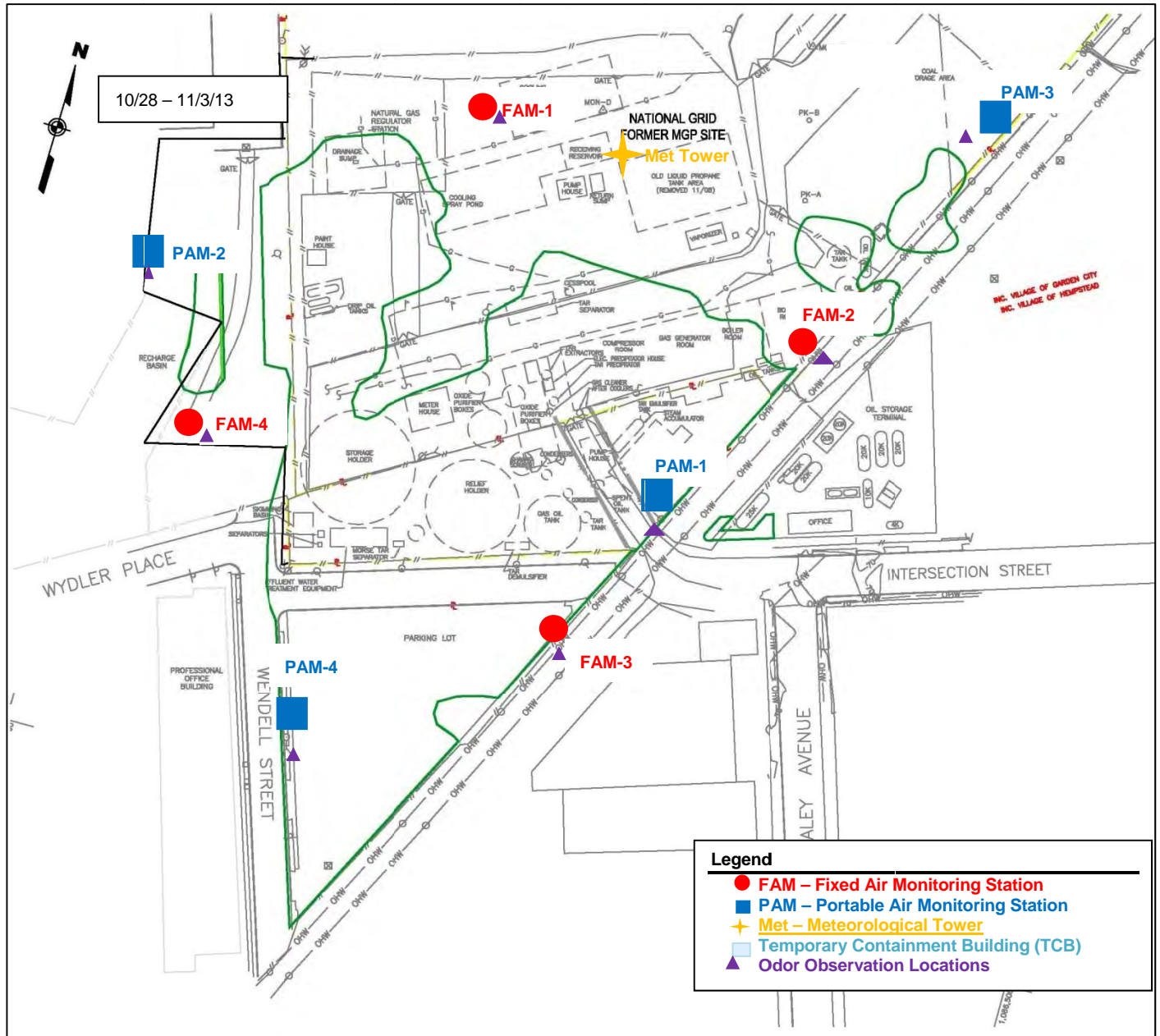


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 21 through October 27, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. There was however a period of PM₁₀ concentrations greater than the Action Limit (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were, however PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Tables 3 & 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/21/13	38.3	0.1	18.0	0.1	11.9	0.1	12.7	0.1	60.7	0.1	62.6	0.2	73.8	0.1	55.1	0.1	X	X
Tue 10/22/13	18.8	0.1	19.8	0.1	14.9	0.1	12.1	0.1	57.8	0.1	83.7	0.1	56.7	0.1	59.7	0.1	X	X
Wed 10/23/13	28.0	0.1	8.8	0.1	30.1	0.1	5.8	0.1	34.9	0.1	12.4	0.1	47.8	0.1	44.9	0.6	X	X
Thu 10/24/13	48.0	0.1	20.4	0.1	31.4	0.1	12.1	0.1	33.0	0.1	23.2	0.1	56.6	0.1	51.4	0.1	X	X
Fri 10/25/13	46.5	0.1	11.2	0.1	37.7	0.1	19.5	0.1	25.3	0.1	19.8	0.1	48.4	0.1	36.3	0.1	X	X
Sat 10/26/13	18.2	0.1	13.2	0.1	194.1*	0.1	9.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/27/13	18.6	0.1	10.5	0.1	14.1	0.1	6.0	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sat 10/26/13	FAM-3	2:08PM	2:16PM	9	150	W 10.0 mph	WSW 11.7 mph	FAM-4	197.9	3.8	194.1	Action	Elevated concentrations were caused by an unknown offsite source.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

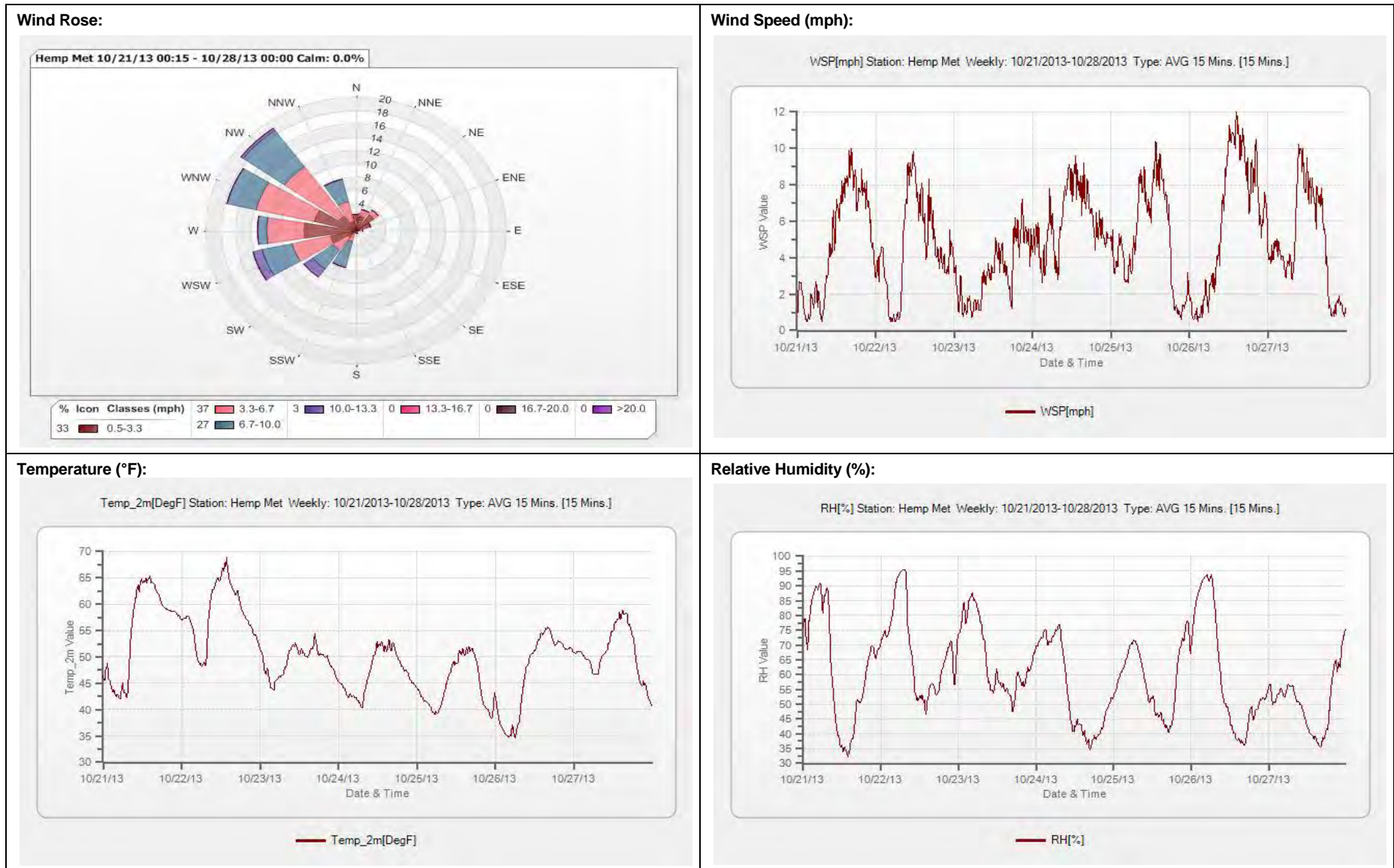
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM₁₀	Sat 10/26/13	FAM-3	12:51PM 12:56PM 2:02PM 2:17PM	- 1:07PM 2:07PM 2:22PM	25	100	WSW 10.3 mph	WSW 11.7 mph	FAM-4	146.8	3.8	143.0	Response	Elevated concentrations were caused by an unknown offsite source.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/21/13	<ul style="list-style-type: none"> •Backfilled and compacted MGP/POB areas; •Performed general Site cleanup; and •Routine air monitoring.
Tue 10/22/13	<ul style="list-style-type: none"> •Backfilled and compacted MGP/POB areas; •Removed sound curtain panels from POB fence; and •Routine air monitoring.
Wed 10/23/13	<ul style="list-style-type: none"> •Backfilled and compacted MGP/POB areas & north of Intersection Street; •Removed sound curtain panels from POB fence; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 10/24/13	<ul style="list-style-type: none"> •Spread 4" stone in NE area; •Deconned crane mats; and •Routine air monitoring.
Fri 10/25/13	<ul style="list-style-type: none"> •Spread 4" stone in NE area; •Deconned crane mats; and •Routine air monitoring.
Sat 10/26/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/27/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 14 through October 20, 2013

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there were periods of PM₁₀ concentrations that remained above the Response Limit after background subtraction (see **Tables 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/14/13	23.4	0.1	10.8	0.1	21.5	0.1	5.7	0.1	43.9	0.1	36.8	0.1	25.5	0.1	40.1	0.1	X	X
Tue 10/15/13	29.4	0.1	103.2*	0.1	14.1	0.1	14.8	0.1	84.1	1.4	58.1	0.1	111.9*	0.4	61.1	0.1	X	X
Wed 10/16/13	14.1	0.1	12.3	0.1	12.6	0.1	10.4	0.1	26.7	0.1	24.3	0.1	39.5	0.1	38.3	0.6	X	X
Thu 10/17/13	21.0	0.1	26.7	0.1	36.2	0.1	18.4	0.1	44.3	0.1	54.8	0.1	45.7	0.1	57.2	0.6	X	X
Fri 10/18/13	34.8	0.1	12.4	0.1	9.1	0.1	9.7	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 10/19/13	35.3	0.1	24.7	0.1	19.3	0.1	20.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/20/13	41.5	0.1	14.0	0.1	13.8	0.1	16.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ Site Closed for the day, No Site Activity.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tues 10/15/13	FAM-2	12:15PM	12:20PM	6	100	E 5.2 mph	E 5.2 mph	FAM-4	108.5	5.3	103.2	Response	Elevated concentrations were caused by paving activity near FAM unit.
PM ₁₀	Tue 10/15/13	PAM-3	1:57PM 2:08PM	2:03PM 2:13PM	13	100	SSW 5.1 mph	SSE 5.3 mph	FAM-2	117.6	5.7	111.9	Response	Elevated concentrations caused by paving trucks in the NE area and breakdown activity of the RH-40 rig near PAM unit
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/14/13	<ul style="list-style-type: none"> •Performed general Site cleanup; •Demobilized DSM equipment; and •Routine air monitoring.
Tue 10/15/13	<ul style="list-style-type: none"> •Performed general Site cleanup; •Demobilized DSM equipment; •Backfilled and compacted MGP area; and •Routine air monitoring.
Wed 10/16/13	<ul style="list-style-type: none"> •Performed general Site cleanup; •Demobilized DSM equipment; •Backfilled and compacted MGP area; and •Routine air monitoring.
Thu 10/17/13	<ul style="list-style-type: none"> •Performed general Site cleanup; •Backfilled and compacted MGP area; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 10/18/13	<ul style="list-style-type: none"> •Installed fence posts – NE area; and •Routine air monitoring.
Sat 10/19/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/20/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

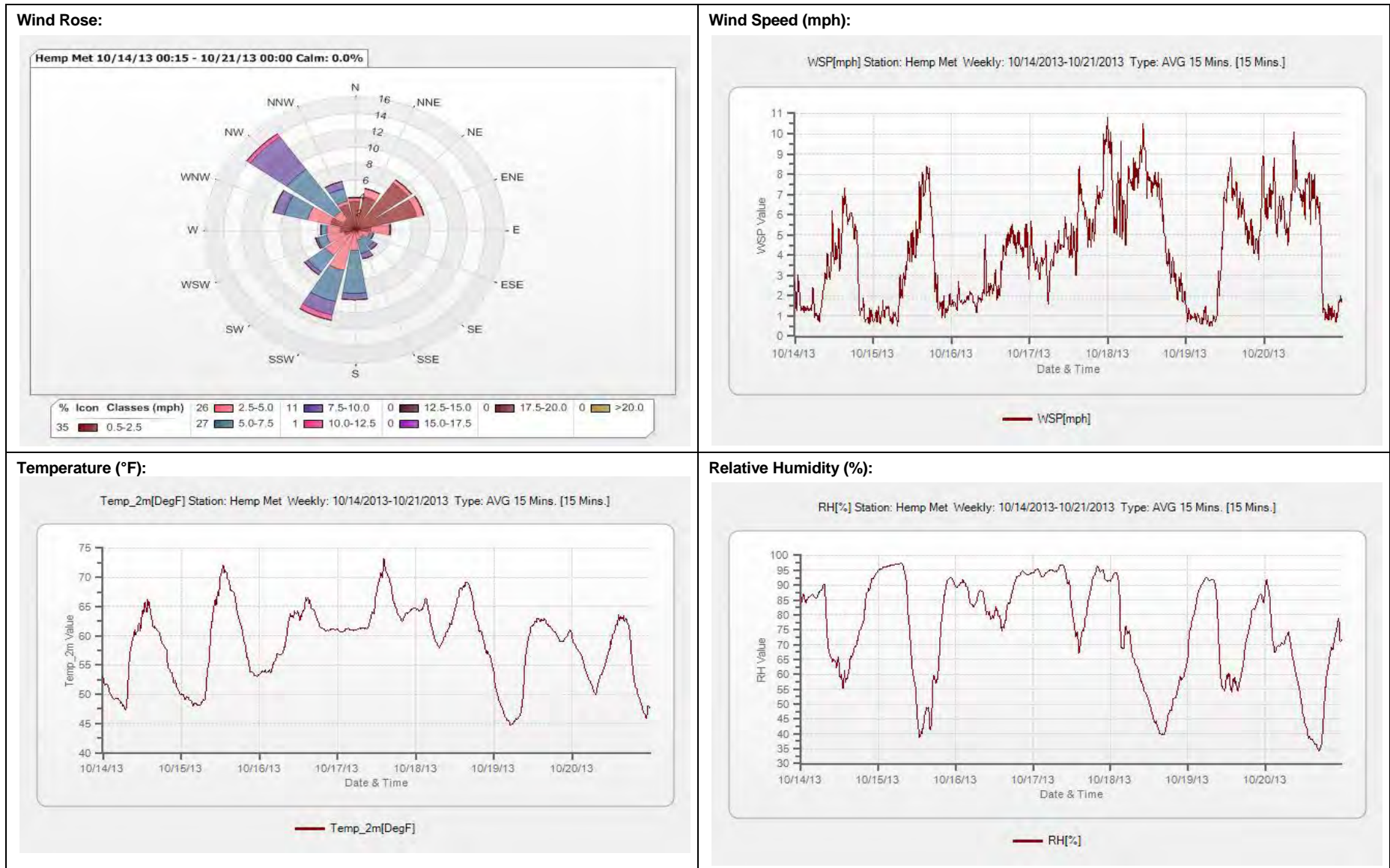
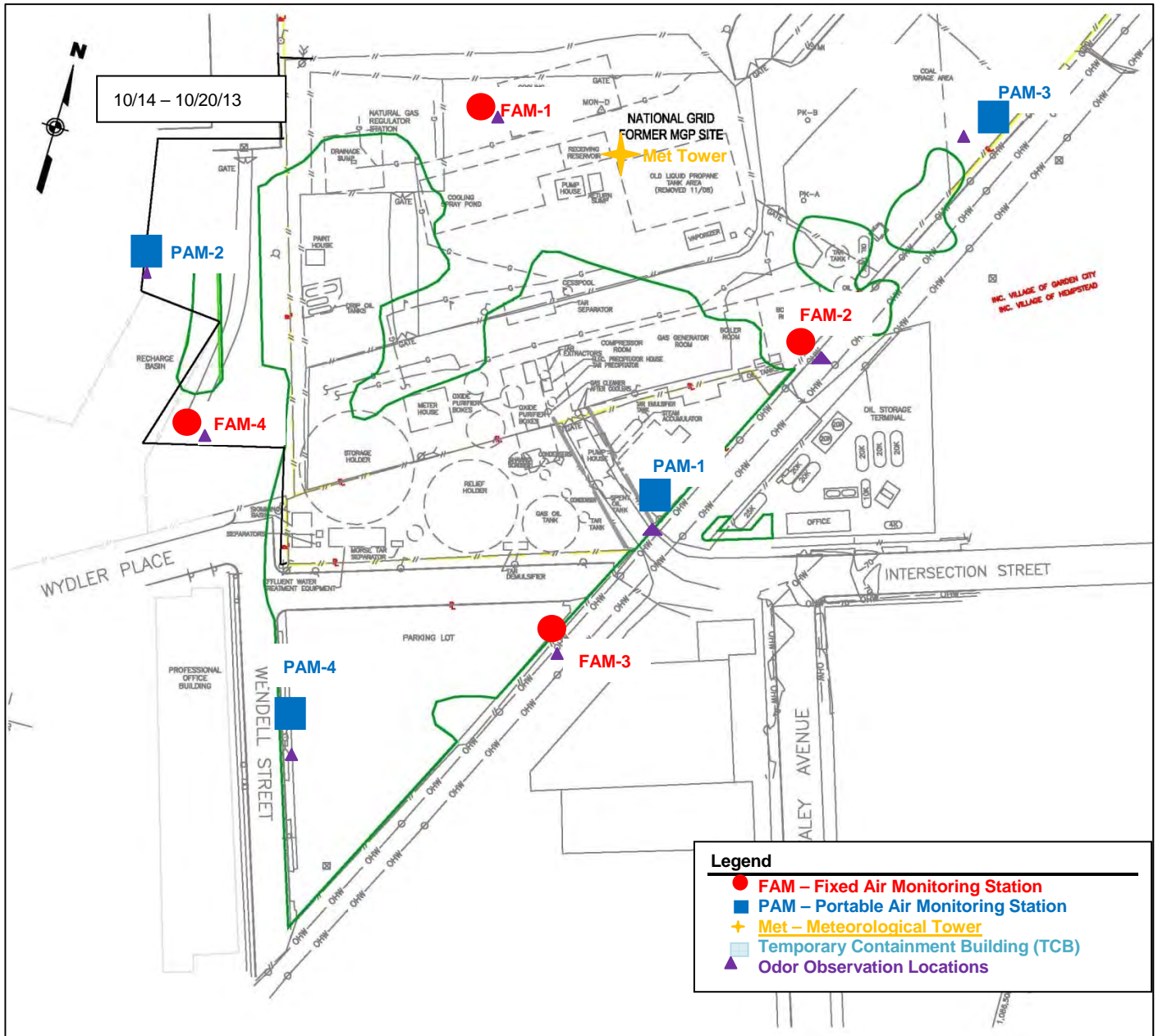


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 7 through October 13, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. However there was a period of PM₁₀ concentrations that remained greater than the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits after background subtraction. However, there were periods of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Tables 3 and 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/7/13	99.3*	0.1	27.6	0.1	14.0	0.1	22.8	0.1	89.7	0.1	93.2	0.1	162.8*	0.1	89.8	0.1	X	X
Tue 10/8/13	128.7*	0.1	4.4	0.1	39.2	0.1	2.8	0.1	16.3	0.1	31.0	0.1	24.0	0.1	39.7	0.1	X	X
Wed 10/9/13	34.9	0.1	23.5	0.1	8.1	0.1	3.9	0.1	113.5*	0.1	27.0	0.1	50.3	0.1	39.0	0.1	X	X
Thu 10/10/13	5.4	0.1	8.3	0.1	5.3	0.1	7.8	0.1	16.8	0.1	18.5	0.1	18.5	0.1	29.4	0.1	X	X
Fri 10/11/13	18.9	0.1	7.6	0.1	14.3	0.1	4.4	0.1	24.6	0.1	26.9	0.1	16.7	0.1	34.5	0.1	X	X
Sat 10/12/13	60.4	0.1	15.4	0.1	13.1	0.1	13.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/13/13	36.8	0.1	11.0	0.1	7.7	0.1	7.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 10/7/13	PAM-3	2:39PM	2:51PM	13	150	SSW 15.1mph	SSW 18.1mph	FAM-2	173.4	10.6	162.8	Action	Elevated concentrations were caused by watering that was implemented in the NE area and the wind caused mist from the water truck to blow into PAM unit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 10/7/13	PAM-3	2:23PM 2:38PM 2:52PM	2:31PM - -	11	100	SSW 16.3mph	SSW 18.1mph	FAM-2	142.3	10.7	131.6	Response	Elevated concentrations were caused by watering that was implemented in the NE area and the wind caused mist from the water truck to blow on to PAM unit.
PM ₁₀	Mon 10/7/13 – Tue 10/8/13	FAM-1	11:39PM - 6:52AM	- 6:48AM 6:54AM	433	100	NW 5.1 mph	VAR	FAM-4	130.6	1.9	128.7	Response	Elevated concentrations caused by atmospheric conditions (heavy rain).
PM ₁₀	Wed 10/9/13	PAM-1	10:33AM	10:41AM	9	100	ENE 5.1mph	ENE 5.1mph	FAM-4	115.6	2.1	113.5	Response	Elevated Concentrations were caused by gas line installation work near intersection street near PAM unit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/7/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB and northeast areas; •Loaded out Swell material to Bayshore; •Performed general Site cleanup; •Loaded out 1 flatbed load; and •Routine air monitoring.
Tue 10/8/13	<ul style="list-style-type: none"> •Placed and compacted backfill in MGP and northeast areas; •Performed general Site cleanup; •Assisted with gas line installation – Intersection Street; •Loaded out 1 flatbed loads of misc. items; and •Routine air monitoring.
Wed 10/9/13	<ul style="list-style-type: none"> •Placed and compacted backfill in MGP and northeast areas; •Performed general Site cleanup; •Demobilized DSM equipment; and •Routine air monitoring.
Thu 10/10/13	<ul style="list-style-type: none"> •Placed and compacted backfill in MGP and northeast areas; •Performed general Site cleanup; •Demobilized DSM equipment; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 10/11/13	<ul style="list-style-type: none"> •Placed and compacted backfill in MGP and northeast areas; •Performed general Site cleanup; •Demobilized DSM equipment; •Deconned concrete pads; and •Routine air monitoring.
Sat 10/12/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/13/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

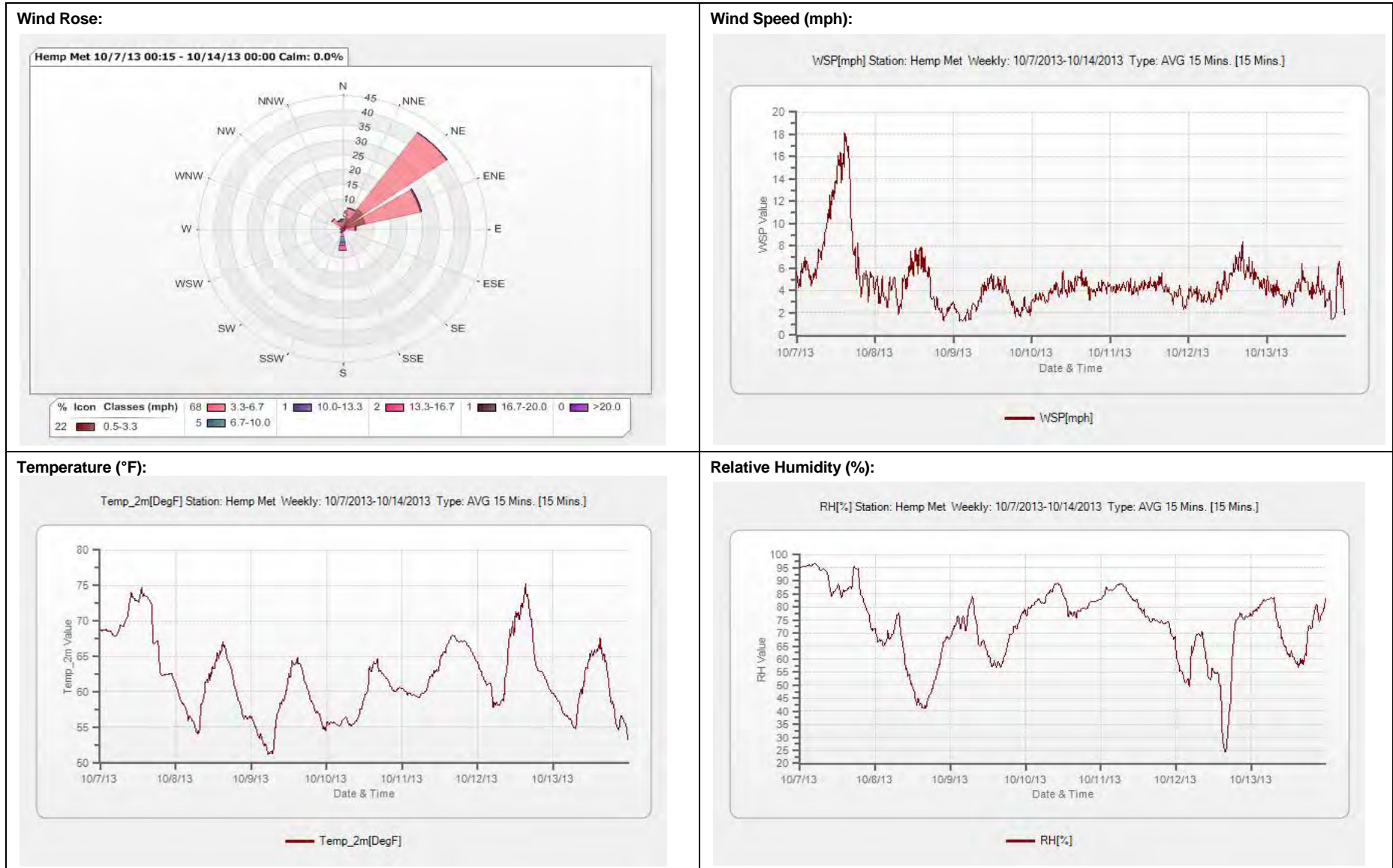
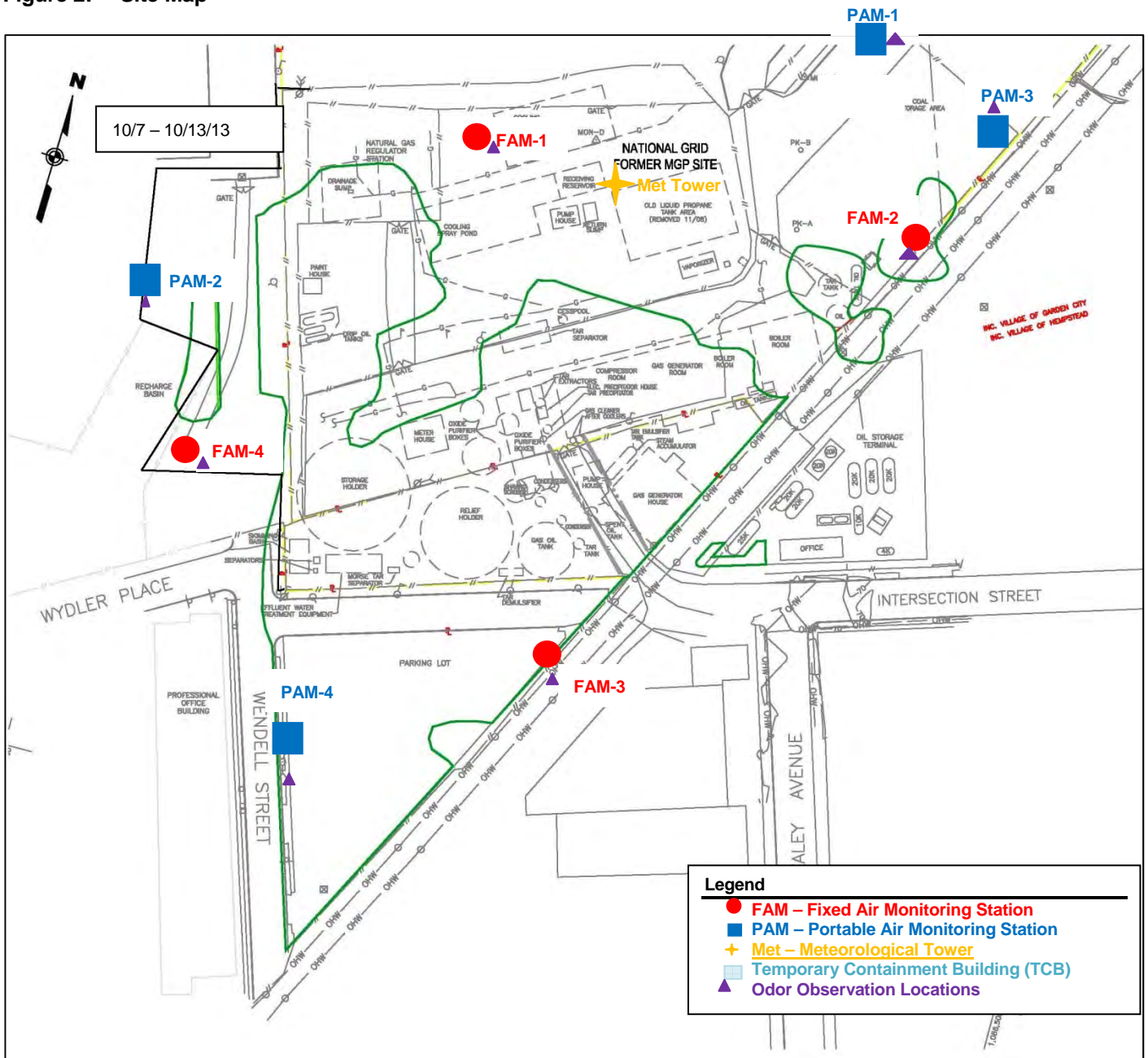


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 30 through October 6, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/30/13	24.9	0.1	10.5	0.1	19.3	0.1	6.0	0.1	81.2	0.1	66.4	0.2	88.1	0.1	58.3	0.2	X	X
Tue 10/1/13	21.2	0.1	26.4	0.1	29.3	0.1	21.8	0.1	88.0	0.1	88.7	0.1	88.5	0.1	65.7	0.2	X	X
Wed 10/2/13	33.1	0.1	33.1	0.1	30.2	0.1	23.7	0.1	99.5	0.1	64.9	0.1	87.6	0.1	95.4*	0.1	X	X
Thu 10/3/13	39.9	0.1	24.4	0.1	21.0	0.1	19.1	0.1	68.8	0.1	99.8	0.2	90.4	0.1	68.1	0.1	X	X
Fri 10/4/13	33.4	0.1	63.6	0.1	49.7	0.1	40.0	0.1	62.8	0.1	63.6	0.1	78.1	0.1	87.9	0.1	X	X
Sat 10/5/13	28.5	0.1	39.9	0.1	20.3	0.1	32.5	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/6/13	24.8	0.1	28.3	0.1	14.3	0.1	23.0	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/30/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Performed general Site cleanup; •Cleaned out Batch plant Silo's and began disassembling Batch plants; and •Routine air monitoring.
Tue 10/1/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Performed general Site cleanup; •Continued cleaning out Batch plant Silo's and continued disassembling Batch plants; and •Routine air monitoring.
Wed 10/2/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Performed general Site cleanup; •Continued cleaning out Batch plants and disassembling Batch plants; •Loaded out Swell to Bay Shore; and •Routine air monitoring.
Thu 10/3/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB and northeast areas; •Performed general Site cleanup; •Continued cleaning out Batch plants and disassembling Batch plants; •Loaded out 2 flatbed loads of misc. items; •Routine air monitoring.
Fri 10/4/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB and northeast areas; •Performed general Site cleanup; •Continued cleaning out Batch plants and disassembling Batch plants; •Loaded out 1 flatbed load of misc. items; •Collected Integrated VOC samples; and •Routine air monitoring.
Sat 10/5/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/6/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

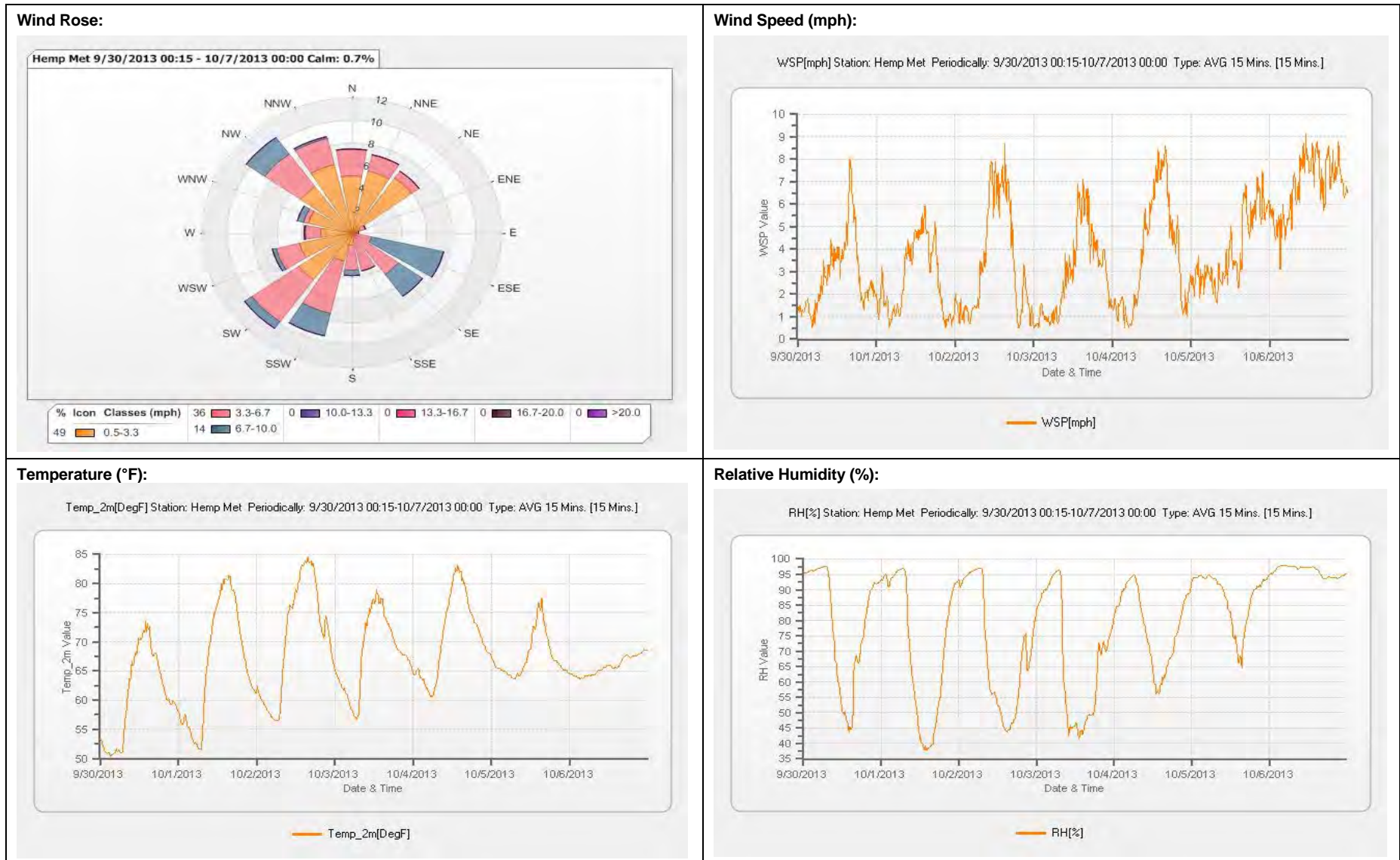
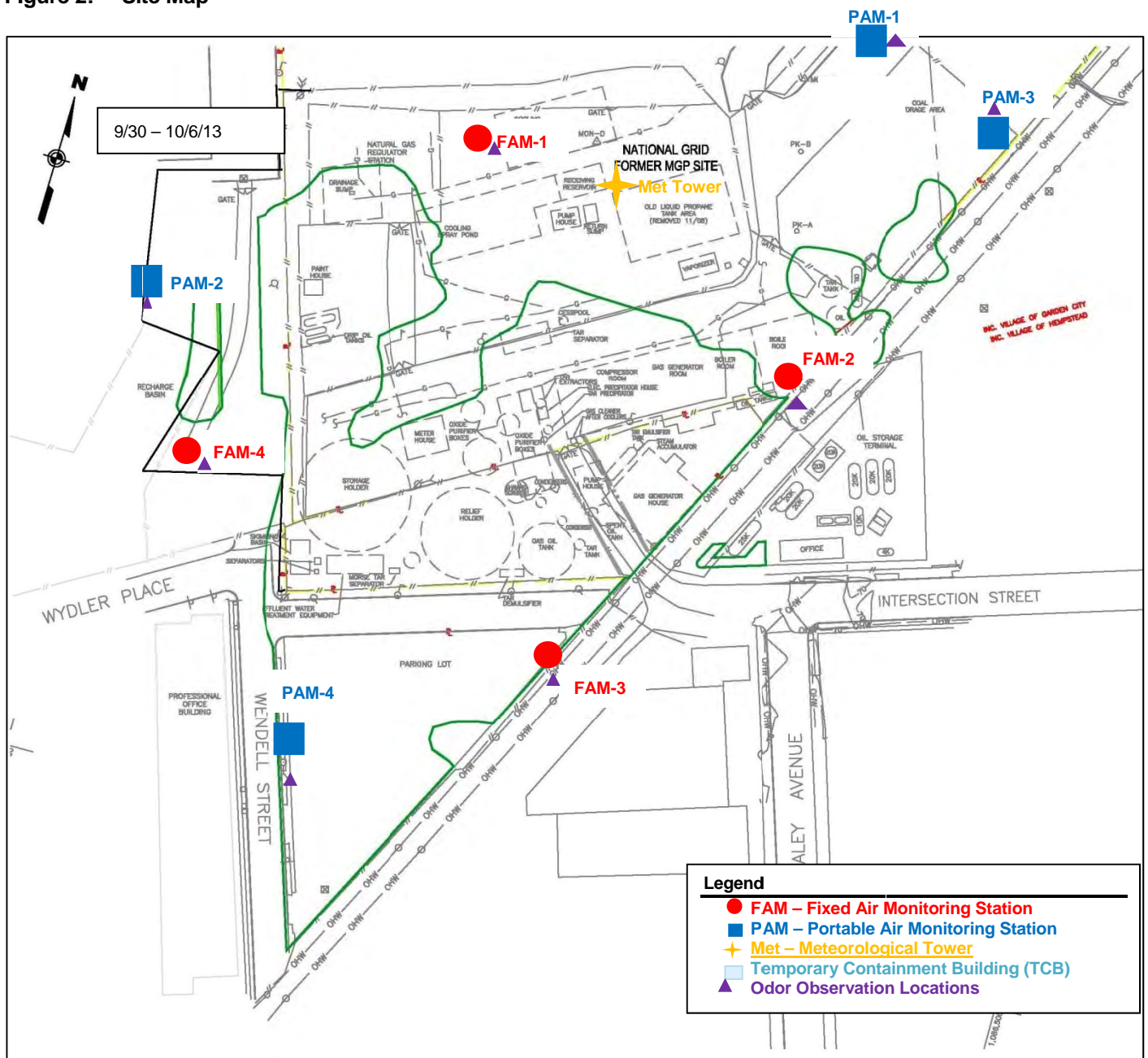


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 23 through September 29, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there was a period of PM₁₀ concentrations that remained above the Response Limit after background subtraction (see Table 4). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/23/13	55.3	0.1	7.5	0.1	3.8	0.1	4.5	0.1	23.9	0.1	30.6	0.2	20.4	0.1	33.6	0.1	X	X
Tue 9/24/13	16.1	0.1	12.4	0.1	9.3	0.1	4.1	0.1	16.7	0.1	52.9	0.1	22.4	0.2	49.9	0.1	X	X
Wed 9/25/13	19.9	0.1	9.5	0.1	7.8	0.1	6.6	0.1	17.0	0.1	29.9	0.1	30.6	0.1	65.5	0.1	X	X
Thu 9/26/13	28.9	0.1	12.1	0.1	6.6	0.1	7.4	0.1	105.8*	0.1	91.6	0.1	25.1	0.1	41.1	0.1	X	X
Fri 9/27/13	35.2	0.1	14.5	0.1	4.1	0.1	4.9	0.1	36.1	0.1	32.2	0.1	67.5	0.1	52.5	0.1	X	X
Sat 9/28/13	22.2	0.1	21.5	0.1	12.4	0.1	12.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/29/13	40.8	0.1	19.7	0.1	10.4	0.1	10.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM₁₀	Thu 9/26/13	PAM-1	11:38AM	11:50AM	13	100	ESE 6.3mph	ESE 5.8mph	PAM-3	116.3	10.5	105.8	Response	Elevated concentrations caused by heavy equipment traffic.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/23/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Loaded out soil/debris; •Cleaned out Batch Plant silos and began disassembling drill rigs; •Cut/graded 2' off of northeast area under 69Kv power lines; and •Routine air monitoring.
Tue 9/24/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Loaded out soil/debris; •Continued cleaning out Batch Plant silos and disassembling drill rigs; and •Routine air monitoring.
Wed 9/25/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Loaded out soil/debris; •Continued cleaning out Batch Plant silos and begun disassembling Batch Plants; and •Routine air monitoring.
Thu 9/26/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Performed general Site cleanup; •Continued cleaning out Batch Plant silos and disassembling Batch Plants; and •Routine air monitoring.
Fri 9/27/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; • Performed general Site cleanup; •Continued cleaning out Batch Plant silos and disassembling Batch Plants; •Laid down eight silos; •Collected Integrated VOC samples; and •Routine air monitoring.
Sat 9/28/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/29/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

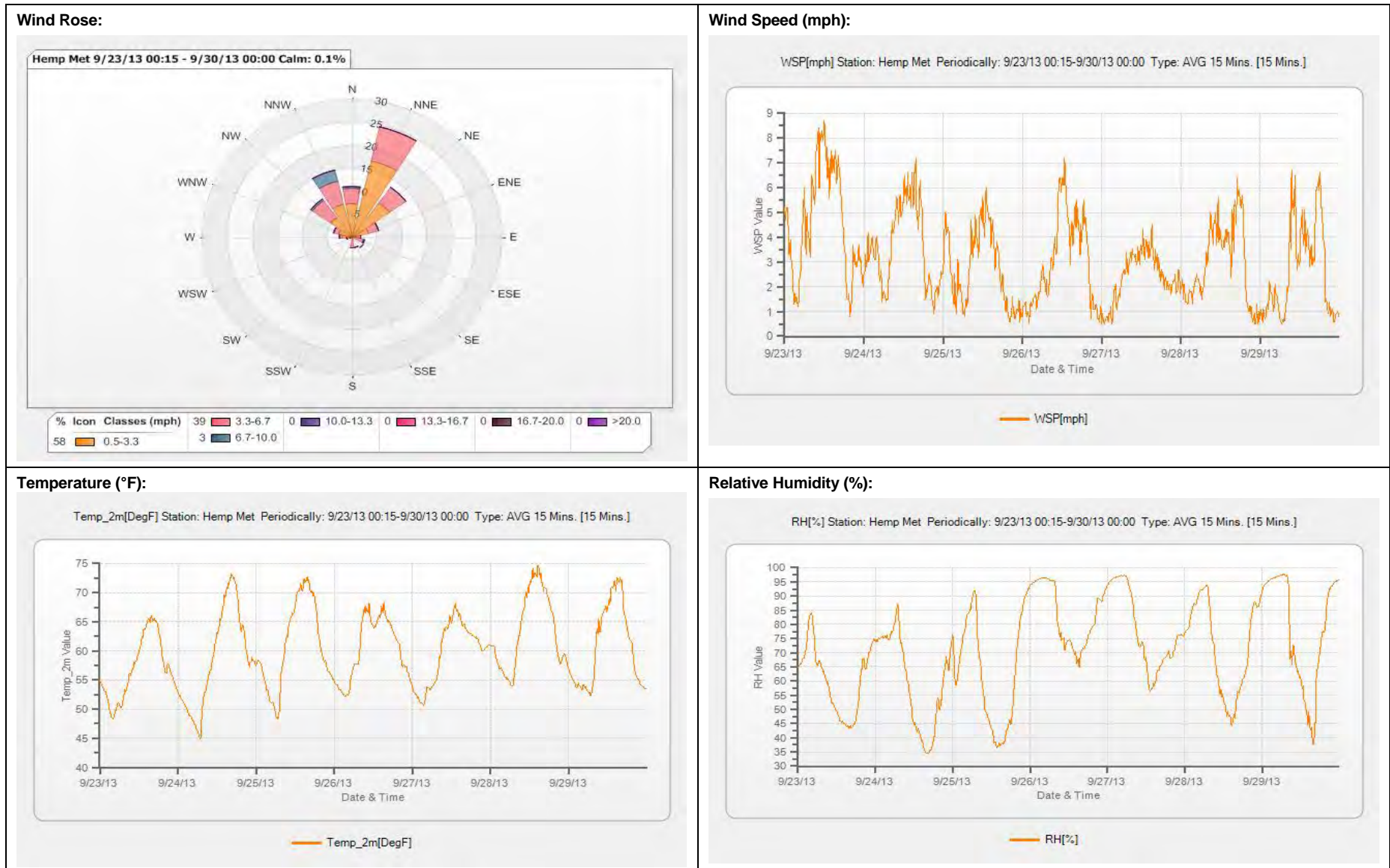
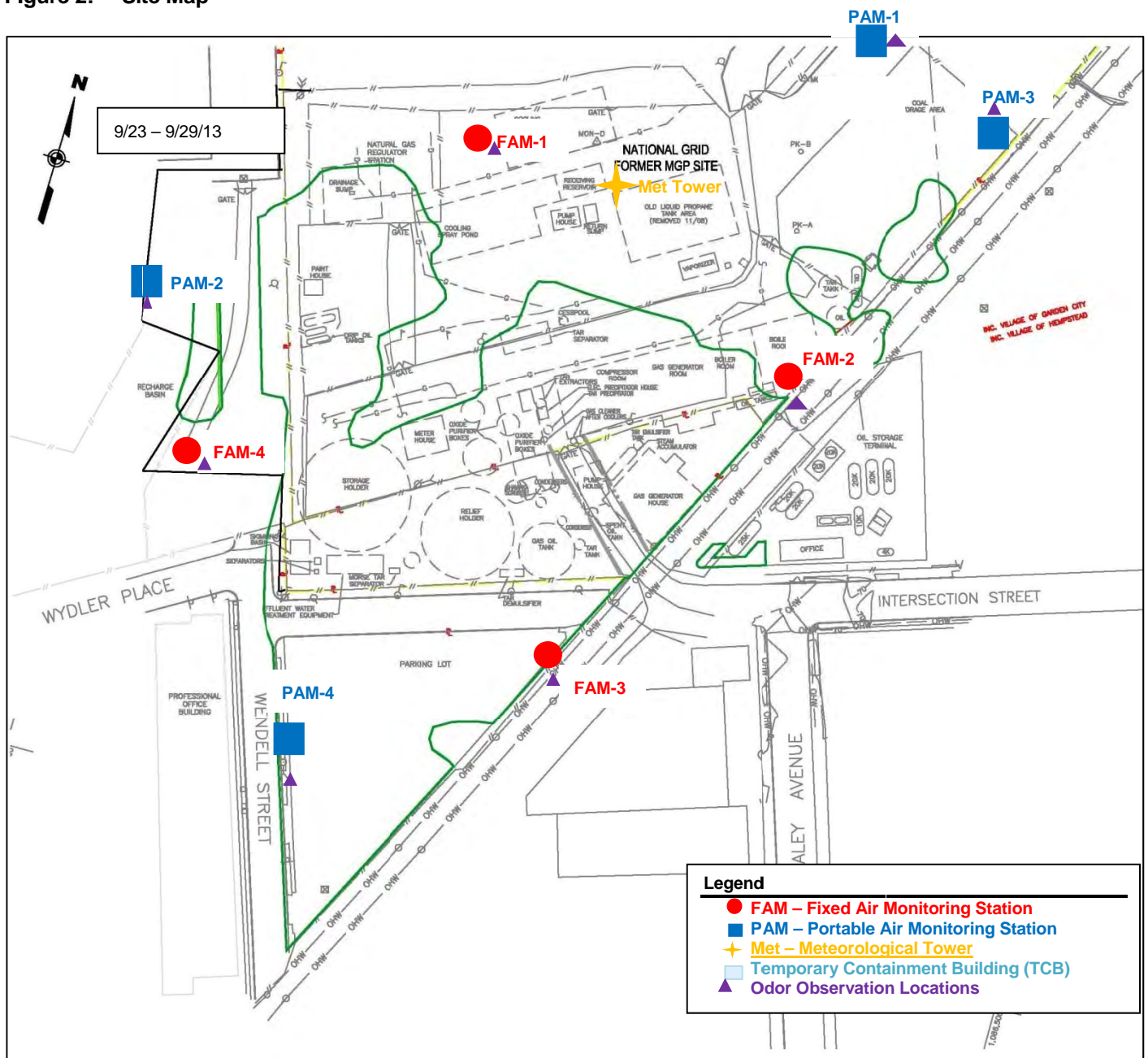


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 16 through September 22, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there were several PM₁₀ concentrations that remained above the Response Limit after background subtraction (see Table 4). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/16/13	55.6 ¹	0.1	30.3	0.1	10.4	0.1	9.2	0.1	23.2	0.1	54.6	0.1	25.0	0.1	73.0	0.1	X	X
Tue 9/17/13	81.6	0.1	37.0	0.1	15.4	0.1	5.7	0.1	21.7	0.1	69.8	0.1	49.3	0.1	77.6	0.1	X	X
Wed 9/18/13	53.3	0.1	20.4	0.1	116.5*	0.1	17.8	0.1	60.6	0.1	31.5	0.1	103.4*	0.1	68.6	0.1	X	X
Thu 9/19/13	40.3	0.1	17.8	0.1	10.0	0.1	12.3	0.1	69.2	0.1	28.7	0.1	93.2	0.1	82.9	0.1	X	X
Fri 9/20/13	31.5	0.1	24.6	0.1	16.2	0.1	13.8	0.1	69.2	0.1	44.2	0.1	46.4	0.1	73.7	0.1	X	X
Sat 9/21/13	14.2	0.1	9.0	0.1	6.5	0.1	4.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/22/13	76.8	0.1	8.9	0.1	2.7	0.1	5.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ A period of PM₁₀ data was found to be invalid due to an instrument malfunction caused by moisture.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM₁₀	Wed 9/18/13	FAM-3	8:36AM	8:45AM	10	100	NNW 3.7mph	NNW 3.7mph	FAM-1	122.7	6.2	116.5	Response	Elevated concentrations caused by an off-site Ford dealership moving vehicles near unit.
PM₁₀	Wed 9/18/13	PAM-3	2:57PM 4:31PM	3:08PM 4:35PM	17	100	SW 6.7mph	SW 6.6mph	FAM-4	114.0	10.6	103.4	Response	Elevated concentrations caused by DSM activity in area. Work was paused to let dust settle.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/16/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •Performed Batch plant maintenance and general Site cleanup; •Pre-dug northeast area under 69Kv power lines; and •Routine air monitoring.
Tue 9/17/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •DSM (SR100 & RH40) work in NE area; •Collected Integrated VOC samples; and •Routine air monitoring.
Wed 9/18/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •DSM (SR100 & RH40) work in NE area; and •Routine air monitoring.
Thu 9/19/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; •DSM (SR100) work in NE area-completed ISS work; and •Routine air monitoring.
Fri 9/20/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; • Loaded out soil/debris; •Cleaned out Batch plant Silo's and began disassembling drill rigs; •Cut/graded 2' off of northeast area under 69Kv power lines; and •Routine air monitoring.
Sat 9/21/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/22/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

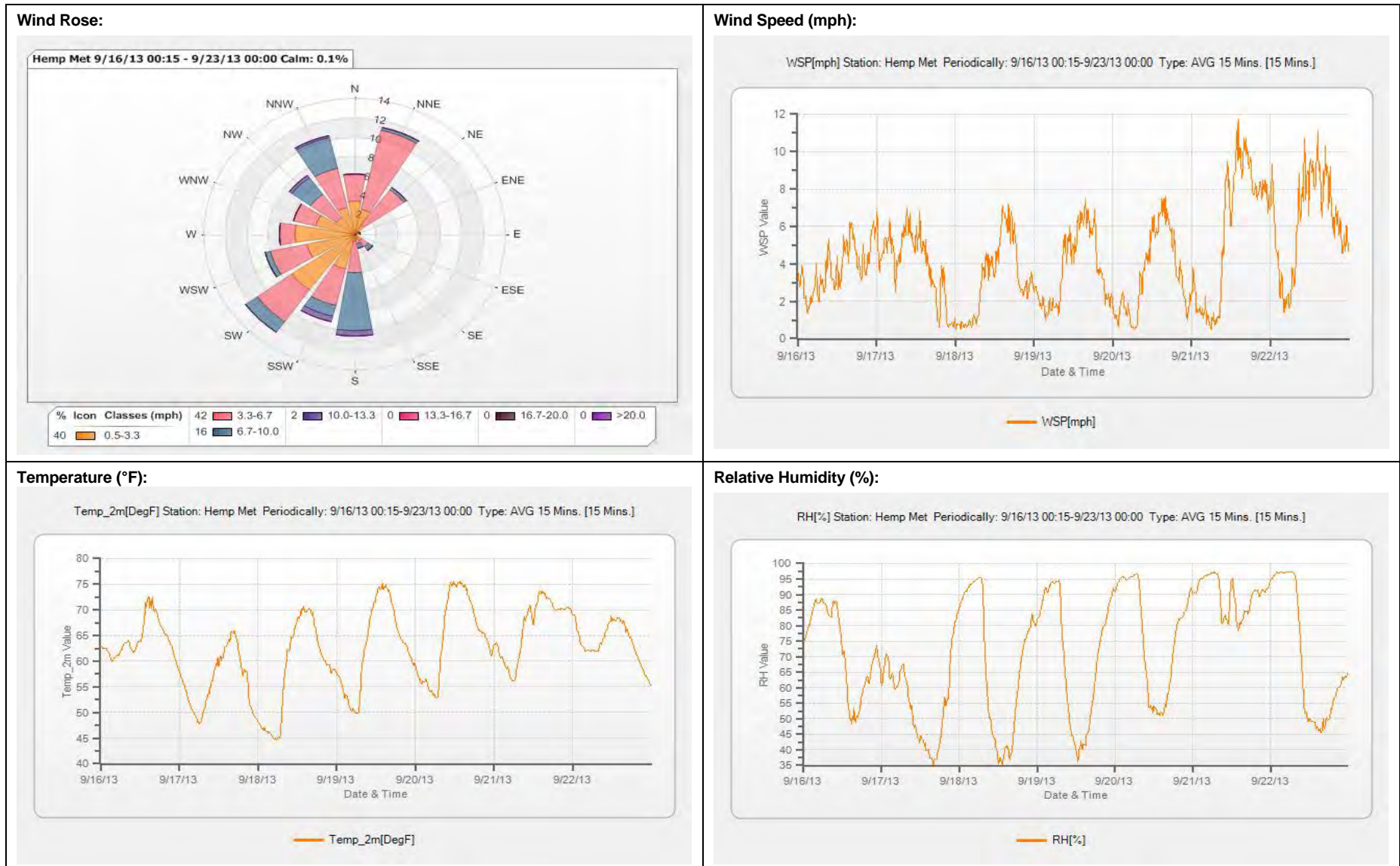
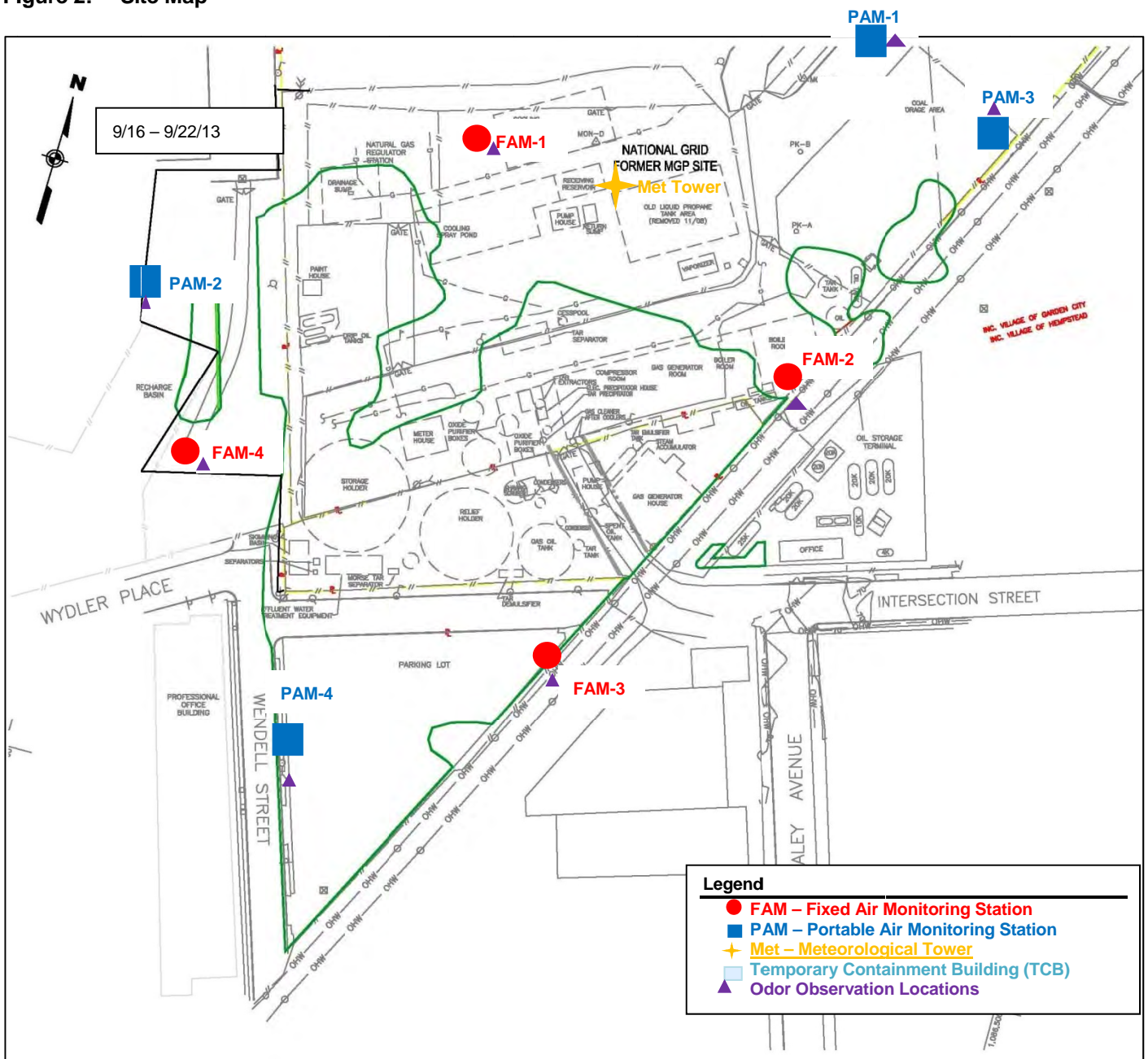


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 9 through September 15, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/9/13	16.1	0.1	11.9	0.1	14.0	0.1	4.6	0.1	21.0	0.1	60.3	0.1	57.2	1.9	49.8	0.1	X	X
Tue 9/10/13	26.5	0.1	31.7	0.1	19.2	0.1	33.4	0.1	69.6	0.1	47.4	0.1	78.4	1.3	63.8	0.1	X	X
Wed 9/11/13	78.8*	0.1	65.3	0.1	71.7	0.1	49.2	0.1	65.9*	0.1	78.8*	0.1	93.2	0.1	81.4*	0.1	X	X
Thu 9/12/13	73.3	0.1	52.1	0.1	34.0	0.1	44.3	0.1	75.7*	0.1	97.9	0.1	93.2	0.1	92.5	0.1	X	X
Fri 9/13/13	47.3	0.1	21.2	0.1	14.5	0.1	17.3	0.1	57.3	0.1	45.9	0.1	28.5	0.1	90.0	0.1	X	X
Sat 9/14/13	43.4 ¹	0.1	8.8	0.1	4.9	0.1	8.2	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/15/13	ND ¹	0.1	7.7	0.1	5.4	0.1	9.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ PM₁₀ data invalid due to an instrument malfunction caused by moisture.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/9/13	<ul style="list-style-type: none"> •Placed and compacted lifts in POB; •Pre-dug northeast areas for drilling; •Loaded out soil/debris from northeast areas; and •Routine air monitoring.
Tue 9/10/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in northeast corner (RH40); •Placed and compacted lifts in POB; •Loaded out soil/debris from northeast areas; and •Routine air monitoring.
Wed 9/11/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in northeast areas (RH40); •Placed and compacted lifts in POB; •Collected Integrated VOC samples; and •Routine air monitoring.
Thu 9/12/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in northeast areas within 25' of power line (RH40); •Placed and compacted lifts in POB area; and •Routine air monitoring.
Fri 9/13/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB area; • Performed batch plant maintenance and general site cleanup; and •Routine air monitoring.
Sat 9/14/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/15/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

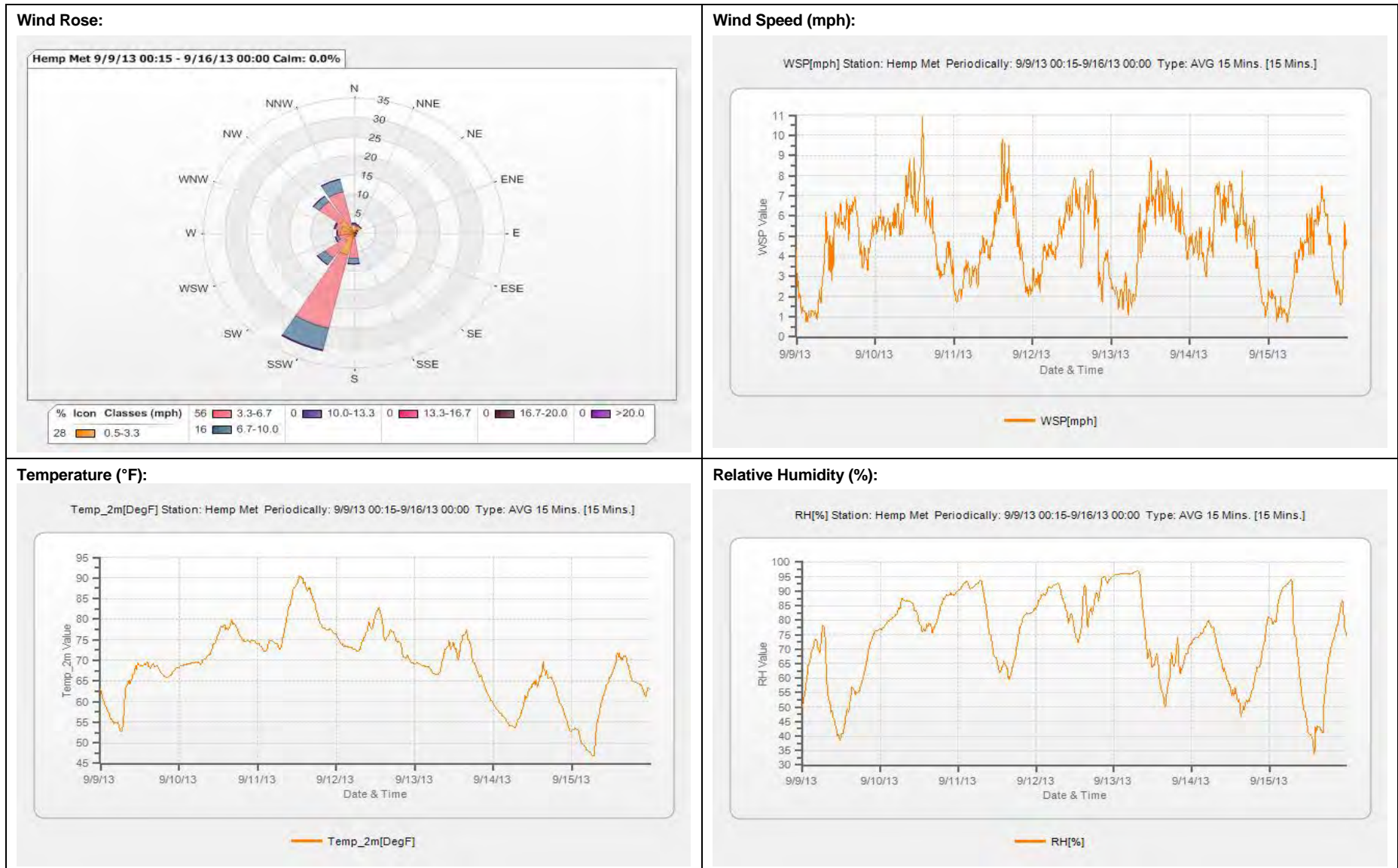
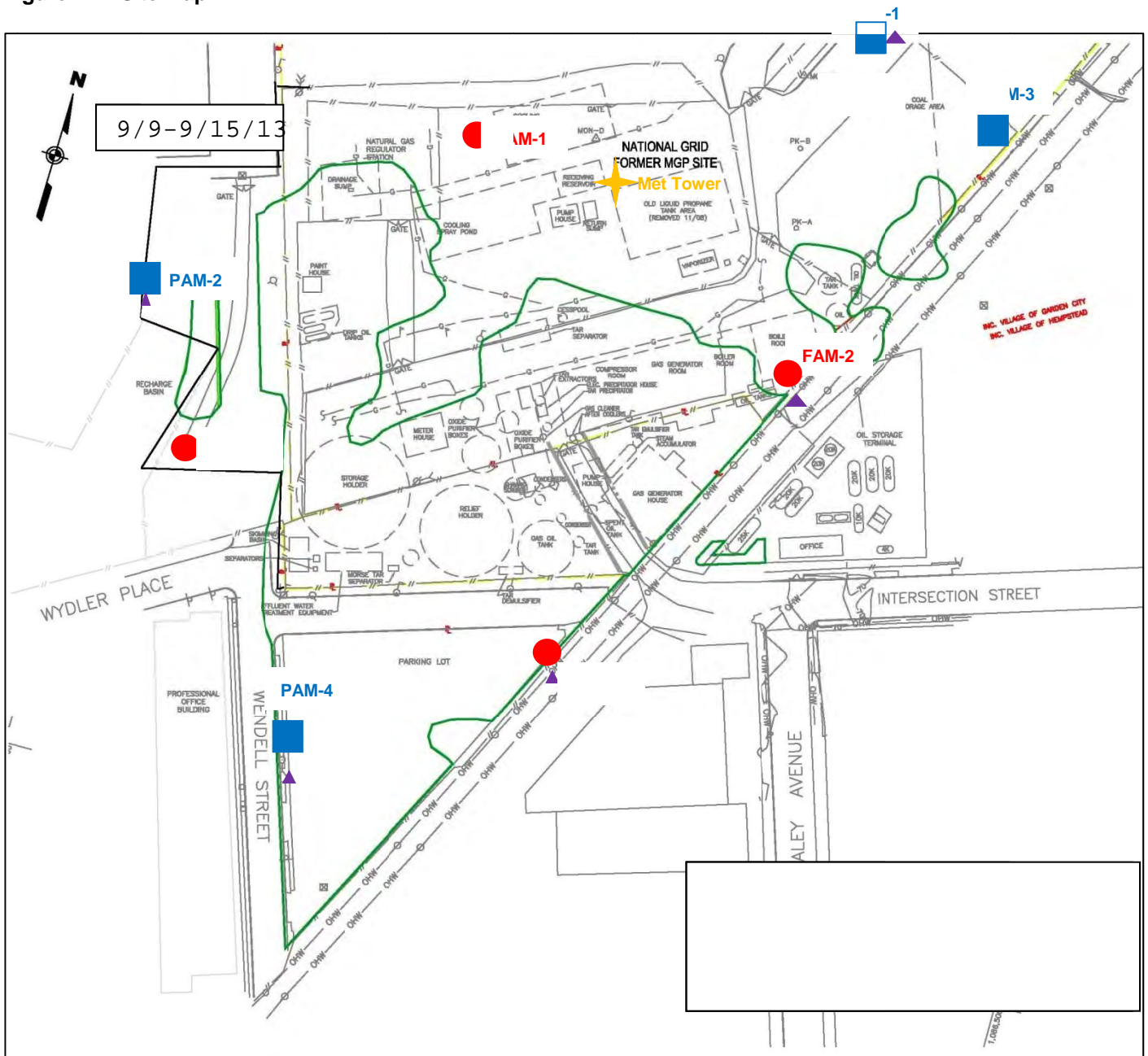


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 2 through September 8, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no PM₁₀ or TVOC concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 and 3:** Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/2/13	86.7	0.1	35.8	0.1	26.2	0.1	32.3	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 9/3/13	83.7	0.1	39.6	0.1	26.9	0.1	43.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 9/4/13	25.4	0.1	14.1	0.1	9.4	0.1	7.5	0.1	19.7	0.1	73.0	0.1	67.0	0.1	57.0	0.1	X	X
Thu 9/5/13	40.2	0.1	15.3	0.1	13.7	0.1	10.4	0.1	85.8	0.1	68.7	0.1	67.8	0.1	63.5	0.1	X	X
Fri 9/6/13	27.4	0.1	14.9	0.1	11.6	0.1	11.5	0.1	19.9	0.1	58.4	0.1	52.5	0.1	91.1	0.1	X	X
Sat 9/7/13	19.3	0.1	14.2	0.1	11.8	0.1	11.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/8/13	1.8	0.1	15.1	0.1	11.9	0.1	13.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ Site closed for Labor Day holiday.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Tue 9/3/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Wed 9/4/13	<ul style="list-style-type: none"> •Excavated 1 foot in the northeast drilling area; •Placed and compacted backfill in POB interior; and •Routine air monitoring.
Thu 9/5/13	<ul style="list-style-type: none"> •Placed and compacted backfill in POB interior; •Built and compacted ramp in northwest corner of POB; and •Routine air monitoring.
Fri 9/6/13	<ul style="list-style-type: none"> •Placed and compacted lifts in POB; •Excavated 2 foot depth in BGS in northeast area; •Loaded out soil and debris from northeast areas; •Collected Integrated VOC samples; and •Routine air monitoring.
Sat 9/7/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/8/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

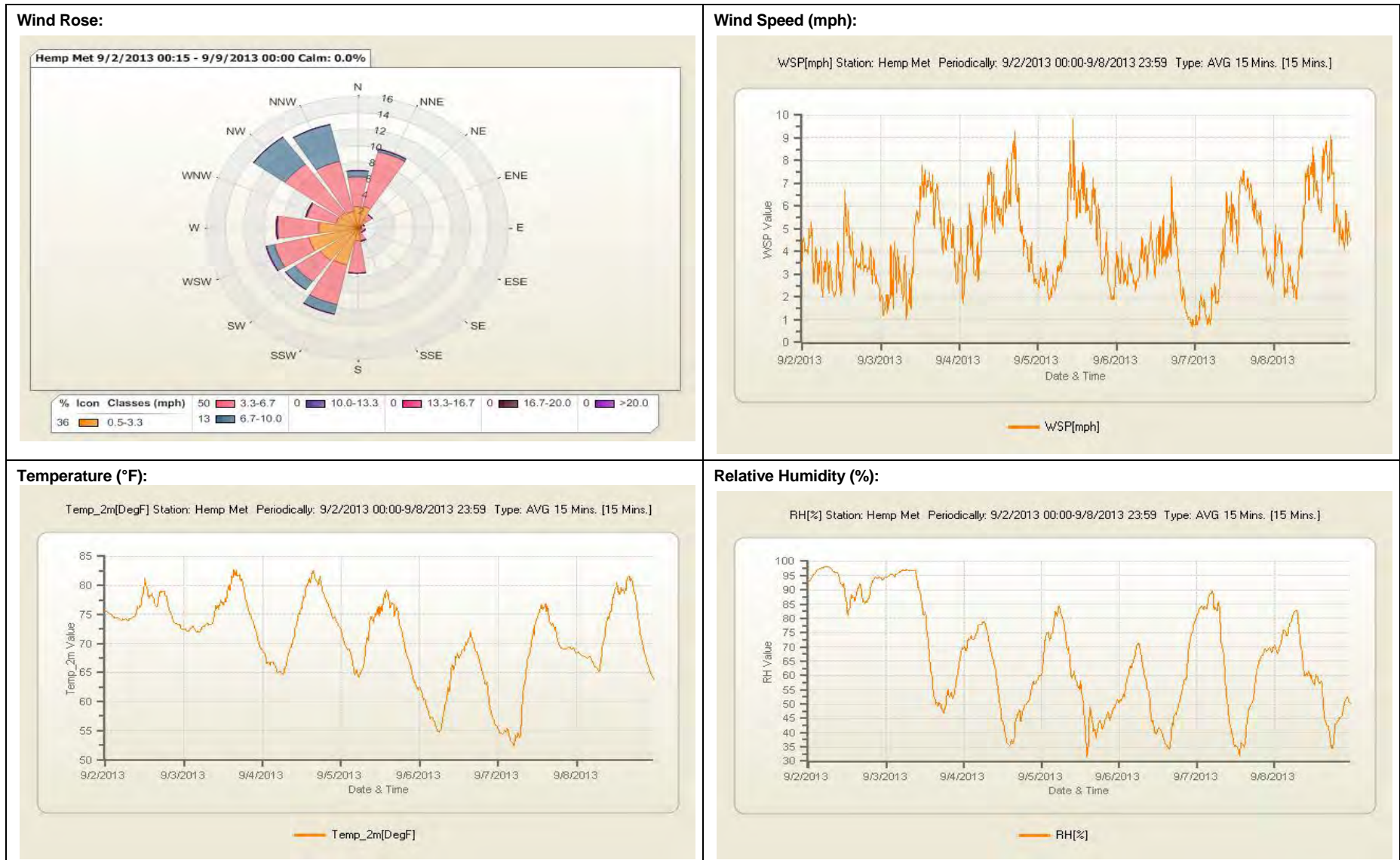


Figure 2: Site Map

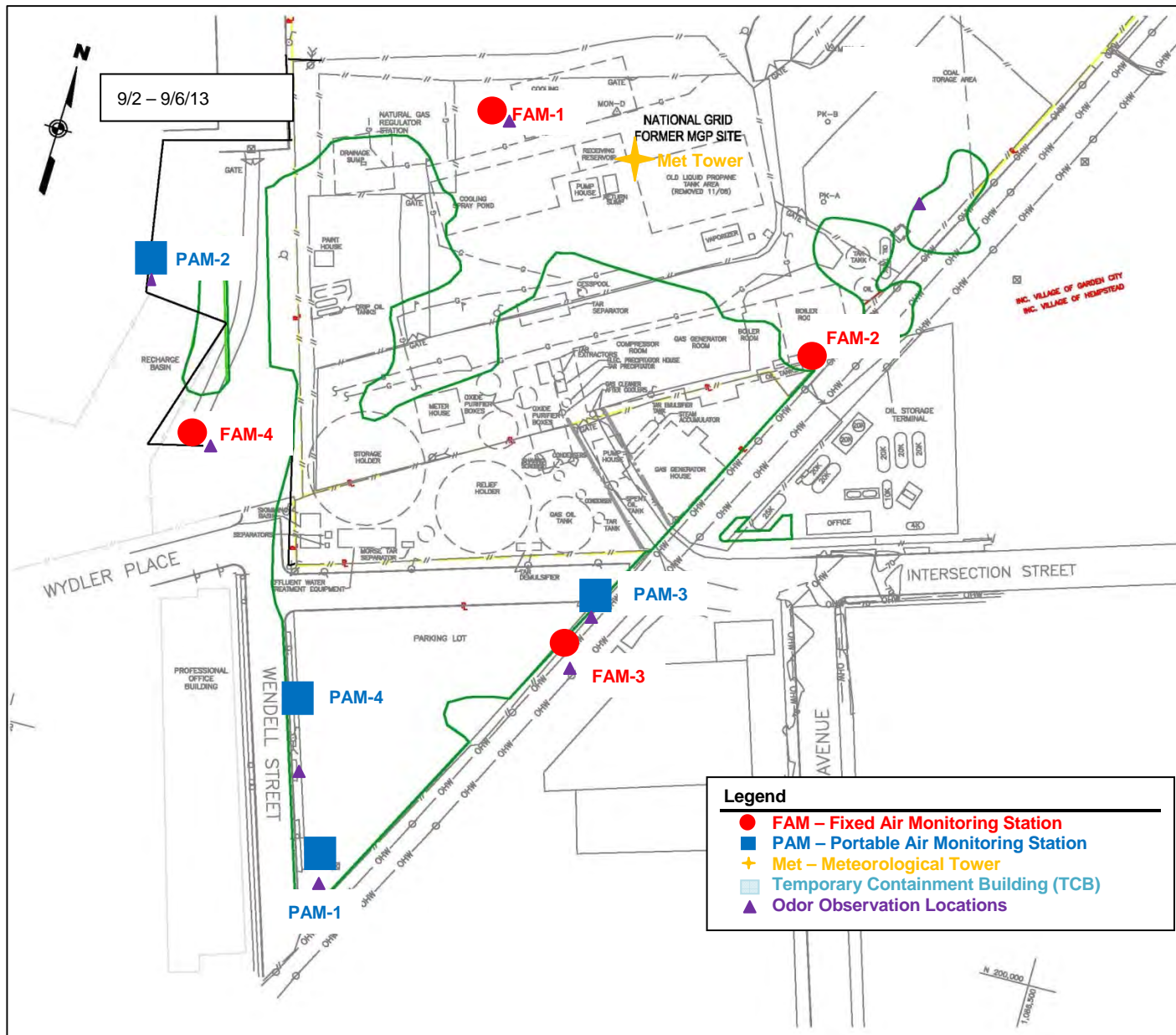
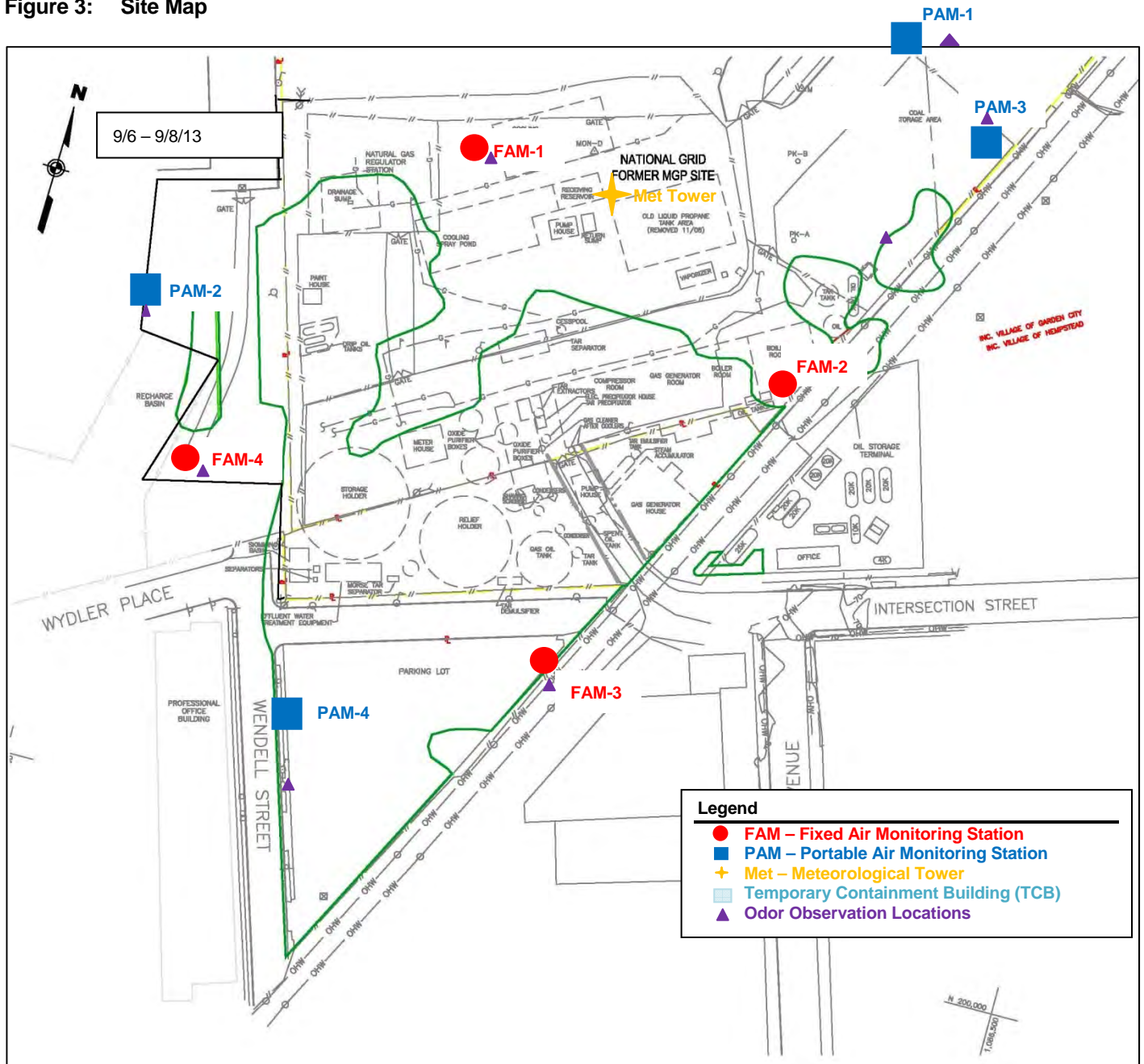


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 26 through September 1, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action and Response Limits after background subtraction (see **Table 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/26/13	83.9	0.1	35.8	0.1	24.9	0.1	25.3	0.1	32.3	0.1	82.5	0.2	44.9	0.1	55.9	0.1	X	X
Tue 8/27/13	75.5	0.1	31.9	0.1	28.1	0.2	26.3	0.1	55.3	0.1	66.4	0.1	51.5	0.1	79.1	0.1	X	X
Wed 8/28/13	93.4	0.1	34.7	0.1	24.1	0.3	28.3	0.1	49.5	0.1	77.2	0.1	63.3	0.1	80.6	0.1	X	X
Thu 8/29/13	89.0	0.1	36.5	0.1	89.4	0.1	30.4	0.1	76.9	0.1	51.8	0.1	58.5	0.1	73.6	0.1	X	X
Fri 8/30/13	71.0*	0.1	43.8	0.1	29.5	0.1	36.4	0.1	24.6	0.1	30.8	0.1	37.0	0.1	29.6	0.1	X	X
Sat 8/31/13	82.1	0.1	32.4	0.1	24.9	0.1	27.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/1/13	61.0	0.1	27.4	0.1	19.3	0.1	22.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/26/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation inside POB retaining wall (SR 100); •Placed and Compacted Backfill in Access Road Excavation Area; •Remove Gravel in NE Area; •Performed Drill Rig Repairs; and •Routine air monitoring.
Tue 8/27/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation inside POB retaining wall (SR 100); •Placed and Compacted Backfill in South Access Road Excavation; •Managed and Graded Swell; and •Routine air monitoring.
Wed 8/28/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation inside POB retaining wall (SR100); •Placed and Compacted Backfill in South Access Road Excavation; •Managed and Graded Swell; •Removed Drill Rigs from POB Interior and began Decontamination Procedures; and •Routine air monitoring.
Thu 8/29/13	<ul style="list-style-type: none"> •Decontaminated SR100; •Removed mats from POB Interior; •Prepared for DSM in NE Areas; •Managed and Graded Swell; •Collected Integrated VOC samples; and •Routine air monitoring.
Fri 8/30/13	<ul style="list-style-type: none"> •Managed and Graded Swell; •Pump Layer of Grout to Cover Swell in POB Interior; and •Routine air monitoring.
Sat 8/31/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/1/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

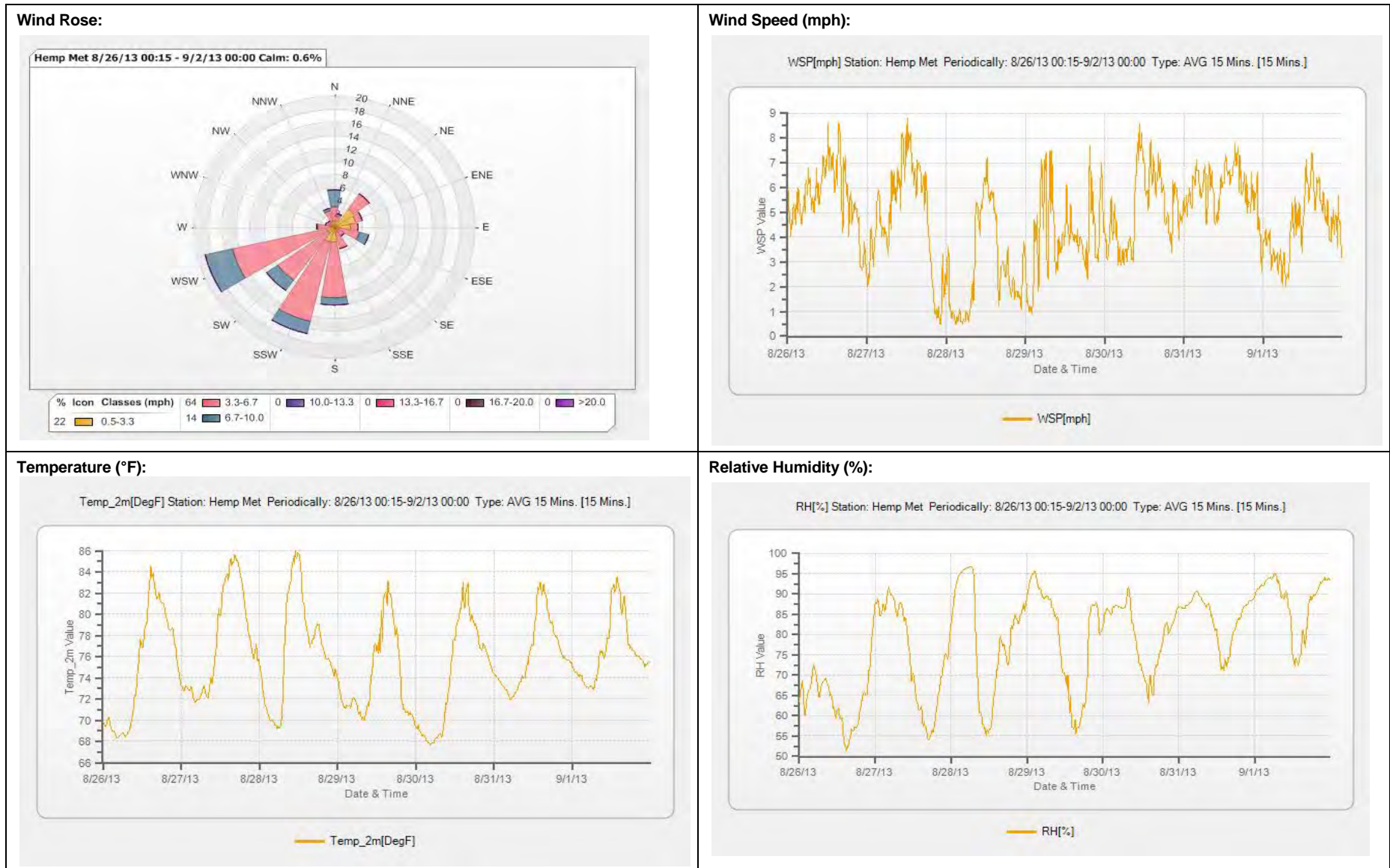
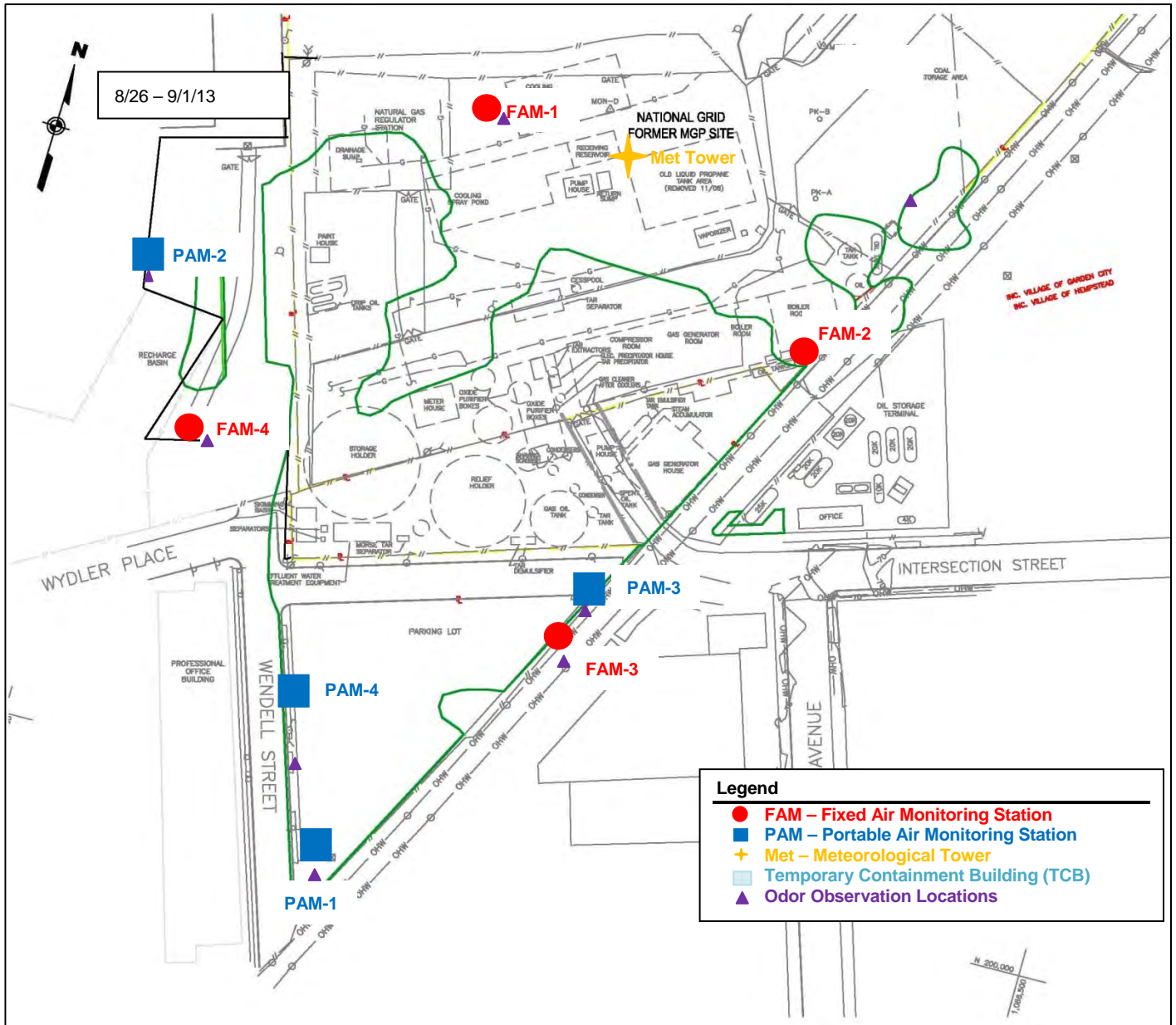


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 19 through August 25, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. There was however a period of PM₁₀ concentrations greater than the Action Level (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were, however PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Table 3 & 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

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Additional information related to the air monitoring activities during the report period is included in the following table and figures:

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- **Figure 2:** Site map.

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Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

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[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/19/13	121.4*	0.1	40.3	0.1	22.7	0.1	95.8	0.1	40.1	0.1	90.6	0.2	62.8	0.1	75.6	0.1	X	X
Tue 8/20/13	282.0*	0.1	37.3*	0.1	92.2	0.1	92.4	0.1	78.1	0.1	79.2	0.2	78.7	0.1	91.6*	0.1	X	X
Wed 8/21/13	85.8*	0.1	39.5	0.1	57.6	0.1	32.9	0.1	85.8	0.1	75.9	0.2	79.3	0.4	95.1	0.1	X	X
Thu 8/22/13	93.6	0.1	40.3	0.1	29.6	0.1	27.2	0.1	68.0	0.1	76.1	0.2	67.9	0.1	87.8	0.1	X	X
Fri 8/23/13	90.5	0.1	33.3	0.1	23.7	0.1	27.0	0.1	38.6	0.1	62.2	0.2	34.1	0.2	59.3	0.1	X	X
Sat 8/24/13	1.4	0.1	13.4	0.1	10.1	0.1	10.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/25/13	1.2	0.1	14.2	0.1	10.6	0.1	11.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 8/20/13	FAM-1	12:43AM	6:30AM	348	150	W 3.6 mph	Var.	FAM-3	373.2	91.2	282.0	Action	Elevated concentrations caused by atmospheric conditions (high relative humidity). No Site activities were ongoing during this overnight period.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 8/19/13	FAM-1	8:24AM	8:43AM	20	100	WNW 3.3mph	WNW 3.6mph	FAM-3	140.1	18.7	121.4	Response	Elevated concentrations were caused by heavy equipment traffic along access road. Concentrations dropped as equipment moved away.
PM ₁₀	Tue 8/20/13	FAM-1	12:39AM 6:31AM 7:23AM	12:42AM 7:19AM 7:37AM	68	100	W 3.6mph	Var.	FAM-3	149.8	39.4	110.4	Response	Elevated concentrations caused by atmospheric conditions (high relative humidity). No Site activities were ongoing during the overnight period.

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM₁₀ = Respirable Particulate Matter (µg/m³)

TVOC = Total Volatile Organic Compounds (ppm)

Nap = Naphthalene

VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)

NA = Not Applicable

ND = No Data

- Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Table 5: Weekly Site Activities

	Site Activities
Mon 8/19/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation on south corner inside POB retaining wall (SR 100); •Removed ramp in north west corner of POB and finalized main ramp in north east corner of POB; •Excavated/replaced soil in non-drilled area inside POB interior (performed to verify grout did not migrate into soil); and •Routine air monitoring.
Tue 8/20/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation on south corner inside POB retaining wall (SR 100); •Installed temporary fence around northeast drilling area; •Welded/repaired Delmag (RH 40) replacing cutter; and •Routine air monitoring.
Wed 8/21/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall near west wall (RH40); •Performed DSM production columns installation inside POB retaining wall near west wall (SR100); •Saw-cut asphalt in northeast drilling area; and •Routine air monitoring.
Thu 8/22/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall near west wall (RH40); •Performed DSM production columns installation inside POB retaining wall near west wall (SR100); •Filled two monitoring wells with sand in northeast area; •Installed grout hose crossover road near load out area; and •Routine air monitoring.
Fri 8/23/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation inside POB retaining wall(SR100); •Excavated access road along main gate fence (2' excavation); •Installed grout hose crossover and constructed access road around batch plant; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 8/24/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/25/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

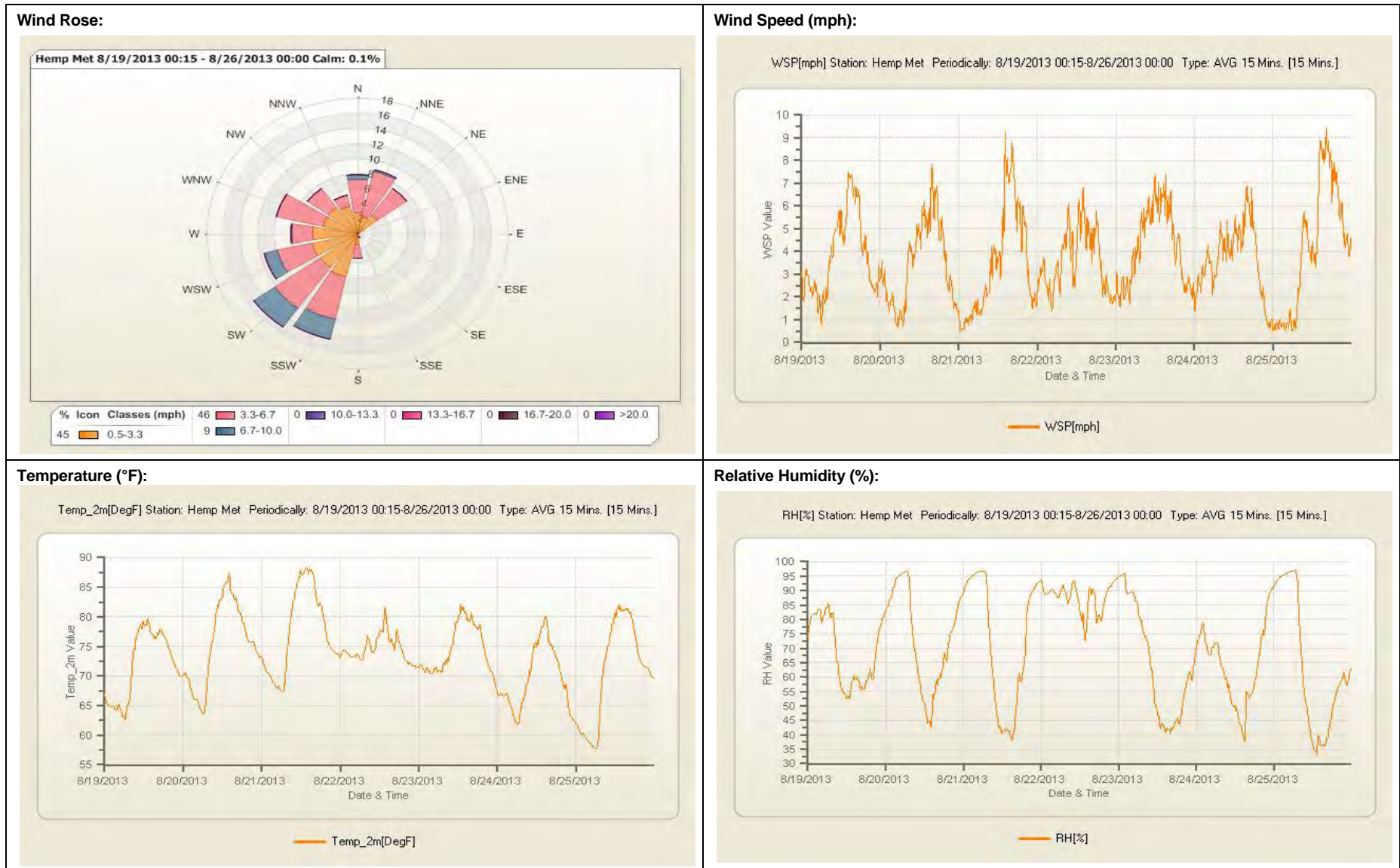
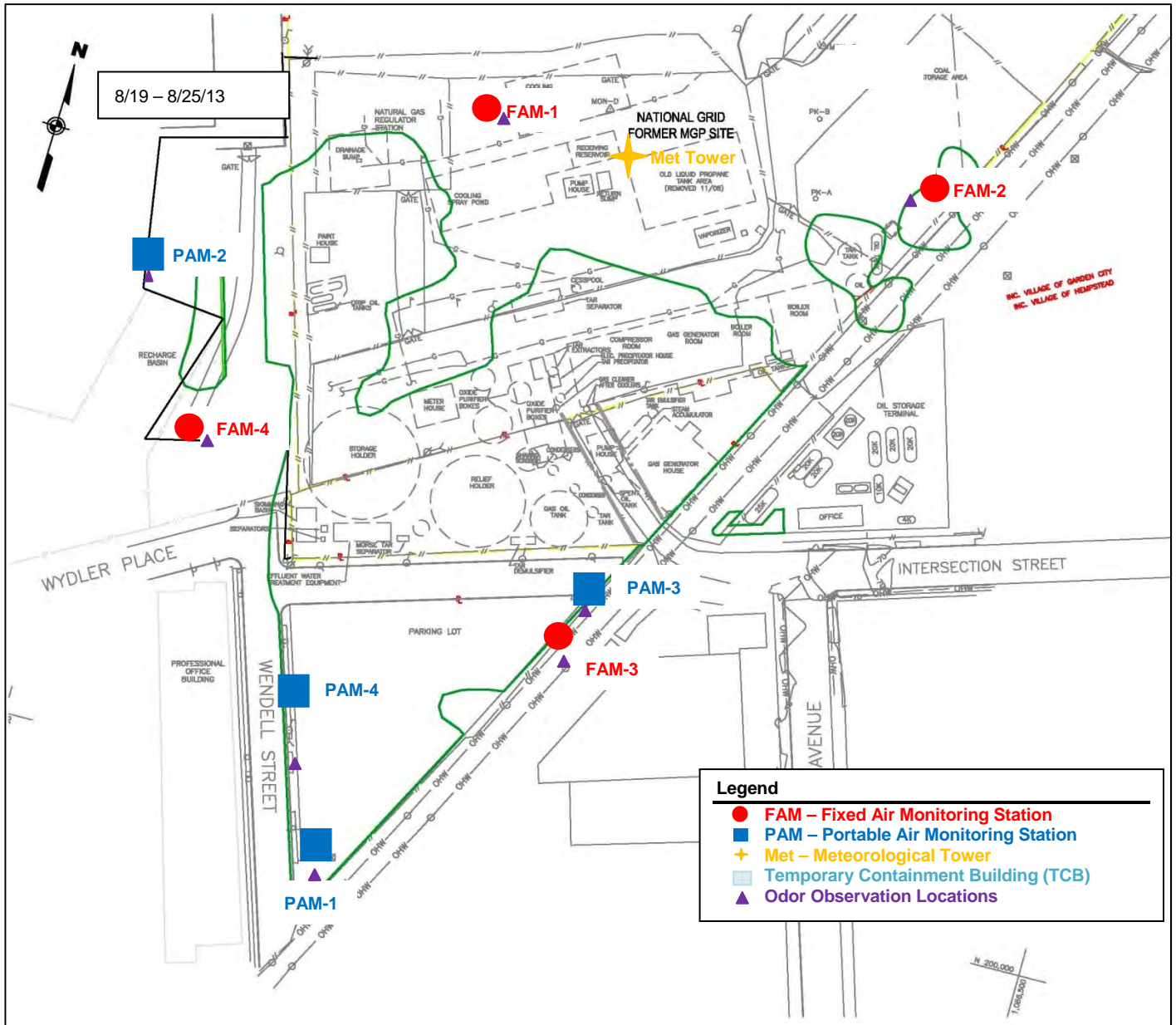


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 12 through August 18, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. There were, however periods of PM₁₀ concentrations greater than the Action Level(see Table 3). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were, however PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction(see Table 3 & 4). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/12/13	81.4*	0.1	40.6	0.1	24.2	0.1	30.4	0.1	49.7	0.1	69.6	0.1	41.1	0.1	77.1	0.1	X	X
Tue 8/13/13	96.7	0.1	36.4	0.1	23.1	0.3	29.4	0.1	213.0*	0.1	89.7	0.1	93.0	0.1	71.3	0.1	X	X
Wed 8/14/13	45.1	0.1	22.4	0.1	10.6	0.1	11.7	0.1	29.9	0.1	57.5	0.1	31.2	0.1	61.0	0.1	X	X
Thu 8/15/13	21.9	0.1	19.6	0.1	14.7	0.1	5.0	0.1	27.1	0.1	61.7	0.1	71.1	0.1	66.6	0.1	X	X
Fri 8/16/13	38.3	0.1	24.8	0.1	12.8	0.1	12.7	0.1	20.8	0.1	68.8	0.1	30.4	0.1	58.1	0.1	X	X
Sat 8/17/13	22.3	0.1	21.1	0.1	15.8	0.1	15.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/18/13	65.3	0.1	33.8	0.1	24.1	0.1	27.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 8/13/13	PAM-1	7:42AM	7:59AM	18	150	S 3.0 mph	S 3.3 mph	FAM-3	226.7	13.7	213.0	Action	Elevated Concentrations caused by excavators in area. Excavators moved and concentrations returned to operational levels.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

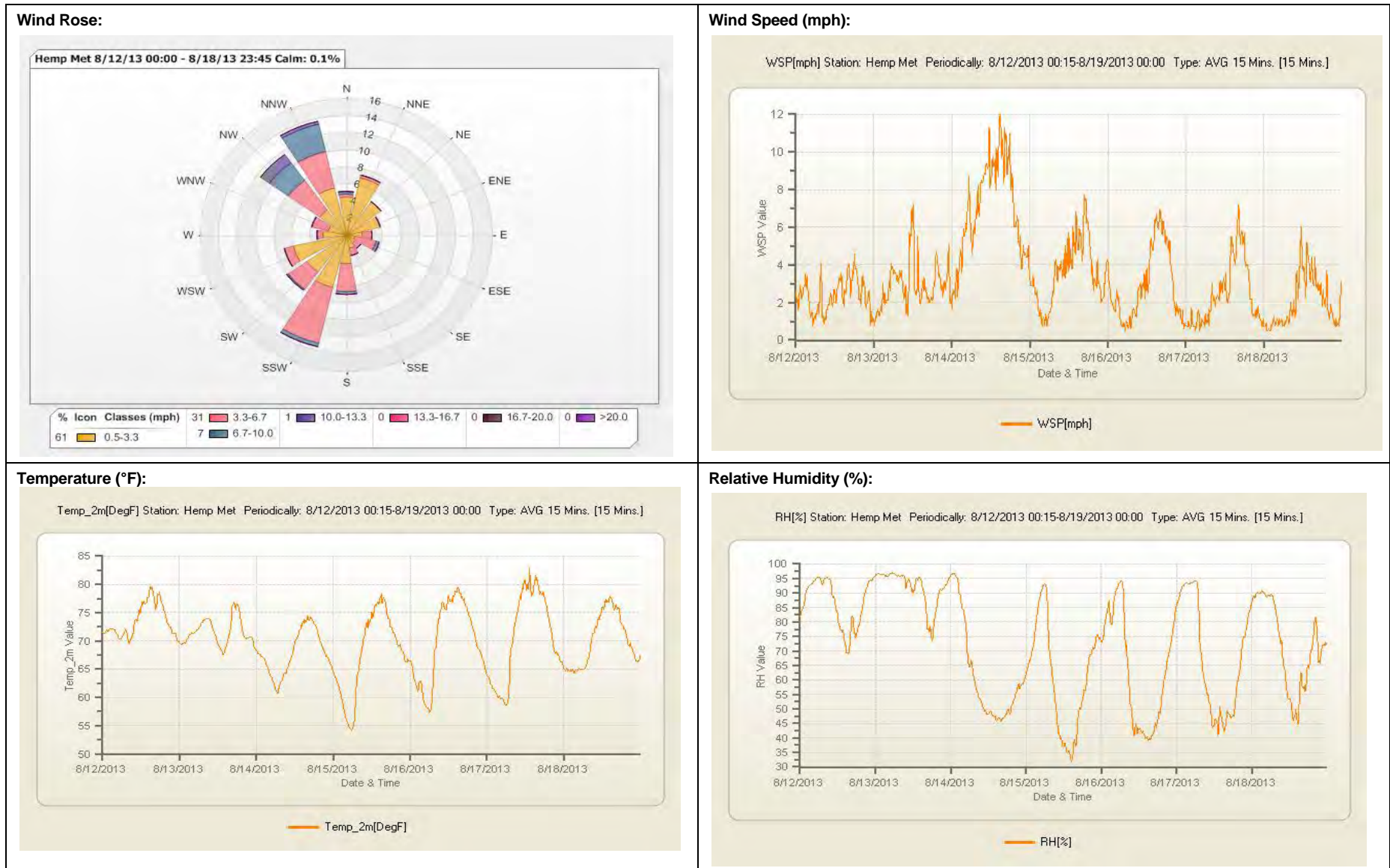
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 8/12/13	FAM-1	10:10PM	11:10PM	61	100	VAR	VAR	FAM-3	105.3	23.9	81.4	Operational	Elevated concentrations were caused by unknown source, no Site activity at the time of the elevated concentrations.
PM ₁₀	Tue 8/13/13	PAM-1	8:00AM	8:05AM	6	100	S 3.3mph	S 3.3mph	FAM-3	147.1	12.8	134.3	Response	Elevated Concentrations caused by excavators in area Excavators moved and concentrations returned to operational levels.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/12/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil (used foam as needed); •Loaded out soil/debris; and •Routine air monitoring.
Tue 8/13/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil ; •Loaded out soil/debris; and •Routine air monitoring.
Wed 8/14/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation on south corner inside POB retaining wall(SR100); •Excavated POB area and stockpiled soil; •Loaded out soil/debris; and •Routine air monitoring.
Thu 8/15/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on inside POB retaining wall (RH40); •Performed DSM production columns installation on south corner inside POB retaining wall(SR100); •Excavated POB area and stockpiled soil; •Loaded out soil/debris; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 8/16/13	<ul style="list-style-type: none"> •Performed DSM production columns installation inside POB retaining wall (RH40); •Performed DSM production columns installation on south corner inside POB retaining wall(SR100); •Excavated POB area and stockpiled soil; and •Routine air monitoring.
Sat 8/17/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/18/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 5 through August 11, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits or TVOC concentrations greater than the Response Limits after background subtraction. There was however a period of PM₁₀ concentrations that remained above the Response Limit after background subtraction (see table 4). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/5/13	26.2	0.1	14.2	0.1	12.6	0.1	7.0	0.1	26.2	0.1	69.4	0.2	34.4	0.1	44.0	0.1	X	X
Tue 8/6/13	40.8	0.1	12.4	0.1	9.5	0.1	15.3	0.1	33.8	0.1	103.6*	0.2	41.2	0.1	62.8	0.1	X	X
Wed 8/7/13	66.9	0.4	50.7	0.1	40.5	0.1	11.2	0.1	19.4	0.1	44.4	0.1	26.7	0.1	68.3	0.1	X	X
Thu 8/8/13	59.7	0.1	21.8	0.1	63.9	0.1	17.2	0.1	54.9	0.1	50.9	0.1	38.4	0.1	75.0	0.9	X	X
Fri 8/9/13	71.4*	0.1	38.2	0.1	28.8	0.1	34.1	0.1	45.5	0.1	58.3	0.1	26.6	0.1	81.8	0.1	X	X
Sat 8/10/13	52.4	0.1	23.5	0.1	16.4	0.1	20.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/11/13	5.0	0.1	12.1	0.1	10.8	0.1	6.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ No Site activities, Site was closed.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM₁₀	Tue 8/6/13	PAM-2	2:51PM	2:52PM	2	100	SSW 7.6 mph	SSW 7.6 mph	FAM-4	109.2	5.6	103.6	Response	Elevated concentrations were caused by unknown source.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/5/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil (used foam as needed); •Loaded out soil/debris; and •Routine air monitoring.
Tue 8/6/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil (used foam as needed); •Loaded out soil/debris; and •Routine air monitoring.
Wed 8/7/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil (used foam as needed); •Loaded out soil/debris; and •Routine air monitoring.
Thu 8/8/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil (used foam as needed); •Loaded out soil/debris; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 8/9/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner inside POB retaining wall (SR 100); •Excavated POB area and stockpiled soil (used foam as needed); •Loaded out soil/debris; and •Routine air monitoring.
Sat 8/10/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/11/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

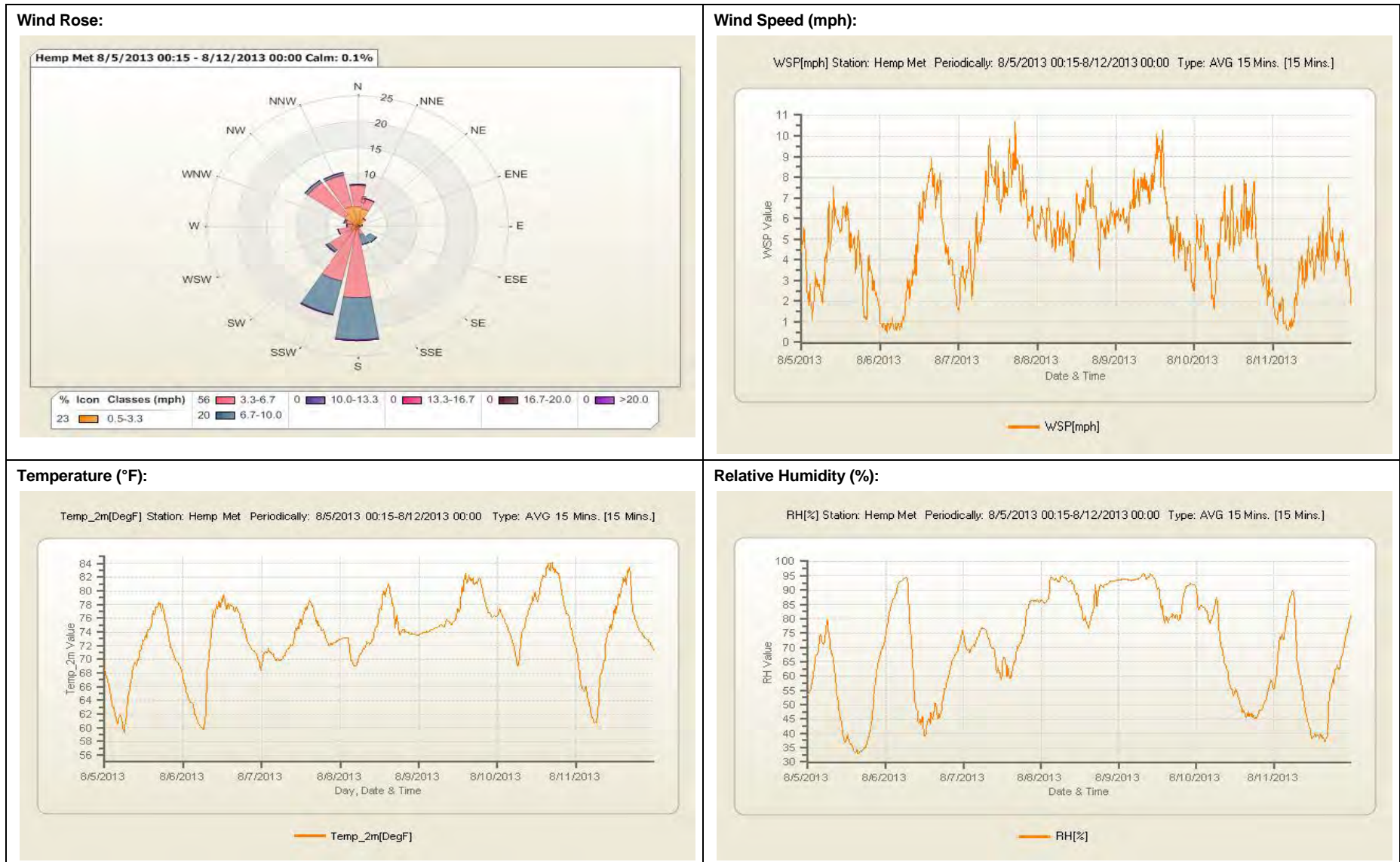
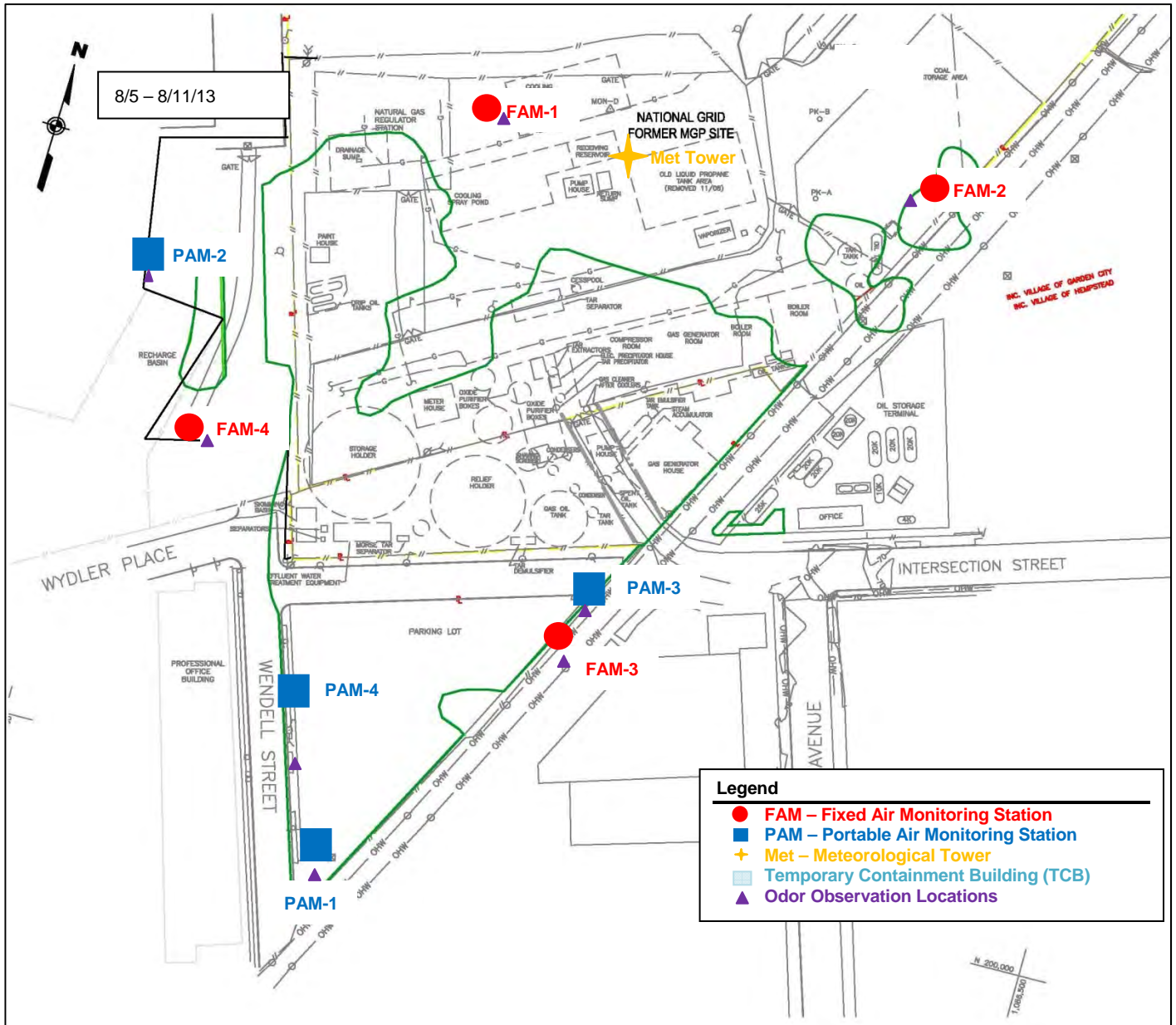


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 29 through August 4, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/29/13	90.7	0.1	52.6	0.1	46.3	0.1	37.2	0.1	41.0	0.1	78.1	0.2	43.3	0.1	80.6	0.1	X	X
Tue 7/30/13	49.6	0.1	40.8	0.1	36.8	0.1	14.1	0.1	36.9	0.1	56.3	0.2	64.2	0.1	56.3	0.1	X	X
Wed 7/31/13	59.3	0.1	22.9	0.1	93.5	0.1	15.6	0.1	21.5	0.1	54.3	0.1	42.3	0.1	96.1*	0.1	X	X
Thu 8/1/13	94.4	0.1	42.3	0.1	98.8	0.1	33.1	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 8/2/13	98.8	0.1	45.2	0.1	32.7	0.1	34.7	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 8/3/13	74.5	0.1	42.2	0.1	30.1	0.1	33.7	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/4/13	73.0	0.1	39.2	0.1	30.1	0.1	33.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ No Site activities, Site was closed.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

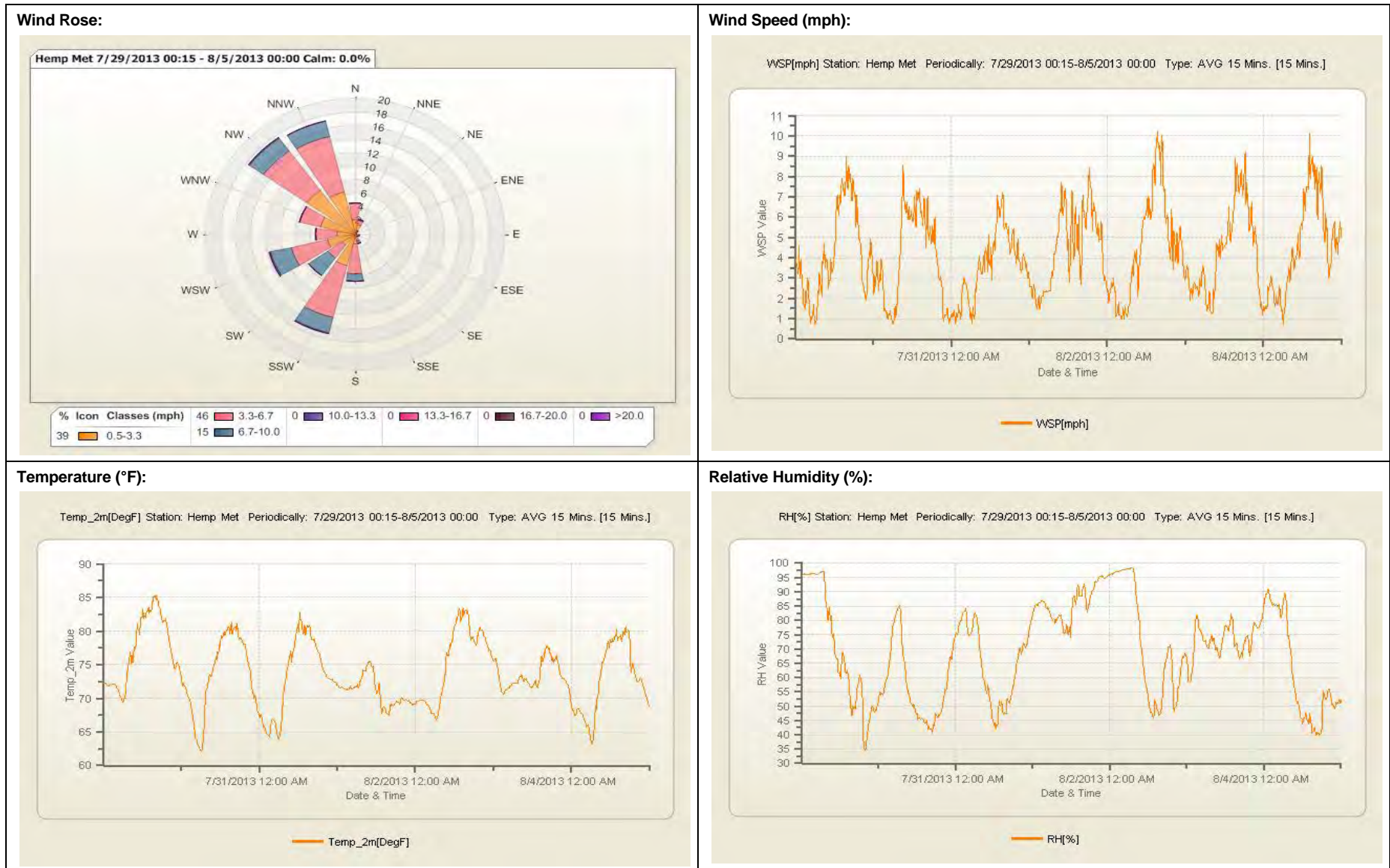
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/29/13	<ul style="list-style-type: none"> •Excavated POB area and stockpiled soil; •Loaded out swell; and •Routine air monitoring.
Tue 7/30/13	<ul style="list-style-type: none"> •Excavated POB area and stockpiled soil (used foamer as needed); •Loaded out swell; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 7/31/13	<ul style="list-style-type: none"> •Excavated POB area and stockpiled soil (used foamer as needed); •Loaded out swell; and •Routine air monitoring.
Thu 8/1/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 8/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 8/3/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/4/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 22 through July 28, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/22/13	70.1	0.1	34.6	0.1	26.4	0.1	34.7	0.1	54.3	0.1	80.3	0.2	37.9	0.1	93.4	0.3	X	X
Tue 7/23/13	56.7	0.1	49.8	0.1	23.0	0.1	27.7	0.1	42.3	0.1	48.4	0.2	63.9	0.1	81.3	0.3	X	X
Wed 7/24/13	64.3	0.1	90.9	0.1	51.3	0.1	30.4	0.1	50.5	0.1	75.1	0.2	44.4	0.1	64.4	0.2	X	X
Thu 7/25/13	74.5	0.1	86.2	0.1	31.5	0.1	26.0	0.1	44.1	0.1	12.8	0.1	26.1	0.1	47.8	0.1	X	X
Fri 7/26/13	29.7	0.1	19.5	0.1	11.7	0.1	13.0	0.1	77.3	0.1	56.3	0.2	28.2	0.1	48.5	0.2	X	X
Sat 7/27/13	7.2	0.1	18.1	0.1	16.7	0.1	14.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/28/13	3.5	0.1	24.1	0.1	16.0	0.1	20.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/22/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on POB west retaining wall (RH 40); •Loaded out swell; •Excavated POB area and stockpiled soil; and •Routine air monitoring.
Tue 7/23/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on POB west retaining wall (RH 40); •Performed DSM production columns installation on east POB retaining wall near south power poll (SR 100); •Loaded out swell; •Excavated POB area and stockpiled soil; •Placed RCA around asphalt in Oswego area; and •Routine air monitoring.
Wed 7/24/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on POB west retaining wall (RH 40); •Performed DSM production columns installation on east POB retaining wall near south power poll (SR 100); •Loaded out swell; •Excavated POB area and stockpiled soil; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 7/25/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on POB west retaining wall (RH 40); •Performed DSM production columns installation on east POB retaining wall near south power poll (SR 100); •Loaded out swell; •Excavated POB area and stockpiled soil; and •Routine air monitoring.
Fri 7/26/13	<ul style="list-style-type: none"> •Completed DSM production columns installation on POB west retaining wall (RH 40); •Completed DSM production columns installation on east POB retaining wall (SR 100); •Loaded out swell; and •Routine air monitoring.
Sat 7/27/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/28/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

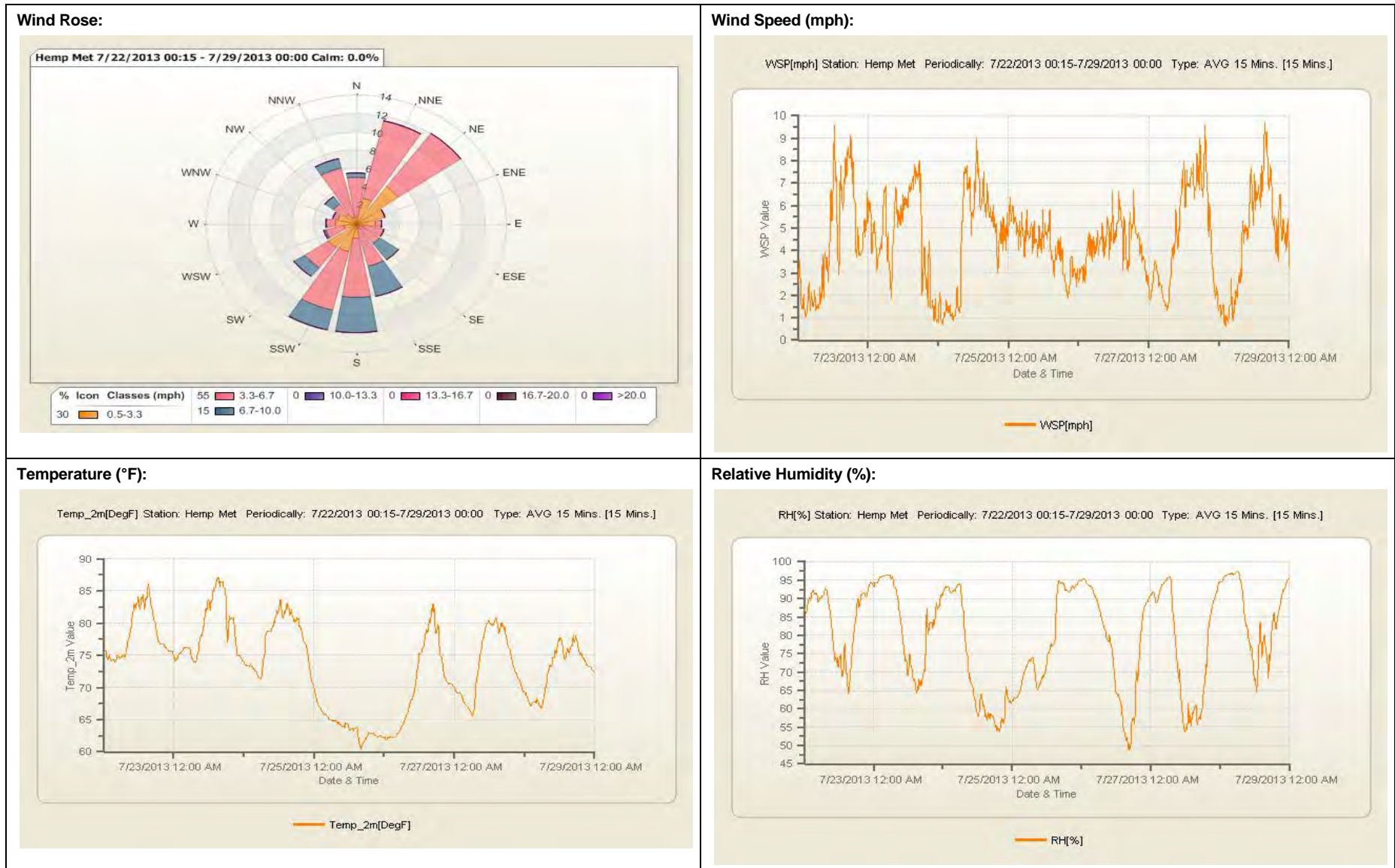
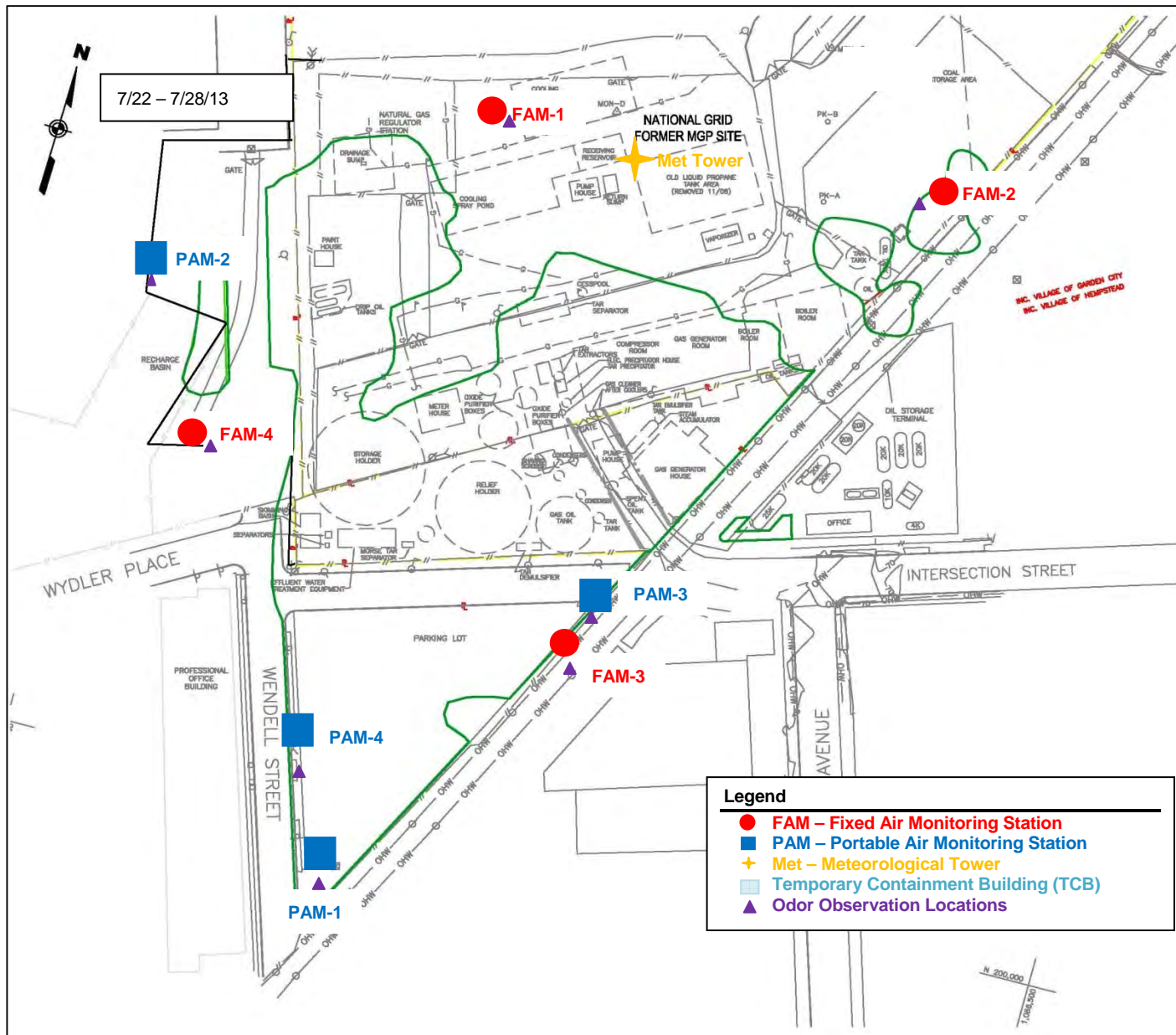


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 15 through July 21, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 and 3:** Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/15/13	39.6	0.1	55.8	0.1	48.2	0.1	24.7	0.1	39.2	0.1	79.1	0.2	44.3	0.1	68.8	0.1	X	X
Tue 7/16/13	43.6	0.1	31.8	0.1	65.7	0.1	26.8	0.1	47.9	0.1	84.3	0.2	42.1	0.1	87.2	0.1	X	X
Wed 7/17/13	77.6	0.1	40.9	0.1	57.9	0.1	32.9	0.1	97.7	0.1	79.5	0.2	78.6	0.1	87.5*	0.1	X	X
Thu 7/18/13	80.6	0.1	61.4	0.1	71.1	0.1	59.1	0.9	91.4	0.1	77.4	0.2	70.1	0.1	92.7	0.1	X	X
Fri 7/19/13	56.5*	0.1	72.6	0.1	88.1	0.1	68.3	1.0	66.9*	0.1	60.5*	0.2	89.5	0.1	91.5*	0.7	X	X
Sat 7/20/13	90.0	0.1	71.4	0.1	78.0	0.1	64.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/21/13	76.7	0.1	24.0	0.1	31.2	0.1	20.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/15/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner of POB retaining wall (RH 40); •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Performed swell management activities; and •Routine air monitoring.
Tue 7/16/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner of POB retaining wall (RH 40); •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Placed and compacted backfill in Mercury area; •Performed batch plant maintenance; •Performed swell management activities; and •Routine air monitoring.
Wed 7/17/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on northeast corner of POB retaining wall (RH 40); •Loaded out swell; •Performed batch plant maintenance; and •Routine air monitoring.
Thu 7/18/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on POB west retaining wall and south corner of POB wall (RH 40); •Loaded out swell; •Performed batch plant management; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 7/19/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on west POB retaining wall (RH 40); •Loaded out swell; •Performed swell management activities; •Routine air monitoring.
Sat 7/20/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/21/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

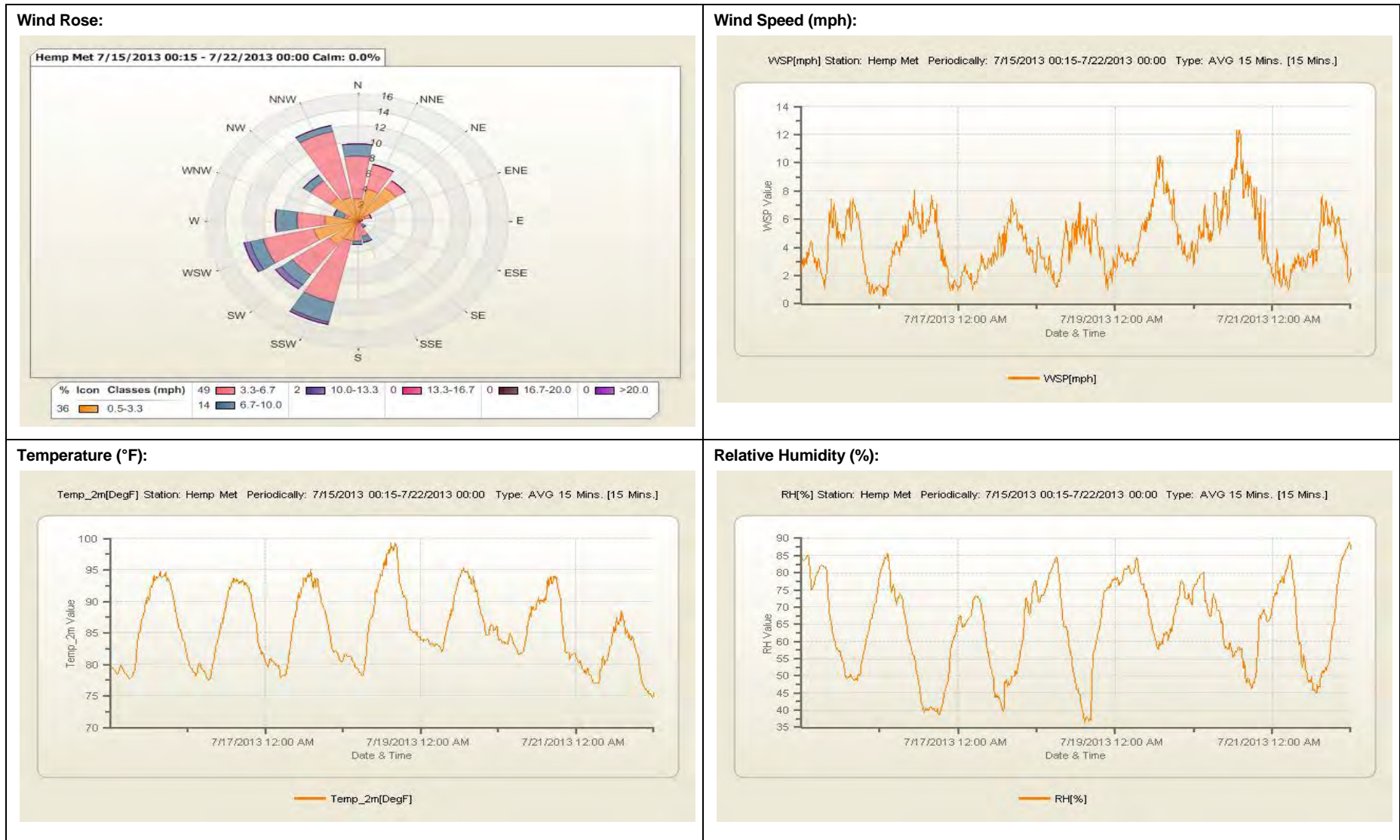


Figure 2: Site Map

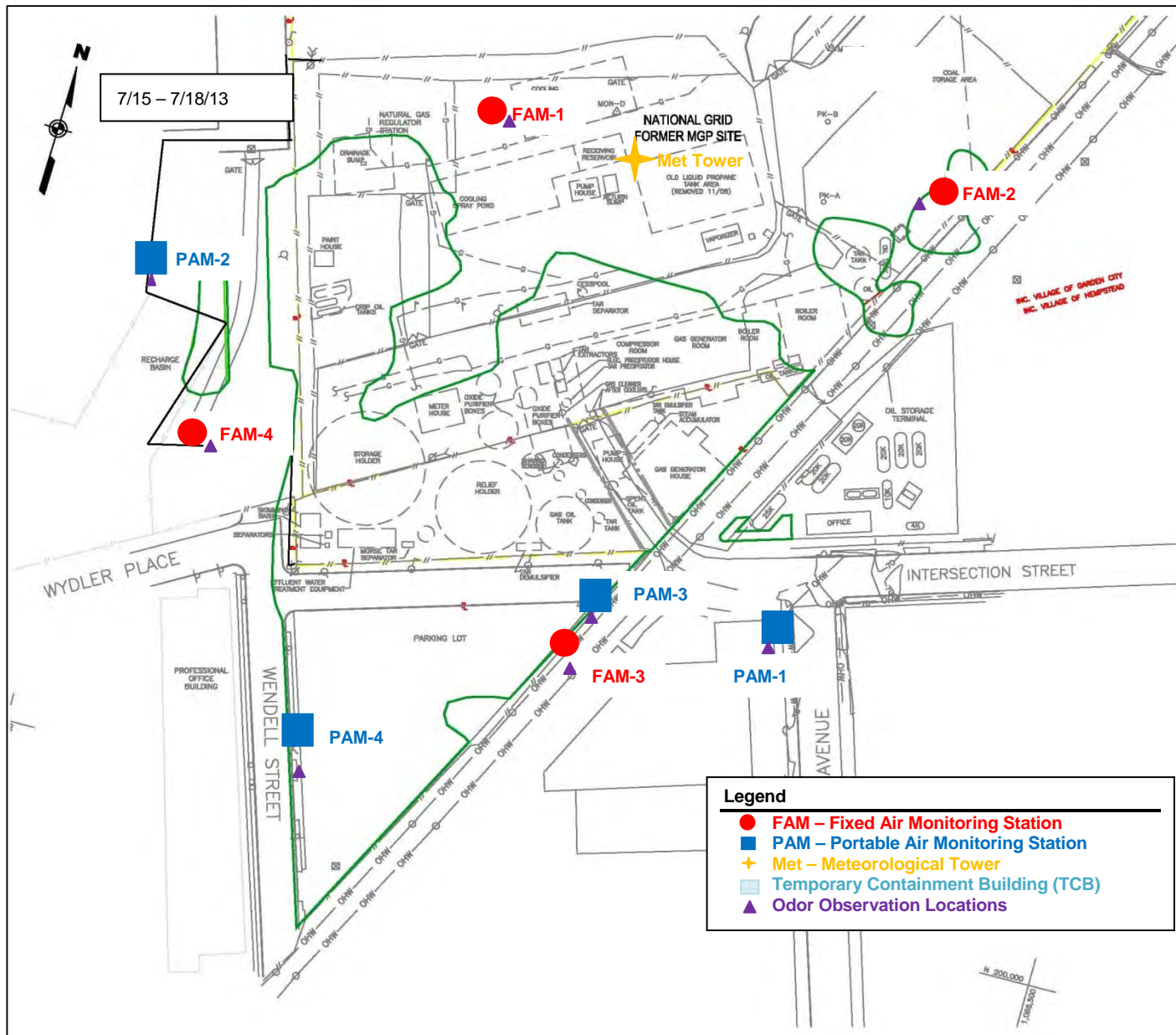
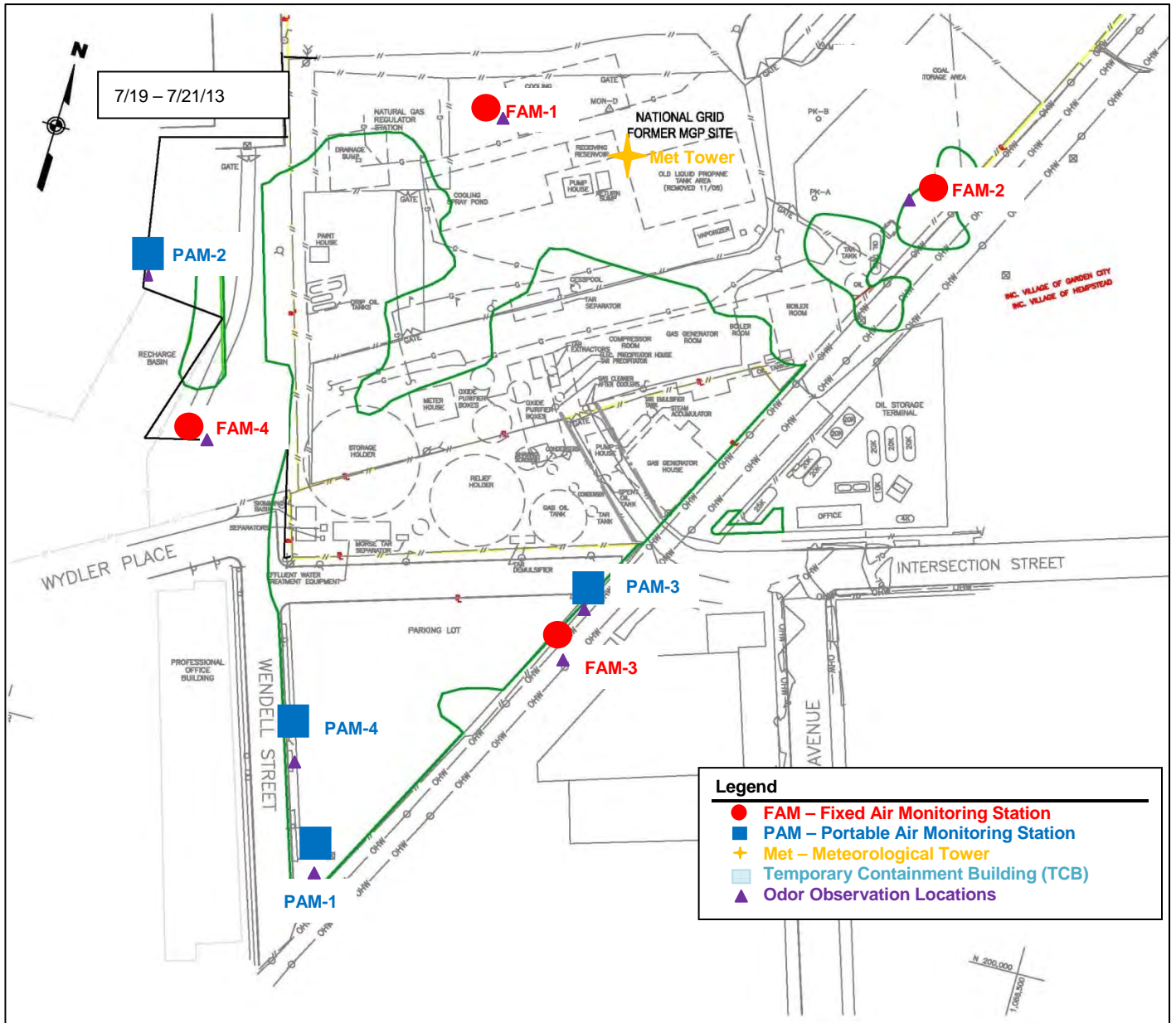


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 8 through July 14, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limit after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/8/13	96.7	0.1	35.6	0.1	25.2	0.1	31.0	0.1	39.2	0.1	78.0	0.2	42.2	0.1	69.0	0.1	X	X
Tue 7/9/13	78.6 ¹	0.1	40.2	0.1	29.7	0.1	35.9	0.1	51.4	0.1	94.0	0.2	62.8	0.1	70.4	X ²	X	X
Wed 7/10/13	42.5	0.1	45.6	0.1	31.4	0.1	39.6	1.3	64.0	0.1	79.3	0.2	53.4	0.1	77.0	0.1	X	X
Thu 7/11/13	41.6	0.1	31.7	0.1	21.7	0.1	28.8	0.1	34.2	0.1	54.1	0.2	28.6	0.2	29.5	0.1	X	X
Fri 7/12/13	39.1	0.1	21.4	0.1	16.1	0.1	18.9	0.1	30.9	0.1	58.0	0.2	26.0	0.1	40.0	0.1	X	X
Sat 7/13/13	50.8	0.1	99.0	0.1	62.6	0.1	82.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/14/13	2.3	0.1	19.1	0.1	39.3	0.1	14.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ Data was found to be invalid between 7:39AM and 5:02PM due to a drift in PM₁₀ caused by high relative humidity. ² Data was found to be invalid between 7:21AM and 4:18PM due to a poor connection between the PID and data logger.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/8/13	<ul style="list-style-type: none"> •Graded and stockpiled swell; •Performed batch plant and drill rig maintenance; and •Routine air monitoring.
Tue 7/9/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Placed stone around west edge of temporary POB lot; •Performed swell management activities; and •Routine air monitoring.
Wed 7/10/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Built a roadway for south gate entrance; •Performed swell management activities; and •Routine air monitoring.
Thu 7/11/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Graded roadway for south gate entrance; •Performed swell management activities; and •Routine air monitoring.
Fri 7/12/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Spread stone for south gate roadway; •Performed swell management activities; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 7/13/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/14/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

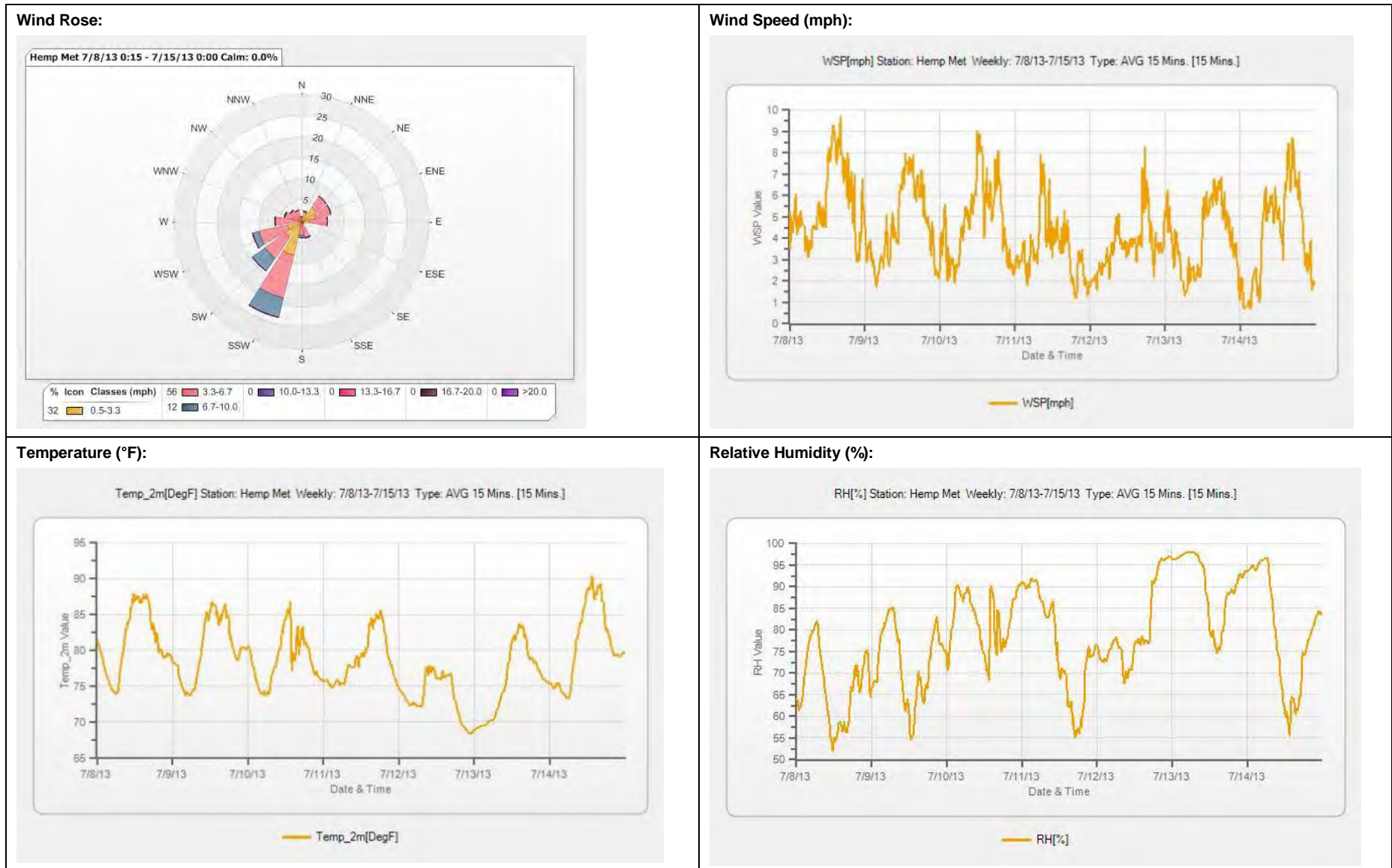
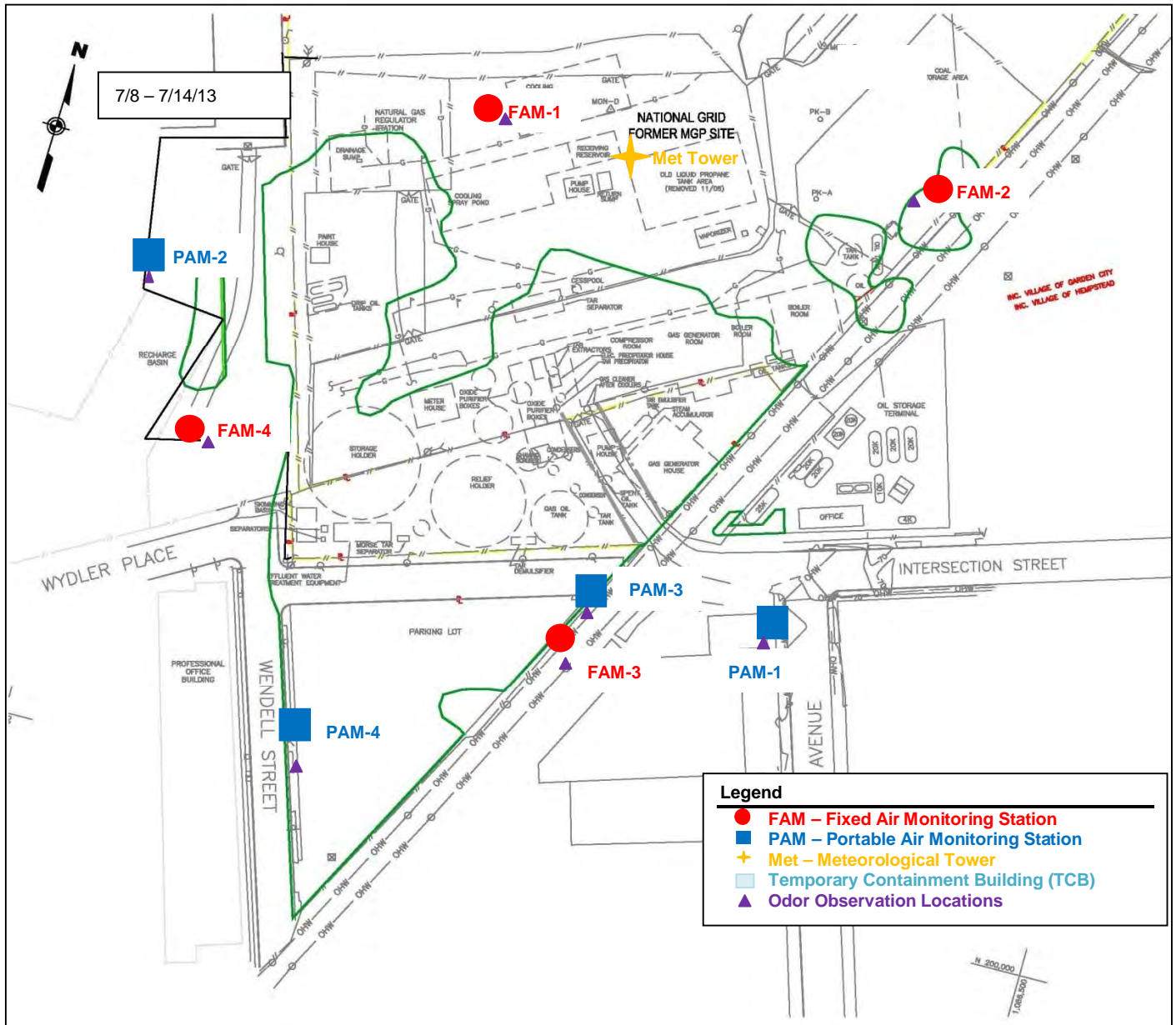


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 1 through July 7, 2013

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. However, there was a short period of PM₁₀ concentrations that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits. However, there were periods of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Tables 3 and 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/1/13	40.9	0.1	17.9	0.1	9.0	0.1	10.6	0.1	52.3	0.1	66.3	0.2	38.9	0.1	44.9	0.1	X	X
Tue 7/2/13	38.5	0.1	13.2	0.1	8.8	0.1	9.2	0.1	31.5	0.1	51.5	0.4	26.9	0.7	63.8	0.1	X	X
Wed 7/3/13	96.8	0.1	37.7	0.1	23.7	0.1	39.6	0.1	47.5	0.1	45.7	0.2	24.5	0.1	68.2	0.1	X	X
Thu 7/4/13	144.7*	0.1	73.6	0.1	45.4	0.1	70.1	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 7/5/13	183.4*	0.1	37.2	0.1	22.3	0.1	78.2	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 7/6/13	55.2	0.1	20.8	0.1	46.2	0.1	19.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/7/13	67.9	0.1	26.9	0.1	38.6	0.1	25.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ Site was closed for the Fourth of July Holiday (no Site activities).</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Thu 7/4/13	FAM-1	9:47PM	10:48PM	62	150	SSW 4.8 mph	SSW 4.2 mph	FAM-3	189.5	44.8	144.7	Response	No Site activity, cause for elevated concentrations unknown.
PM ₁₀	Fri 7/5/13	FAM-1	12:37AM	12:52AM	16	150	SW 2.6 mph	SW 2.7 mph	FAM-3	201.0	17.6	183.4	Action	No Site activity, cause for elevated concentrations unknown.

FAM = Fixed Air Monitoring Station
 PAM = Portable Air Monitoring Station
 PM₁₀ = Respirable Particulate Matter (µg/m³)
 TVOC = Total Volatile Organic Compounds (ppm)
 Nap = Naphthalene
 VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)
 NA = Not Applicable
 ND = No Data

- Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Thu 7/4/13	FAM-1	9:35PM 10:49PM	9:46PM 10:55PM	19	100	SSW 5.6 mph	SSW 4.2 mph	FAM-3	149.3	34.6	114.7	Response	No Site activity, cause for elevated concentrations unknown.
PM ₁₀	Fri 7/5/13	FAM-1	12:32AM 12:53AM	12:36AM 1:01AM	14	100	SW 2.2 mph	SW 2.7 mph	FAM-3	148.1	18.3	129.8	Response	No Site activity, cause for elevated concentrations unknown.

FAM = Fixed Air Monitoring Station
 PAM = Portable Air Monitoring Station
 PM₁₀ = Respirable Particulate Matter ($\mu\text{g}/\text{m}^3$)
 TVOC = Total Volatile Organic Compounds (ppm)
 Nap = Naphthalene
 VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)
 NA = Not Applicable
 ND = No Data

- Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Table 5: Weekly Site Activities

	Site Activities
Mon 7/1/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on east POB retaining wall (RH40); •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Graded and transported Swell to area near batch plants; •Placed rocks around perimeter of temporary POB parking lot; and •Routine air monitoring.
Tue 7/2/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on east POB retaining wall (RH40); •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Graded and stockpiled Swell; •Placed 4" of rock and filter fabric in 106' x 36' area near Gas Regulator Station; and •Routine air monitoring.
Wed 7/3/13	<ul style="list-style-type: none"> •Performed DSM production columns installation on east POB retaining wall (towards NE) (RH40); •Performed DSM production columns installation on south corner of POB retaining wall (SR 100); •Graded and stockpiled Swell; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 7/4/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 7/5/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 7/6/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/7/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

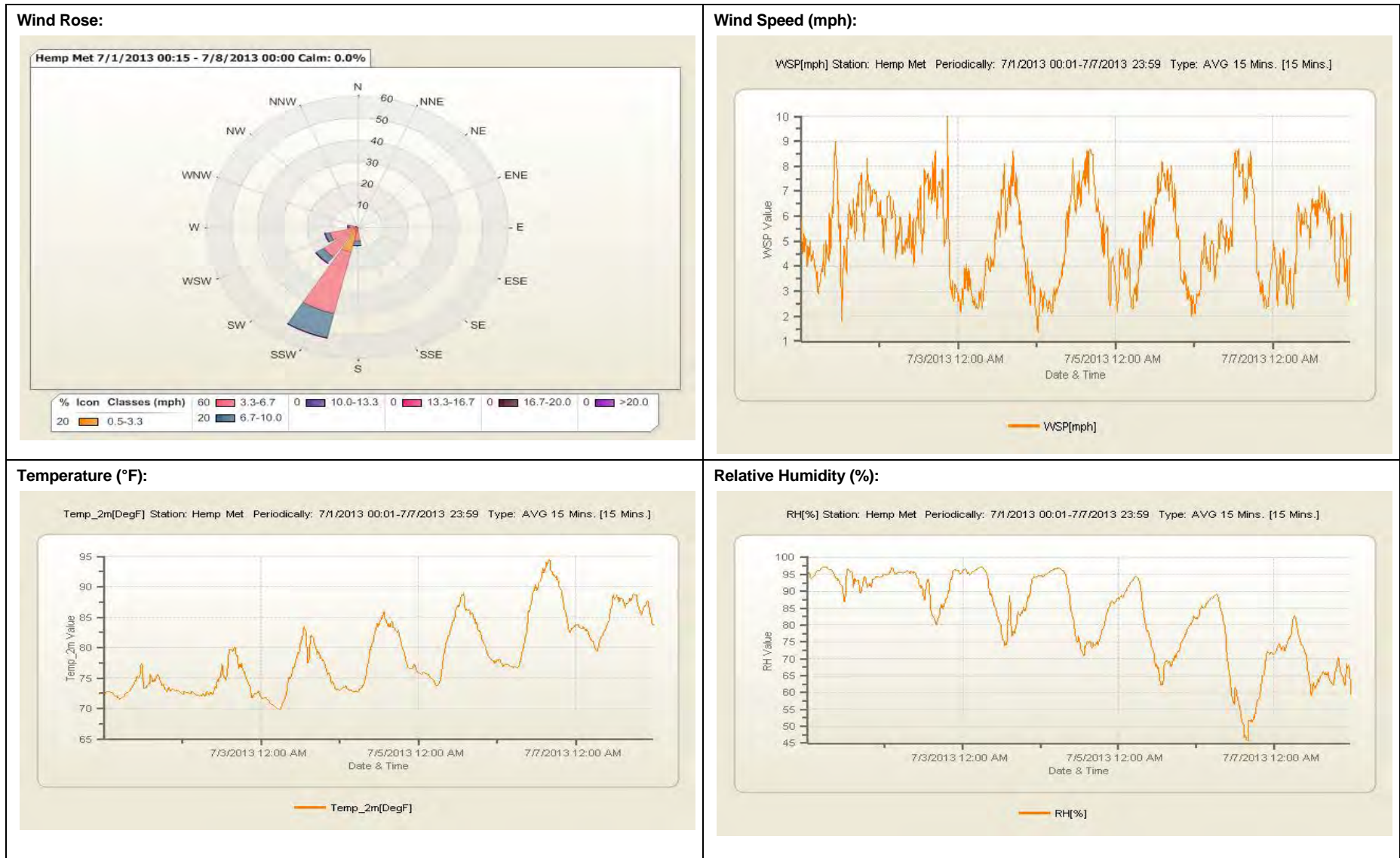
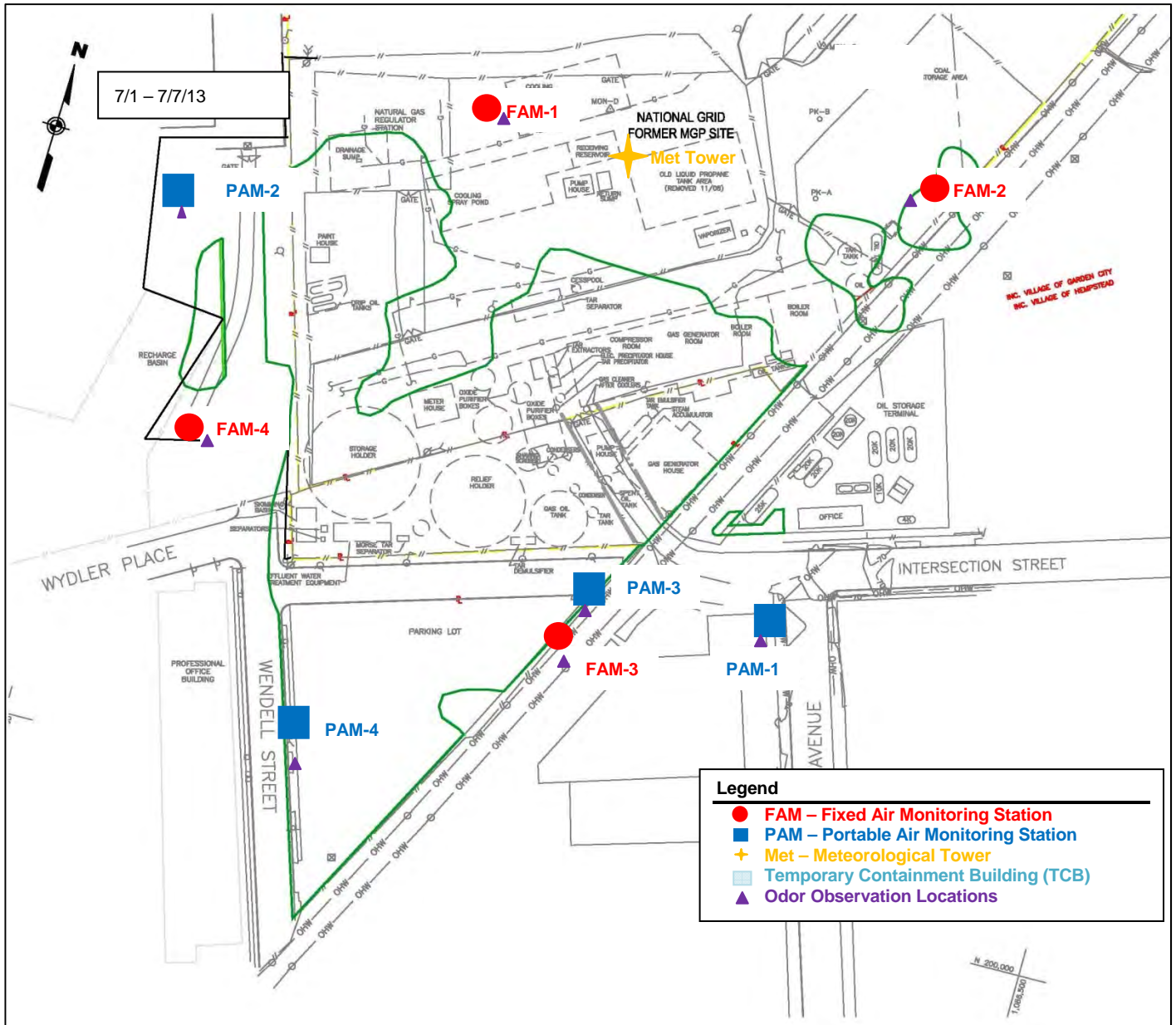


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 24 through June 30, 2013

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there were periods of PM₁₀ concentrations that remained above the Response Limit after background subtraction (see **Tables 3 and 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 6/24/13	32.7	0.1	48.5	0.1	62.2	0.1	40.4	1.6	56.0	0.1	88.6	0.2	65.1	0.1	88.1	0.2	X	X
Tue 6/25/13	29.8	0.1	50.3	0.1	57.8	0.1	43.0	0.1	60.2	0.1	88.9	0.3	52.3	0.1	71.8	0.1	X	X
Wed 6/26/13	83.6*	0.1	34.7	0.1	33.8	0.1	31.1	0.1	50.6	0.1	49.4	0.2	47.5	0.1	149.5*	0.1	X	X
Thu 6/27/13	139.4*	0.1	88.8	0.1	57.9	0.1	54.4	0.1	75.9	0.1	77.0	0.2	61.3	0.1	71.8	0.1	X	X
Fri 6/28/13	95.8	0.1	33.9	0.1	23.7	0.1	32.4	0.1	37.6	0.1	86.1	0.2	40.1	0.1	94.3	0.1	X	X
Sat 6/29/13	76.9	0.1	32.4	0.1	19.1	0.1	21.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 6/30/13	65.6	0.1	22.6	0.1	16.9	0.1	20.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 6/26/13	PAM-4	9:10AM	9:19AM	10	150	NW 6.4 mph	NW 6.4 mph	FAM-4	167.0	17.5	149.5	Response	Elevated concentrations were caused by equipment traffic in the area of PAM-4. Water truck dispensed water and concentrations were reduced to operational levels.
PM ₁₀	Thu 6/27/13	FAM-1	1:34AM	1:46AM	13	150	Var	Var	FAM-4	193.2	53.8	139.4	Response	No Site activity, cause for elevated concentrations unknown.

FAM = Fixed Air Monitoring Station
 PAM = Portable Air Monitoring Station
 PM₁₀ = Respirable Particulate Matter (µg/m³)
 TVOC = Total Volatile Organic Compounds (ppm)
 Nap = Naphthalene
 VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)
 NA = Not Applicable
 ND = No Data

- Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 6/26/13	PAM-4	9:07AM 9:20AM	9:09AM 9:21AM	5	100	NW 6.4 mph	NW 6.4 mph	FAM-4	143.3	17.3	126.0	Response	Elevated concentrations were caused by equipment traffic in the area of PAM-4. Water truck dispensed water and concentrations were reduced to operational levels.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/24/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in NE corner of POB retaining wall (RH40); •Performed DSM production columns installation in east POB retaining wall near middle power pole (SR 100); •Loaded out asphalt to recycler; •Excavated and placed soil in compacted lifts in area in front of batch plants; and •Routine air monitoring.
Tue 6/25/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in NE corner of POB retaining wall (RH40); •Performed DSM production columns installation in east POB retaining wall near middle power pole (SR 100); •Loaded out asphalt to recycler; •Excavated and placed soil in compacted lifts in area in front of batch plants; •Plugged clay sanitary pipe with cement at NW corner of POB; and •Routine air monitoring.
Wed 6/26/13	<ul style="list-style-type: none"> •Performed DSM production columns installation at east POB retaining wall (RH40); •Performed DSM production columns installation at east POB retaining wall near south power pole (SR 100); •Loaded out asphalt to recycler; •Excavated 4' in POB and placed soil in compacted lifts in area in front of batch plants; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 6/27/13	<ul style="list-style-type: none"> •Performed DSM production columns installation at east POB retaining wall (RH40); •Performed DSM production columns installation at east POB retaining wall near south power pole (SR100); •Removed asphalt from POB lot and loaded out to recycler; •Began 4' excavation across POB lot; and •Routine air monitoring.
Fri 6/28/13	<ul style="list-style-type: none"> •Performed DSM production columns installation at east of POB retaining wall (RH40); •Performed DSM production columns installation in south corner of POB retaining wall (SR 100); •Placed soil in compacted lifts in area in front of batch plants; •Spread rock around perimeter of temp. POB parking lot; and •Routine air monitoring.
Sat 6/29/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/30/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

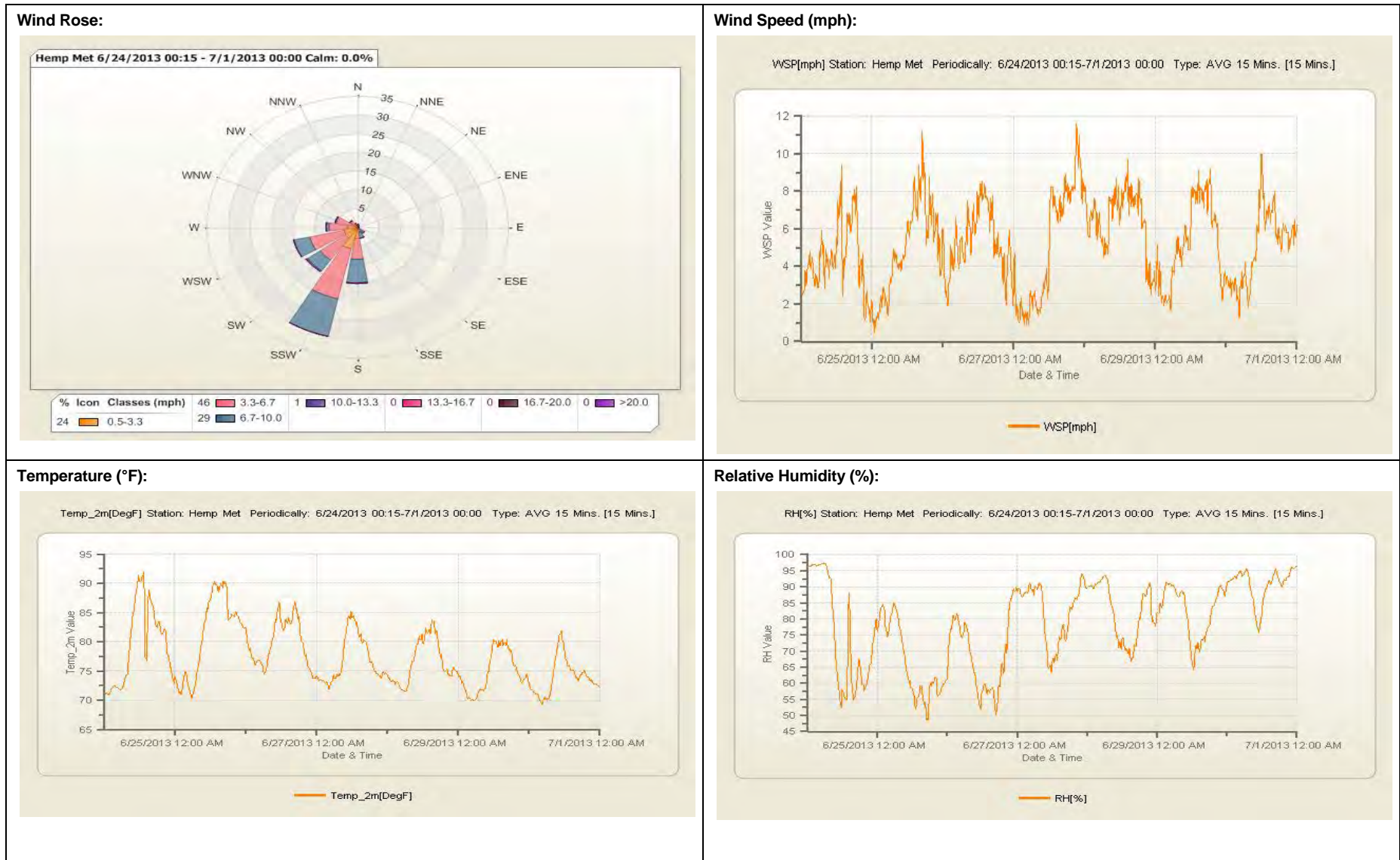
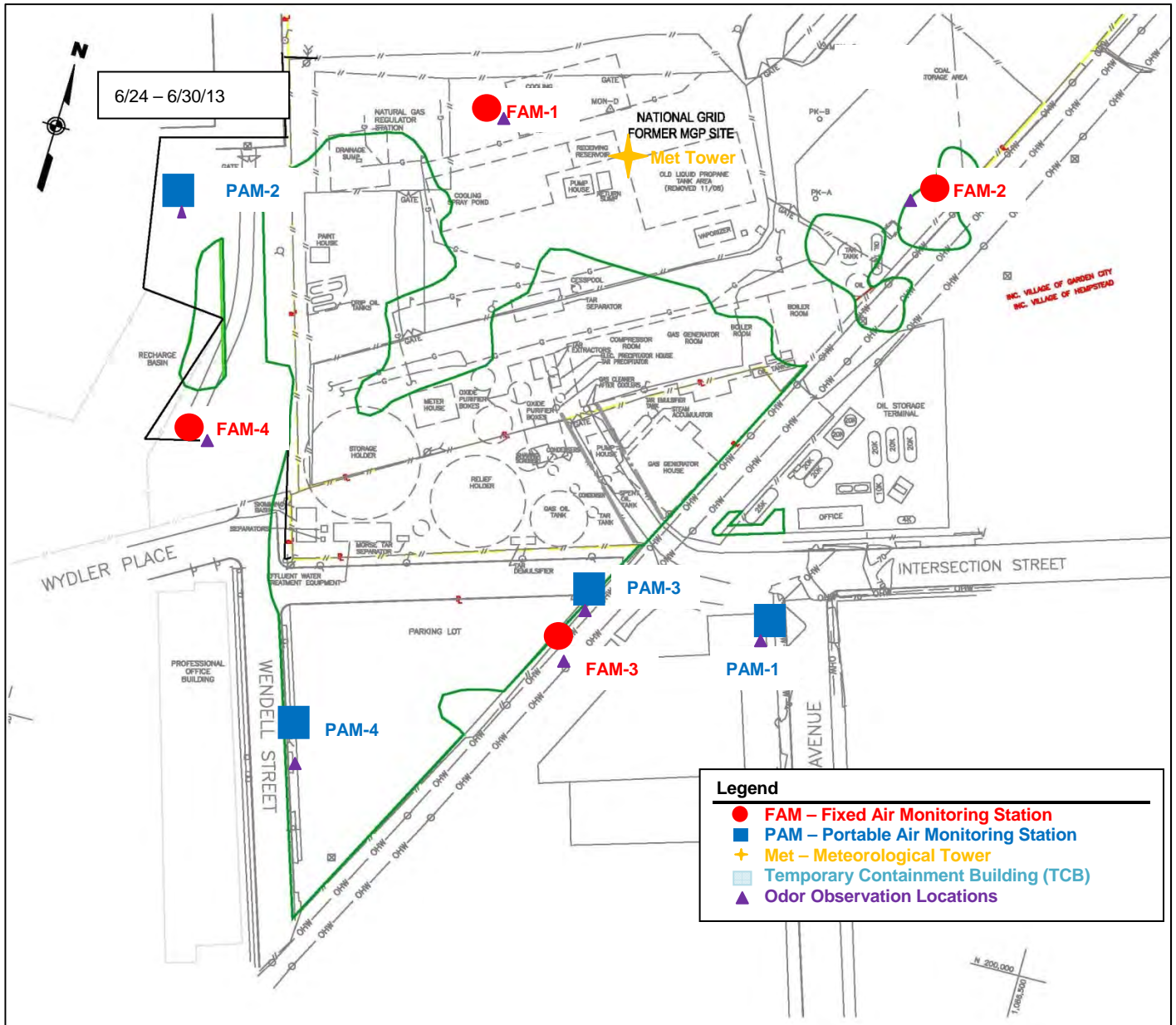


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 17 through June 23, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. However, there was a period of PM₁₀ concentrations that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits after background subtraction. However, there was a period of PM₁₀ concentrations that remained above the Alert and Action Limits after background subtraction (see **Tables 3 and 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM10 and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 and 3:** Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 6/17/13	49.6	0.1	55.4	0.1	33.3	0.1	40.2	0.1	164.6*	0.1	70.8	0.2	59.0	0.1	49.7	0.5	X	X
Tue 6/18/13	68.5	0.1	62.9	0.1	48.9	0.1	44.7	0.1	79.0	0.1	81.1	0.2	69.8	0.2	43.8	0.2	X	X
Wed 6/19/13	36.9	0.1	31.3	0.1	48.8	0.1	22.6	0.1	30.7	0.1	65.8	0.2	71.5	0.2	54.1	0.2	X	X
Thu 6/20/13	46.4	0.1	32.2	0.1	14.3	0.1	12.2	0.1	24.6	0.1	29.0	0.2	91.2	0.1	53.3	0.2	X	X
Fri 6/21/13	23.6	0.1	41.8	0.1	16.9	0.1	15.0	0.1	48.5	0.1	62.7	0.2	48.6	0.1	57.5	0.2	X	X
Sat 6/22/13	22.1	0.1	19.0	0.1	17.5	0.1	16.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 6/23/13	17.4	0.1	12.9	0.1	13.6	0.1	11.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 6/17/13	PAM-1	10:37AM	10:46AM	10	150	W 5.6 mph	WNW 5.6 mph	PAM-3	191.1	26.5	164.6	Action	Elevated concentrations were caused by backfilling activities coupled with equipment traffic in the Oswego area. Watering was implemented and concentrations dropped.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 6/17/13	PAM-1	10:33AM 10:47AM	10:36AM 10:51AM	9	100	W 5.6 mph	WNW 5.6 mph	PAM-3	140.9	25.8	115.1	Response	Elevated concentrations were caused by backfilling activities coupled with equipment traffic in the Oswego area. Watering was implemented and concentrations dropped.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/17/13	<ul style="list-style-type: none"> •Backfilled and compacted soil in Oswego area; •Cleared brush and moved the fence to prepare for Mercury excavation; and •Routine air monitoring.
Tue 6/18/13	<ul style="list-style-type: none"> •Excavated and stockpiled soil in Mercury impacted area; •Performed maintenance on batch plant number 1; •Installed signage at POB lot and rerouted traffic to temporary lot; •Installed survey markers at power poles along POB; and •Routine air monitoring.
Wed 6/19/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in NE corner of POB (RH40); •Removed trees and asphalt from POB; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 6/20/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in NE corner of POB retaining wall (RH40); •Performed DSM production columns installation in east POB retaining wall near middle power pole; •Removed asphalt from POB lot and loaded out to recycler; •Began 4' excavation across POB lot; and •Routine air monitoring.
Fri 6/21/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in NE corner of POB retaining wall (RH40); •Performed DSM production columns installation in east POB retaining wall near south power pole; •Loaded out asphalt to recycler; •Excavated and stockpiled soil from POB; and •Routine air monitoring.
Sat 6/22/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/23/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

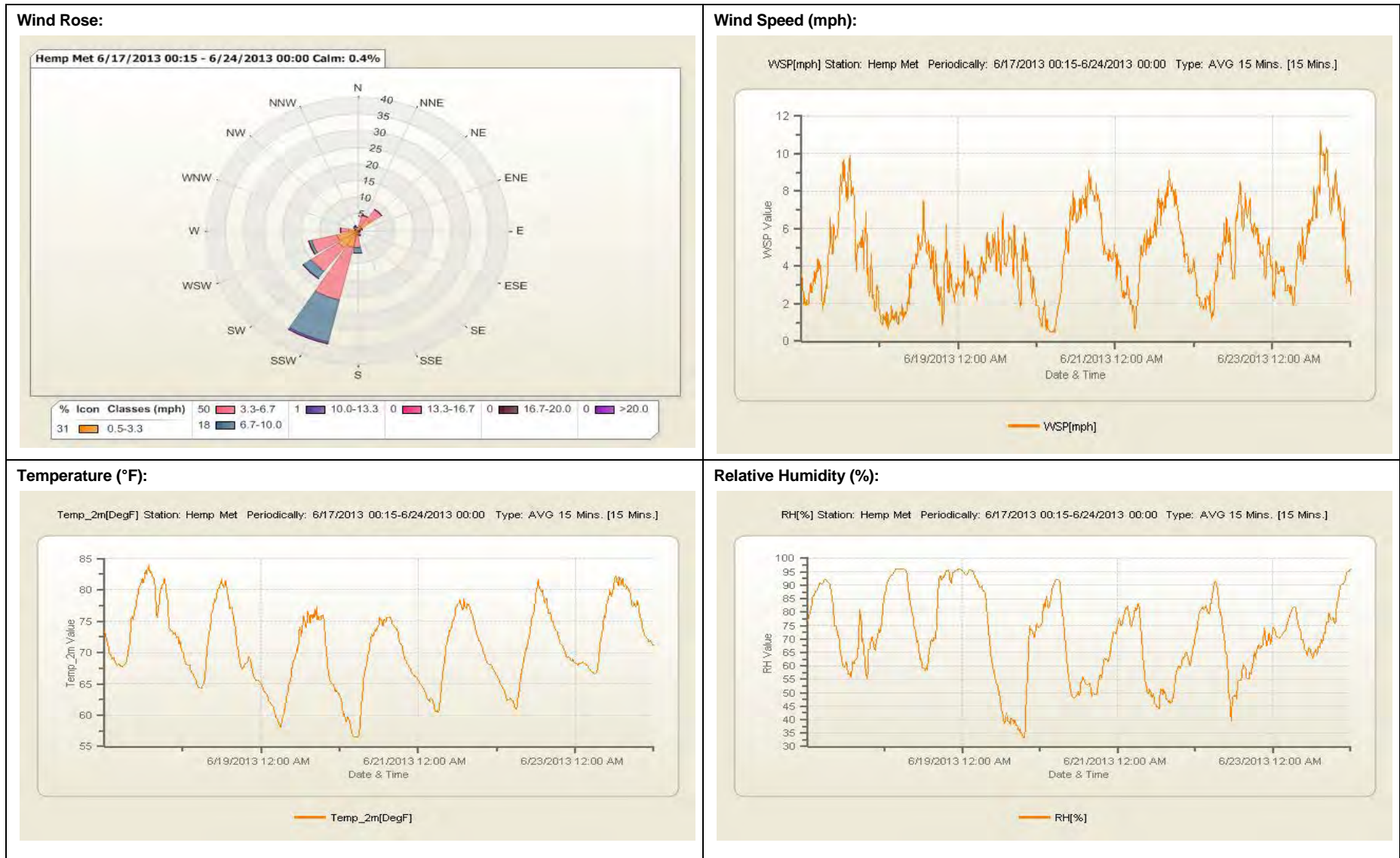
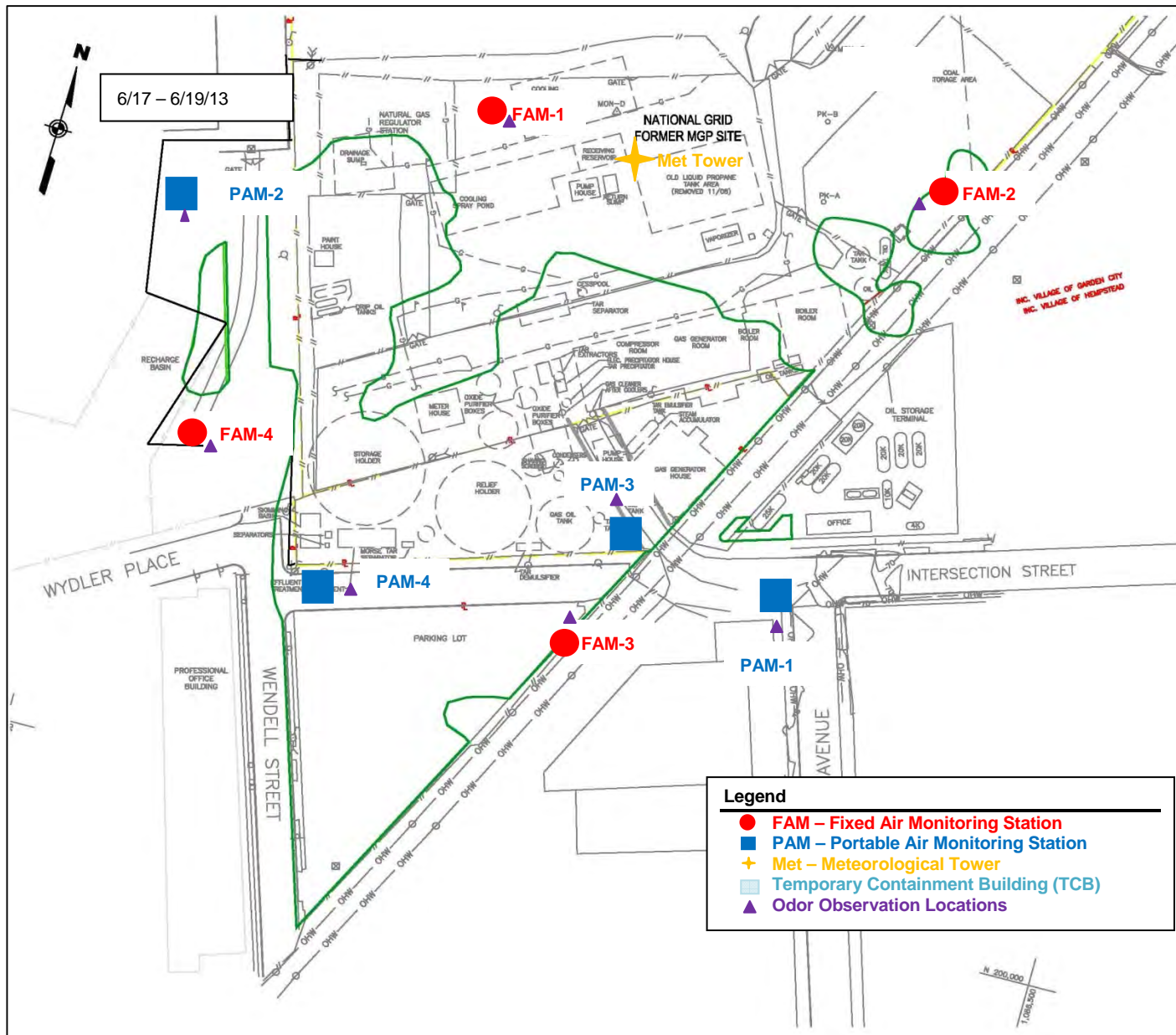


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 10 through June 16, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
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Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 6/10/13	23.3	0.1	30.0	0.1	19.5	0.1	23.4	0.1	75.2	0.1	95.3	0.1	84.7	0.1	61.9	0.2	X	X
Tue 6/11/13	29.7	0.1	50.2	0.1	25.8	0.2	44.9	0.1	43.7	0.1	83.9	0.2	40.7	0.1	75.6	0.2	X	X
Wed 6/12/13	10.5	0.1	7.4	0.1	7.4	0.1	9.3	0.1	15.7	0.1	37.8	0.2	31.3	0.1	24.8	0.2	X	X
Thu 6/13/13	12.9	0.1	10.3	0.1	8.8	1.1	11.0	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 6/14/13	19.8	0.1	23.3	0.1	22.7	1.2	92.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 6/15/13	42.3	0.1	54.5	0.1	43.4	0.1	27.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 6/16/13	59.2	0.1	67.2	0.1	56.0	0.1	36.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ There were no ground intrusive activities on Site.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/10/13	<ul style="list-style-type: none"> •Backfilled first lift in Oswego area; •Repaired run-off liner near pond area; and •Routine air monitoring.
Tue 6/11/13	<ul style="list-style-type: none"> •Moved the gas regulator fence to the south; •Organized equipment lay down area to prepare for Mercury dig; and •Routine air monitoring.
Wed 6/12/13	<ul style="list-style-type: none"> •Cleared brush along fence line in Mercury area; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 6/13/13	<ul style="list-style-type: none"> •No Site activities due to inclement weather; and •Routine air monitoring.
Fri 6/14/13	<ul style="list-style-type: none"> •Pumped water from low lying areas; •Removed asphalt and dug to 9.5 inches below existing surface in Oswego area near Intersection Street; and •Routine air monitoring.
Sat 6/15/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/16/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

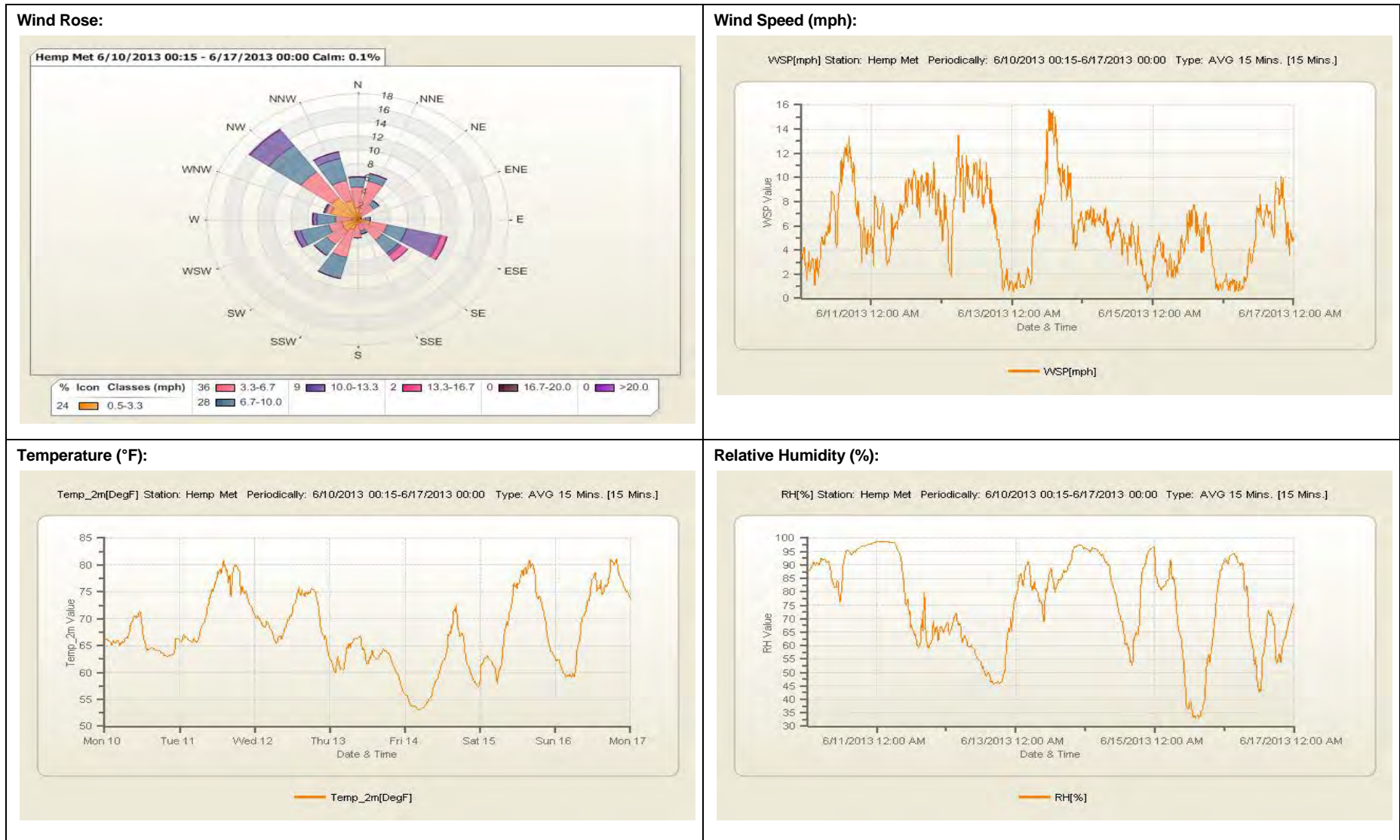
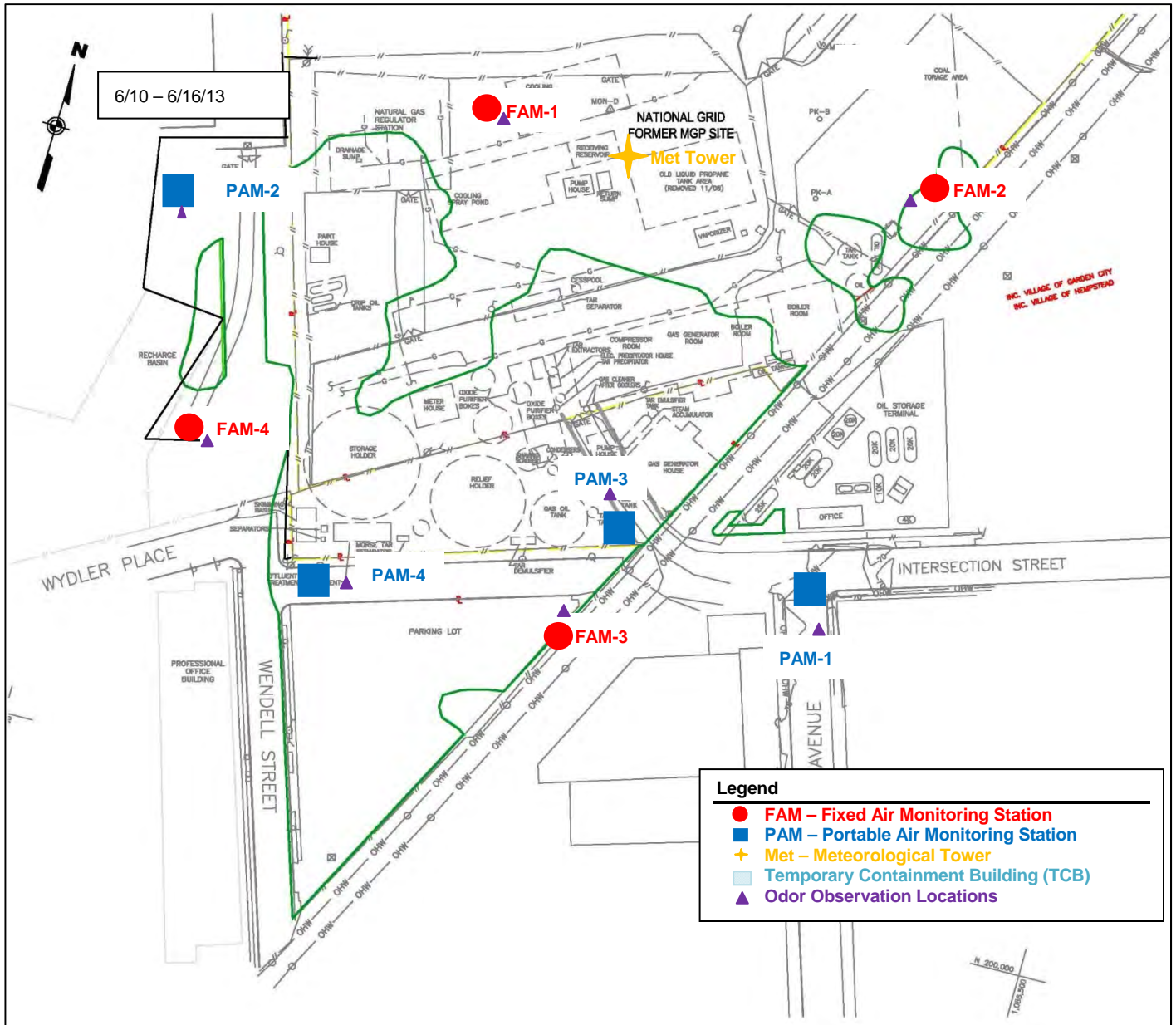


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 3 through June 9, 2013

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Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no TVOC concentrations greater than the Action or Response Limits after background subtraction. There was, however, a period of PM₁₀ concentrations greater than the Response Limit after background subtraction (see Table 4). The results of the real-time air monitoring are presented in the following tables:

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Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
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Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 6/3/13	16.0	0.1	16.6	0.1	13.8	0.1	13.6	0.1	30.3	0.1	51.8	0.2	43.3	0.1	40.3	0.1	X	X
Tue 6/4/13	12.3	0.1	6.0	0.1	134.3*	0.1	6.1	0.1	83.3	0.1	81.5	0.1	12.5	0.1	36.3	0.1	X	X
Wed 6/5/13	12.1	0.1	68.6	0.1	57.7 ¹	0.1 ¹	5.7	0.1	13.2	0.1	27.8	0.1	15.3	0.1	28.3	0.2	X	X
Thu 6/6/13	11.0	0.1	27.7	0.1	10.4	0.1	26.7	0.1	54.0	0.1	54.0	0.3	35.0	0.1	31.5	0.1	X	X
Fri 6/7/13	7.8	0.1	5.5	0.1	8.7	0.1	3.0	0.1	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X	X
Sat 6/8/13	21.7	0.1	23.8	0.1	19.5	0.1	23.7	0.1	X	X	X	X	X	X	X	X	X	X
Sun 6/9/13	24.1	0.1	24.8	0.1	21.6	0.1	24.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ FAM-3 power was lost between 12:25AM – 7:40AM on 6/5/13. ² Site was closed due to adverse weather conditions (heavy rain). There were no Site activities.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

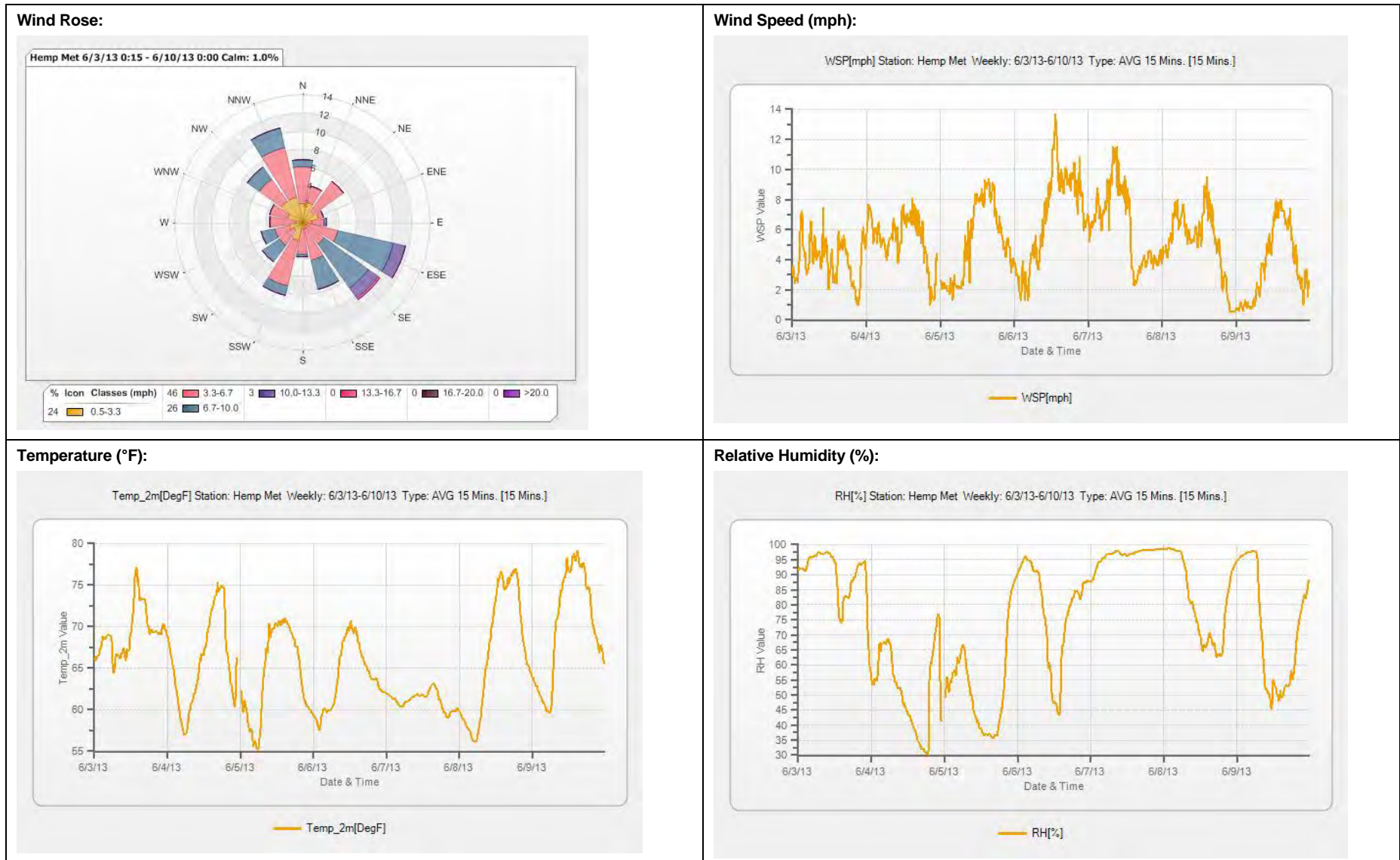
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 6/4/13	FAM-3	11:30PM	11:43PM	14	100	NNW 3.9 mph	NW 2.7 mph	FAM-4	137.3	3.0	134.3	Response	This overnight period of elevated PM ₁₀ concentrations was caused by an unknown source. No work activities were ongoing at this time.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/3/13	<ul style="list-style-type: none"> •Moved SR100 into place in Oswego drilling area; •Performed DSM production columns installation in Oswego area (SR100); and •Routine air monitoring.
Tue 6/4/13	<ul style="list-style-type: none"> •Performed pre-digging activities in Oswego drilling area; •Performed DSM production columns installation in Oswego Area (SR100); •Managed swell; and •Routine air monitoring.
Wed 6/5/13	<ul style="list-style-type: none"> •Moved SR100 out of Oswego area; •Graded and Stockpiled swell in Oswego area; and •Routine air monitoring.
Thu 6/6/13	<ul style="list-style-type: none"> •Saw-cut remaining asphalt in Oswego area and plugged southern end of pipe with cement; •Graded and Stockpiled swell in Oswego area; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 6/7/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 6/8/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/9/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 27 through June 2, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and Figure 3:** Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 5/27/13	15.0	0.1	13.8	0.1	8.7	0.1	9.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 5/28/13	18.9	0.1	19.7	0.1	14.6	0.1	16.9	0.1	30.1	0.1	71.6	0.1	49.6	0.1	59.9	0.1	X	X
Wed 5/29/13	32.9	0.1	38.1	0.1	25.7	0.1	32.8	0.1	78.2	0.1	93.3	0.1	72.4	0.1	83.6	0.1	X	X
Thu 5/30/13	37.8	0.1	41.6	0.1	65.7	0.1	35.5	0.1	74.6	0.1	97.8	0.2	72.4	0.1	94.1	0.1	X	X
Fri 5/31/13	52.3	0.1	47.1	0.1	65.2	0.1	43.0	0.1	82.2	0.1	60.6	0.1	80.1	0.1	45.4	0.1	X	X
Sat 6/1/13	24.8	0.1	19.2	0.1	16.1	0.1	17.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 6/2/13	19.1	0.1	23.0	0.1	12.2	0.1	12.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ Site was closed for Memorial Day holiday (No Site activities).</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 5/27/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Tue 5/28/13	<ul style="list-style-type: none"> •Graded area in POB temporary parking lot entrances; •Graded swell/surface near former batch plant wash out area; and •Routine air monitoring.
Wed 5/29/13	<ul style="list-style-type: none"> •Graded area in POB temporary parking lot entrances; •Prepared Oswego area for saw cutting of asphalt and pre-digging; and •Routine air monitoring.
Thu 5/30/13	<ul style="list-style-type: none"> •Saw-cut asphalt in Oswego drilling area; •Pre-dug Oswego drilling area; and •Routine air monitoring.
Fri 5/31/13	<ul style="list-style-type: none"> •Re-positioned fencing around POB temporary parking lot entrances; •Graded POB temporary parking lot slope/transition near gas regulator station; •Cut and capped 4 inch pipe in Oswego drilling area and prepared for positioning of SR100; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 6/1/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

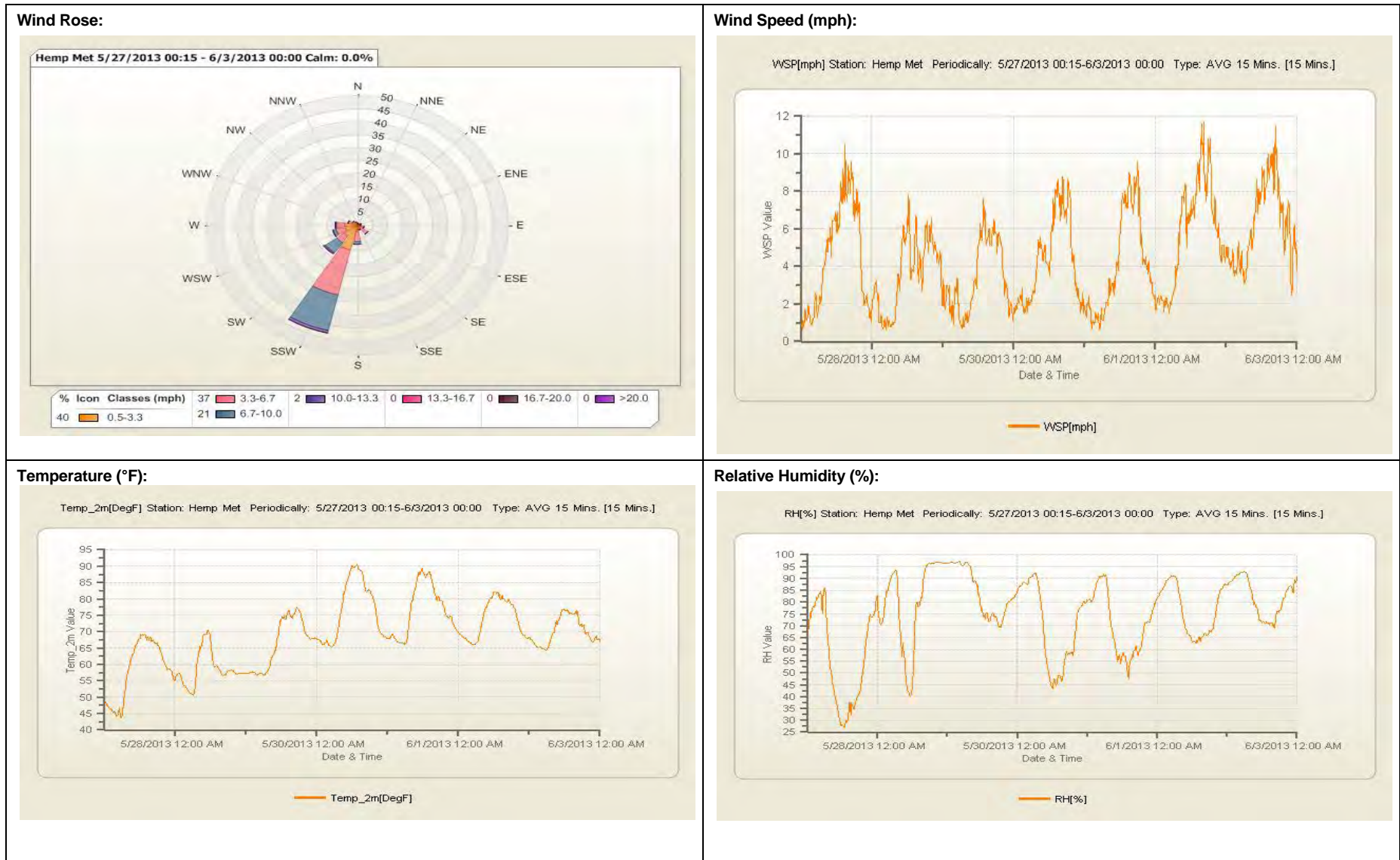
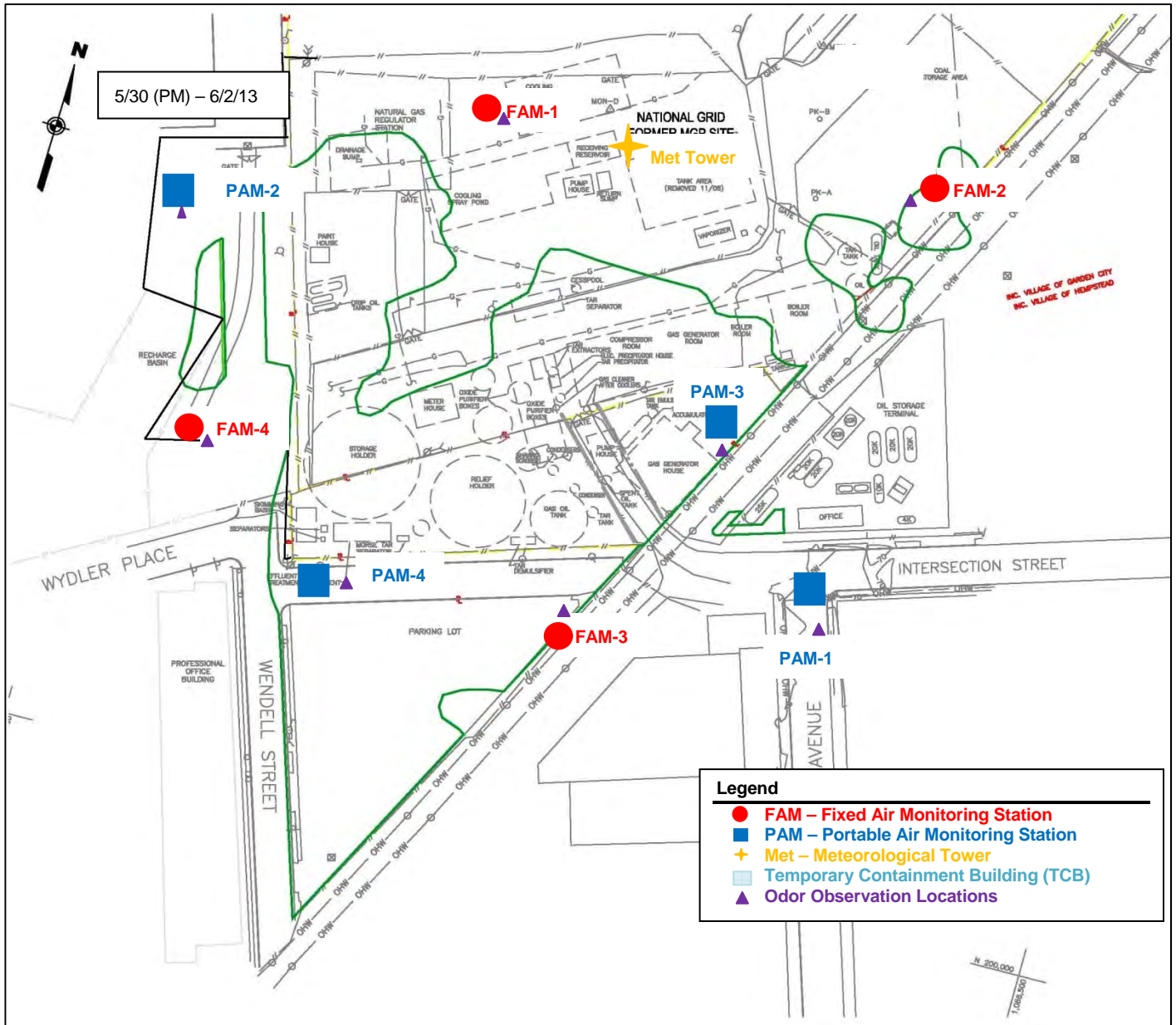


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 20 through May 26, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
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- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
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- **Figure 2:** Site map.

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Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
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- [C] = Concentration of target collected from a discrete sample
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- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 5/20/13	63.8	0.1	42.5	0.1	21.3	0.1	35.8	0.1	69.6	1.5	83.8	0.2	78.6	0.1	42.2	0.1	X	X
Tue 5/21/13	43.0	0.1	40.4	0.1	24.3	0.1	28.4	0.1	79.8	0.1	81.8	0.1	75.3	0.1	64.7	0.1	X	X
Wed 5/22/13	45.6	0.1	37.8	0.1	31.5	0.1	34.5	0.1	62.3	0.1	67.0	0.1	53.8	0.1	52.9	0.1	X	X
Thu 5/23/13	13.3	0.1	12.8	0.1	12.4	0.1	14.8	0.1	62.4	0.1	54.0	0.1	63.6	0.1	35.8	0.1	X	X
Fri 5/24/13	13.5	0.1	13.6	0.1	10.8	0.1	13.8	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 5/25/13	2.0	0.1	1.7	0.1	1.7	0.1	1.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 5/26/13	9.4	0.1	7.6	0.1	5.7	0.1	6.9	0.1	X	X	X	X	X	X	X	X	X	X

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM₁₀ = Respirable Particulate Matter (µg/m³)

TVOC = Total Volatile Organic Compounds (ppm)

Nap = Naphthalene

X = Monitoring not required per Site specific CAMP

ND = No Data

TBD = To Be Determined

* = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.

¹ Site was closed for Memorial Day holiday (No Site activities).

- Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable).
- FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured.
- PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM).

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 5/20/13	<ul style="list-style-type: none"> •Loaded out swell; and •Routine air monitoring.
Tue 5/21/13	<ul style="list-style-type: none"> •Graded backfill and compacted area in POB temporary parking lot; •Loaded out swell; and •Routine air monitoring.
Wed 5/22/13	<ul style="list-style-type: none"> •Graded backfill and compacted area in POB temporary parking lot; •Loaded out swell; and •Routine air monitoring.
Thu 5/23/13	<ul style="list-style-type: none"> •Loaded out swell; •General Site cleanup; •Dug and filled potholes for Mercury sampling; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 5/24/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 5/25/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/26/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

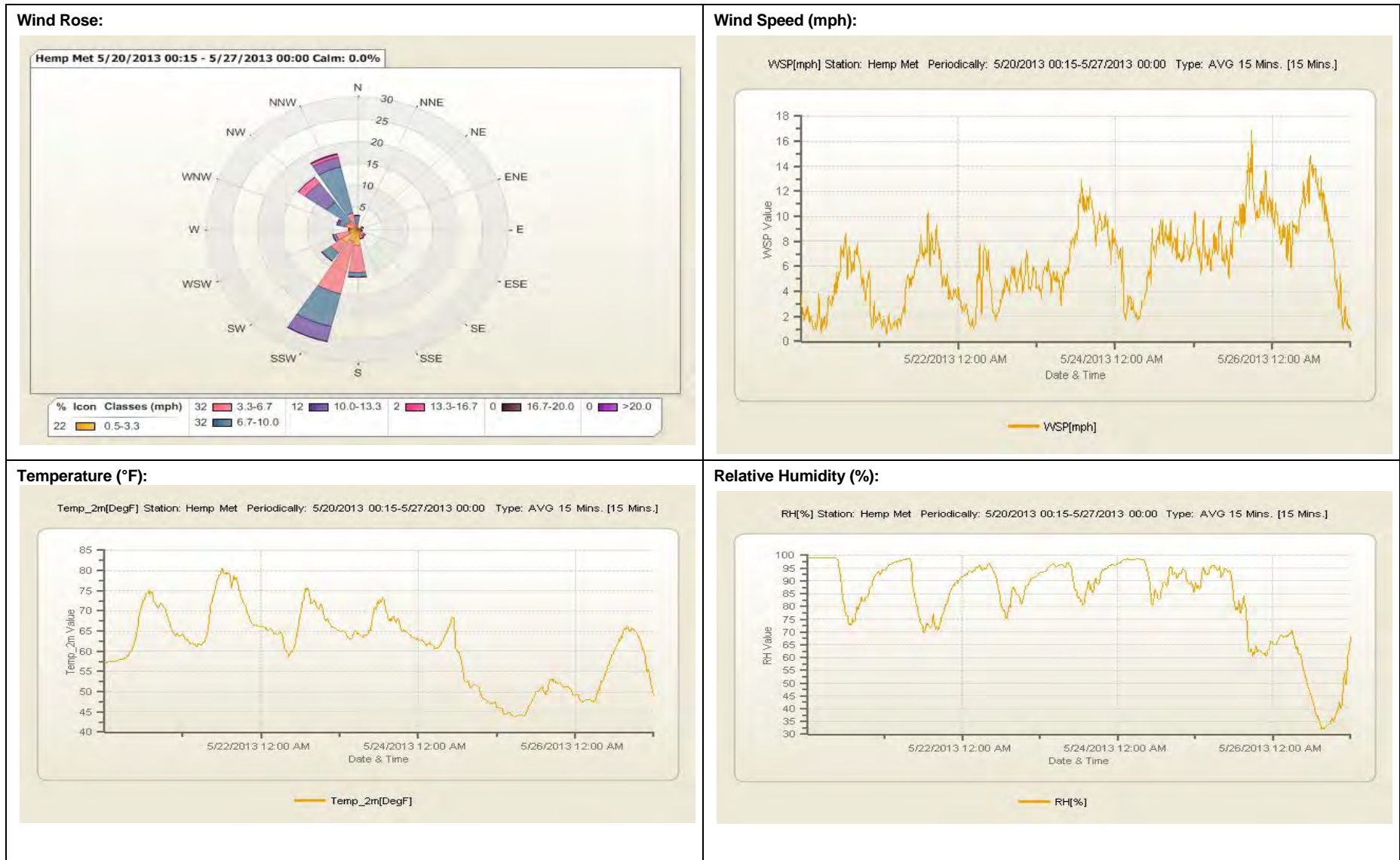
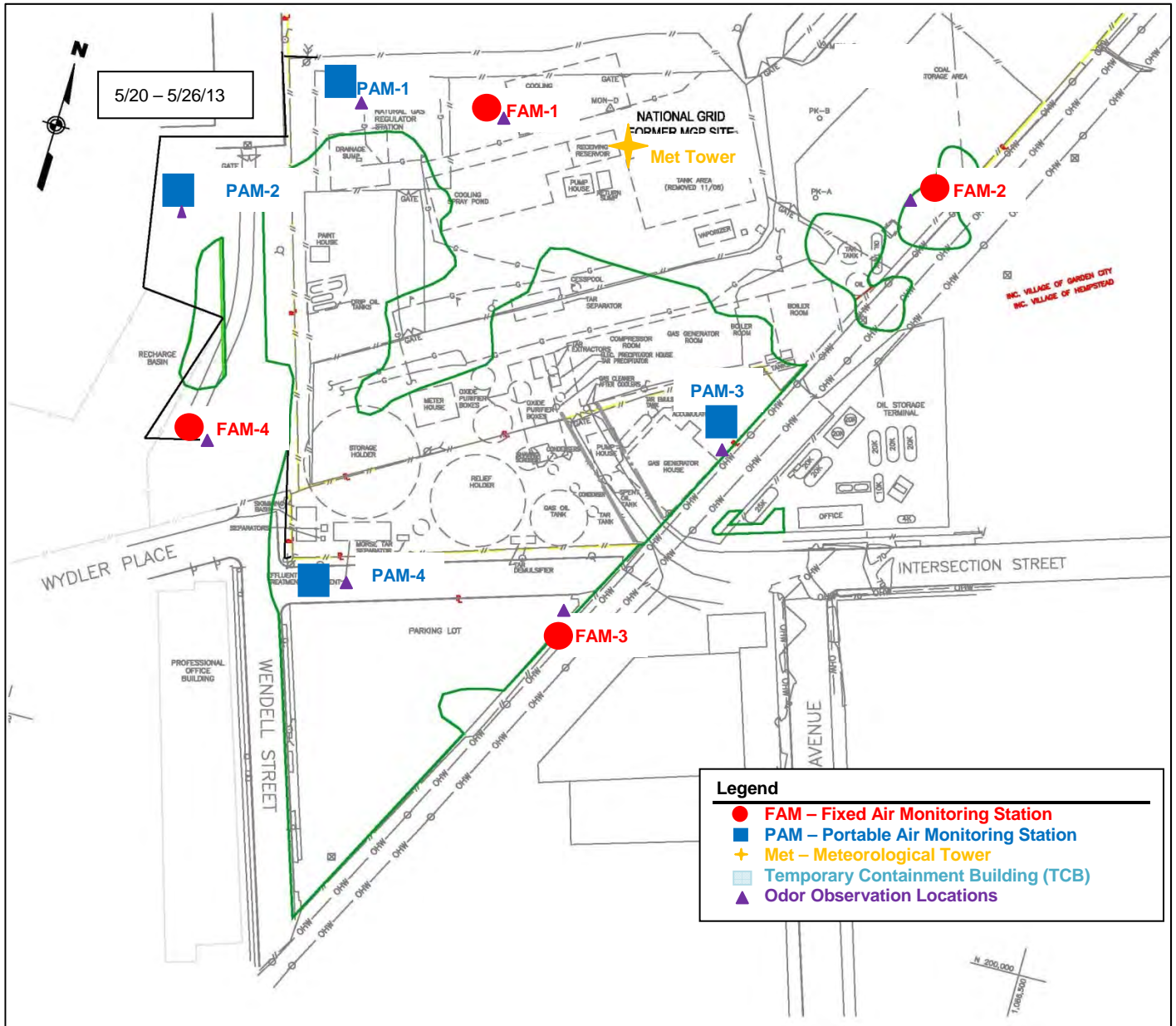


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 13 through May 19, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. There was, however, one period of PM₁₀ concentrations that remained above the Action Limits after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits after background subtraction. There was, however, a period of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see **Table 3** and **Table 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 5/13/13	11.8	0.1 ¹	11.3	0.1	11.6	0.1	11.7	0.1	21.5	0.1	22.4	0.1	32.0	0.1	33.0	0.2	X	X
Tue 5/14/13	11.8	0.1	9.4	0.1	11.0	0.1	13.2	0.1	20.7	0.1	84.0	0.1	17.9	0.1	37.7	0.2	X	X
Wed 5/15/13	14.8	0.1	25.0	0.1	16.3	0.1	13.0	0.1	28.8	0.1	36.3	0.1	23.8	0.1	39.8	0.2	X	X
Thu 5/16/13	20.2	0.1	23.9	0.1	23.2	0.1	20.0	0.1	38.1	0.1	60.4	0.1	38.0	0.1	95.7*	0.1	X	X
Fri 5/17/13	15.0	0.1	19.8	0.1	19.0	0.1	17.7	0.1	13.9	0.1	17.4	0.1	14.6	0.1	215.2*	0.1	X	X
Sat 5/18/13	8.2	0.1	22.3	0.1	9.4	0.1	19.1	0.1	X	X	X	X	X	X	X	X	X	X
Sun 5/19/13	2.0	0.1	18.2	0.1	5.9	0.1	6.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ TVOC data missing due to instrument power loss. Power was restored during the morning start-up activities on 5/13/13.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri 5/17/13	PAM-4	8:35 AM	8:48 AM	14	150	N 5.2mph	NNW 5.5mph	FAM-1	219.0	3.8	215.2	Action	Elevated PM ₁₀ concentrations were caused by excavation activities (rolling and compressing surface) along the south fenceline. Work was stopped and watering was implemented until concentrations were reduced to Operational Levels.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri 5/17/13	PAM-4	8:18 AM 8:24 AM 8:49 AM	- 8:34 AM 8:50 AM	14	100	N 5.7mph	NNW 5.5mph	FAM-1	146.3	4.0	142.3	Response	Elevated PM ₁₀ concentrations were caused by excavation activities (rolling and compressing surface) along the south fenceline. Work was stopped and watering was implemented until concentrations were reduced to Operational Levels.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

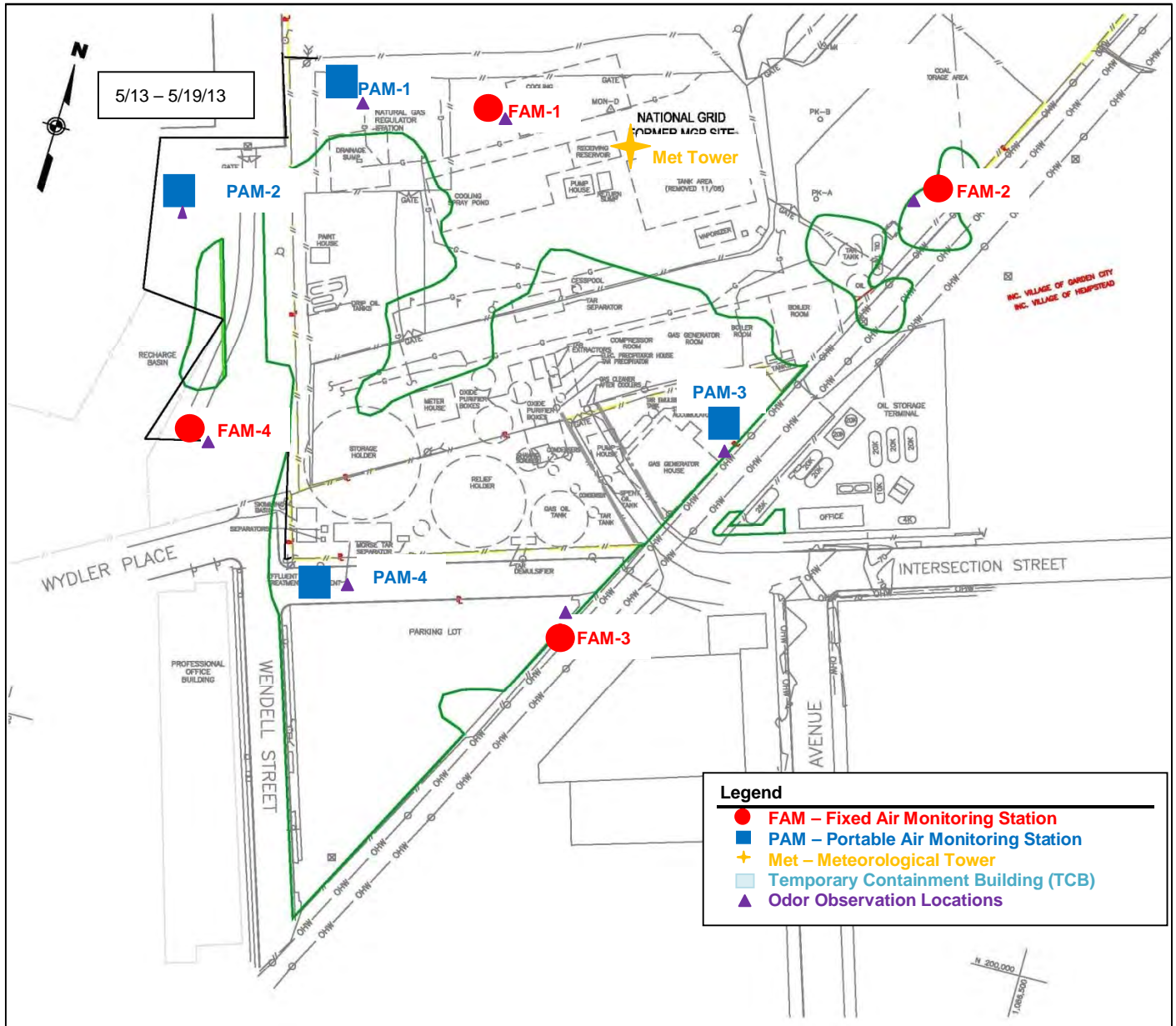
Table 5: Weekly Site Activities

	Site Activities
Mon 5/13/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Graded and loaded out swell in SW corner; and •Routine air monitoring.
Tue 5/14/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Loaded out swell; and •Routine air monitoring.
Wed 5/15/13	<ul style="list-style-type: none"> •Changed oil on Soil Mech SR100; •Graded backfill and compacted area in POB temporary parking lot; •Loaded out swell; •Performed maintenance on Batch Plant #2; and •Routine air monitoring.
Thu 5/16/13	<ul style="list-style-type: none"> •Dug and graded the area along Intersection Street near POB fence; •Placed and graded backfill area near main gate; •Graded backfill and compacted area in POB temporary parking lot; •Loaded out swell; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 5/17/13	<ul style="list-style-type: none"> •Graded and compacted backfill in area near main gate; •Graded and compacted backfill in POB temporary parking lot; •Loaded out swell; and •Routine air monitoring.
Sat 5/18/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/19/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 6 through May 12, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. However, there was one period of PM₁₀ concentrations that remained above the Action Limits after background subtraction (see Table 3). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits after background subtraction. However, there were several periods of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see Table 3 and Table 4). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** *Weekly real-time maximum PM10 and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;*
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 5/6/13	42.9	0.1	37.6	0.1	66.8	0.1	31.1	0.1	38.2	0.1	66.3	0.1	30.2	0.1	39.5	0.2	X	X
Tue 5/7/13	44.7	0.1	38.1	0.1	53.1	2.2	113.7*	0.1	26.1	0.2	215.7*	0.1	50.8	0.3	69.3	0.2	X	X
Wed 5/8/13	39.1	0.1	47.8	0.1	37.1	1.9	29.4	0.1	39.3	1.7	51.4	0.1	39.7	0.1	63.8	0.1	X	X
Thu 5/9/13	10.0	0.1	32.7	0.1	26.6	0.1	27.3	0.1	53.6	1.8	87.1	0.2	34.1	0.1	95.6	0.7	X	X
Fri 5/10/13	18.4	0.1 ¹	29.1	0.1	23.2	0.1	47.2	0.1	70.4	0.1	77.4	0.2	59.1	0.1	80.7	0.3	X	X
Sat 5/11/13	17.0	ND ¹	26.1	0.1	21.4	0.1	23.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 5/12/13	12.3	ND ¹	24.8	0.1	18.2	0.1	25.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ TVOC instrument (PID) lost power on Friday, 5/10/13 @ 3:42 PM. Power was restored during the Monday morning, May 13 start-up activities.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 5/7/13	PAM-2	3:20 PM	3:40 PM	21	150	SSE 9.0 mph	SE 7.8 mph	FAM-4	221.8	6.1	215.7	Action	Elevated concentrations were caused by equipment movement and load out in the vicinity. Watering was performed and concentrations were reduced to operational levels.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 5/7/13	FAM-4	1:57 PM	2:04 PM	8	100	SE 7.7 mph	SE 7.7 mph	FAM-2	118.1	4.4	113.7	Response	Elevated concentrations were caused by Garden City Village employees working at the pump station off site adjacent to FAM-4.
PM ₁₀	Tue 5/7/13	PAM-2	3:17 PM 3:41 PM	3:19 PM 3:45 PM	8	100	SSE 9.0 mph	SE 7.8 mph	FAM-4	134.6	4.5	130.1	Response	Elevated concentrations were caused by equipment movement and load out in the vicinity. Watering was performed and concentrations returned below the Response Limit.

FAM = Fixed Air Monitoring Station
 PAM = Portable Air Monitoring Station
 PM₁₀ = Respirable Particulate Matter (µg/m³)
 TVOC = Total Volatile Organic Compounds (ppm)
 Nap = Naphthalene
 VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)
 NA = Not Applicable
 ND = No Data

- Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Table 5: Weekly Site Activities

	Site Activities
Mon 5/6/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed soil/debris load out; and •Routine air monitoring.
Tue 5/7/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed soil/debris load out; and •Routine air monitoring.
Wed 5/8/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed soil/debris load out; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 5/9/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed swell spoils load out; and •Routine air monitoring.
Fri 5/10/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed swell spoils load out; and •Routine air monitoring.
Sat 5/11/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/12/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

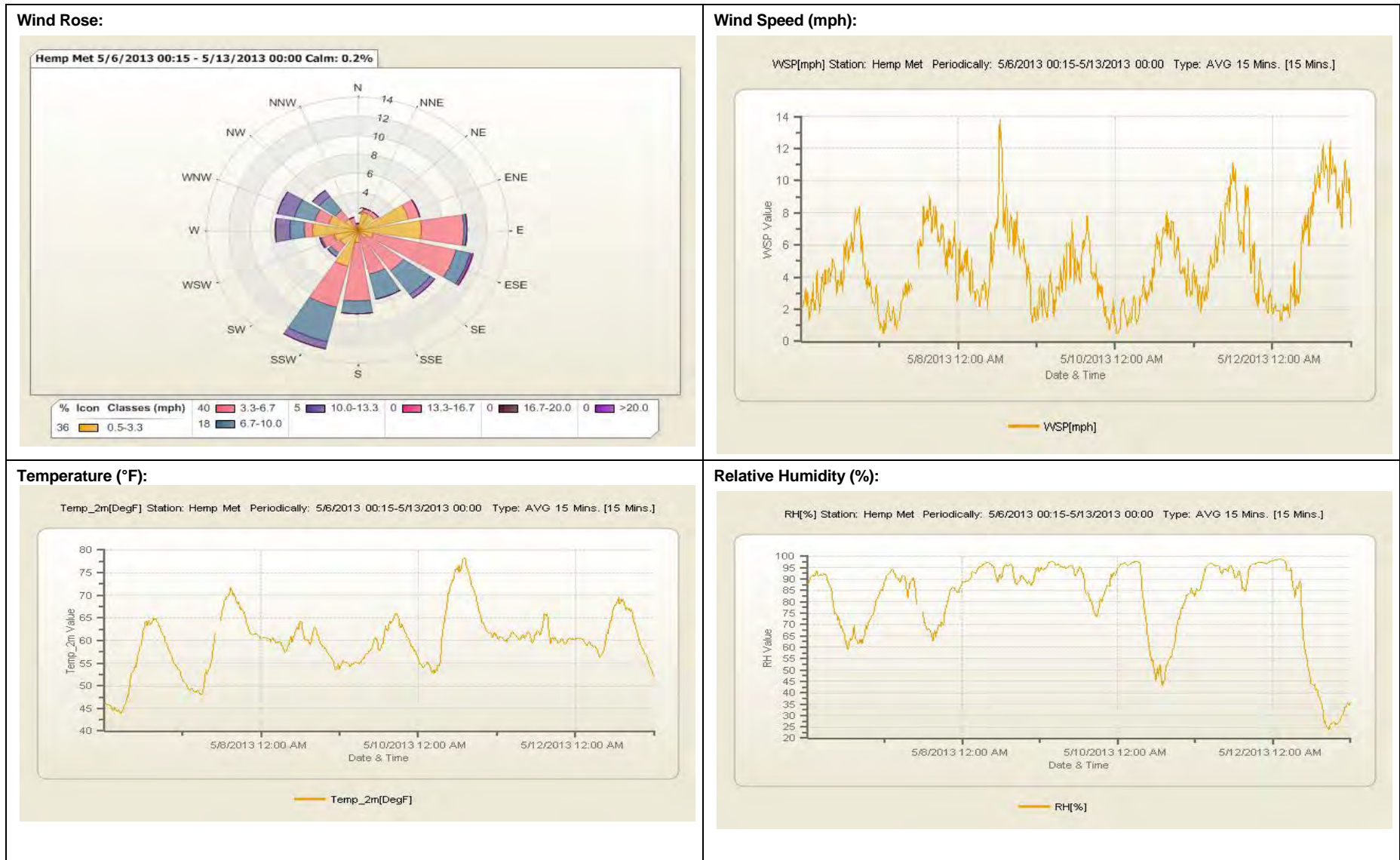
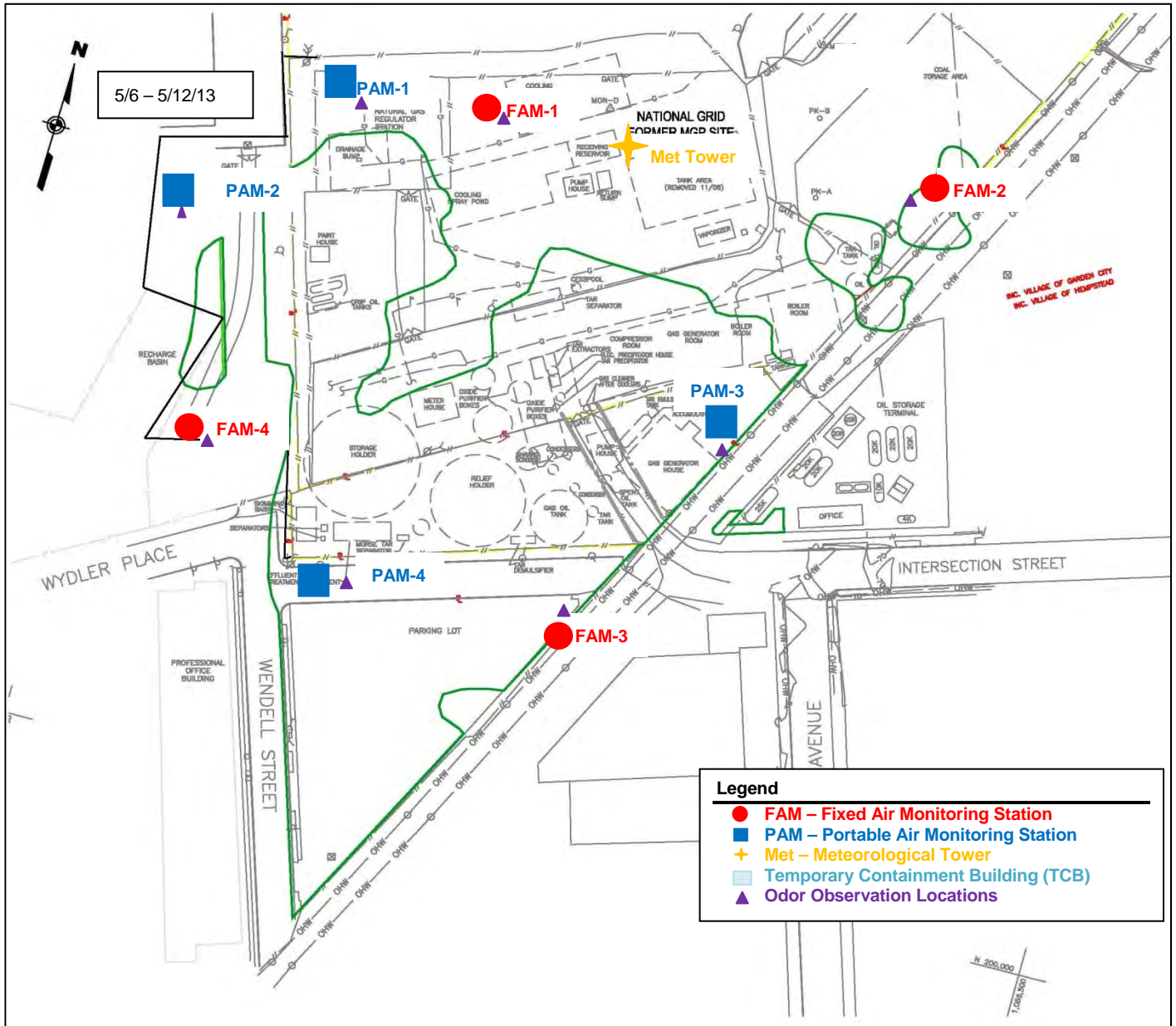


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 29 through May 5, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** *Weekly real-time maximum PM10 and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;*
- **Table 3:** **Concentrations above the Action Limits; and**
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 4/29/13	15.8	0.1	10.1	0.5	10.7	0.1	7.8	0.1	37.2	0.1	25.8	0.1	49.9	0.1	33.5	0.1	X	X
Tue 4/30/13	27.8	0.1	11.4	0.2	15.7	0.1	10.3	0.1	22.0	0.1	62.0	0.1	19.2	0.1	60.6	0.1	X	X
Wed 5/1/13	25.1	0.1	10.9	0.1	11.7	0.1	20.0	0.1	46.4	0.1	42.3	0.1	29.7	0.1	63.8	0.6	X	X
Thu 5/2/13	5.9	0.1	40.8	0.1	10.0	0.1	5.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 5/3/13	10.5	0.1	15.0	0.1	13.5	0.1	14.4	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 5/4/13	16.9	0.1	19.9	0.1	21.2	0.1	16.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 5/5/13	16.4	0.1	18.0	0.1	16.0	0.1	14.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ Site closed for long weekend (no site activity).</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/29/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed soil/debris load out; and •Routine air monitoring.
Tue 4/30/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed soil/debris load out; and •Routine air monitoring.
Wed 5/1/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed soil/debris load out; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 5/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 5/3/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 5/4/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/5/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

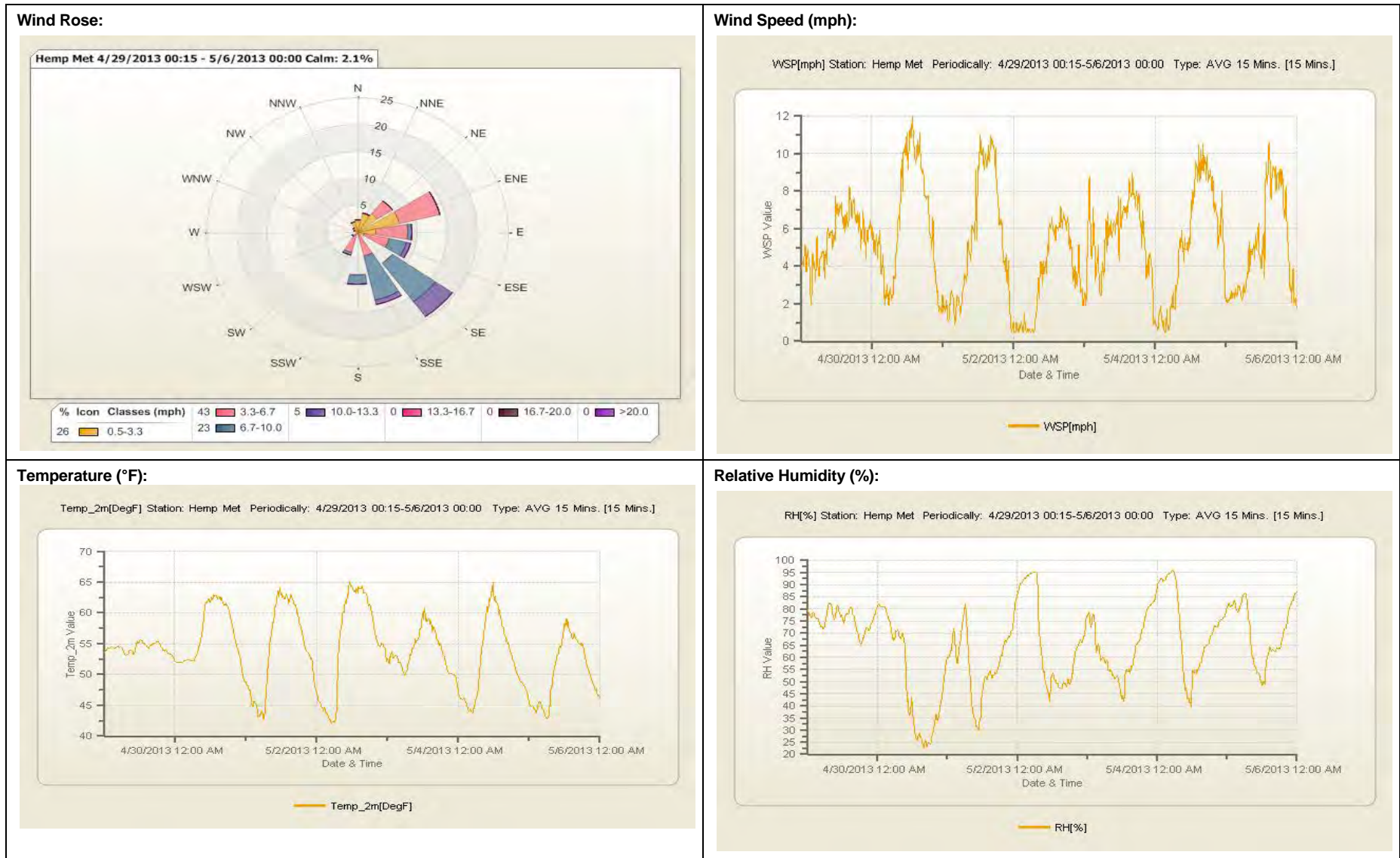
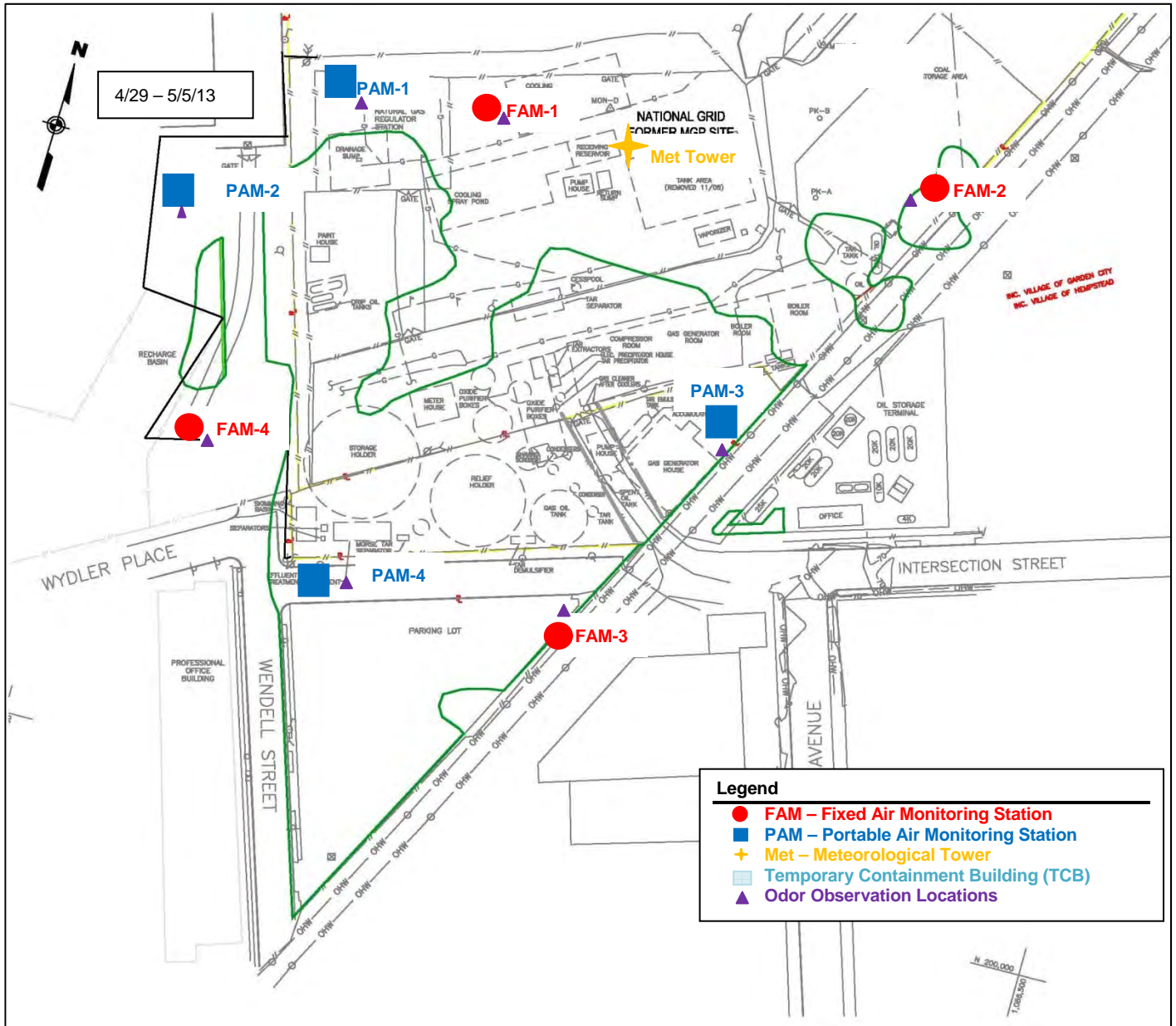


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 22 through April 28, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** *Weekly real-time maximum PM10 and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;*
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 4/22/13	18.5	0.1	15.8	0.1	16.4	0.1	15.6	0.1	22.8	0.1	88.2	0.1	28.1	0.1	51.7	0.3	X	X
Tue 4/23/13	10.8	0.1	17.4	0.1	31.3	0.1	10.7	0.1	37.1	0.1	39.7	0.1	23.5	0.1	58.9	0.3	X	X
Wed 4/24/13	14.3	0.1	21.9	0.1	41.5	0.1	17.3	0.1	54.7	0.1	55.3	0.2	41.9	0.1	53.3	0.2	X	X
Thu 4/25/13	20.1	0.1	11.2	0.1	18.2	0.1	10.8	0.1	19.9	0.1	41.4	0.1	39.2	0.1	96.7	0.2	X	X
Fri 4/26/13	17.8	0.1	19.6	0.2	21.4	0.1	12.6	0.1	35.0	0.1	32.2	0.1	43.7	0.1	52.9	0.2	X	X
Sat 4/27/13	21.7	0.1	17.4	0.1	23.5	0.1	11.1	0.1	X	X	X	X	X	X	X	X	X	X
Sun 4/28/13	20.0	0.1	14.9	0.1	18.5	0.1	14.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/22/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation near main gate area(SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug along Intersection Street; •Performed soil/debris load out; •Performed Swell load out; and •Routine air monitoring.
Tue 4/23/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation near main gate area(SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug along Intersection Street; •Performed soil/debris and asphalt load out; and •Routine air monitoring.
Wed 4/24/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation in SW corner(SR100); •Welded and repaired augers; •Received backfill for use in POB temporary parking lot; •Pre-dug along Intersection Street; •Performed soil/debris and asphalt load out; and •Routine air monitoring.
Thu 4/25/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation near main gate area(SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug along Intersection Street; •Performed soil/debris load out; •Began building road for construction Site entrance at south gate; and •Routine air monitoring.
Fri 4/26/13	<ul style="list-style-type: none"> •Performed DSM production columns installation in SW corner (RH40); •Performed DSM production columns installation near main gate area(SR100); •Welded and repaired augers; •Changed two teeth on cutter of Delmag RH40; •Graded backfill and compacted area in POB temporary parking lot; •Continued building road for construction Site entrance at south gate; •Performed soil/debris load out; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 4/27/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/28/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

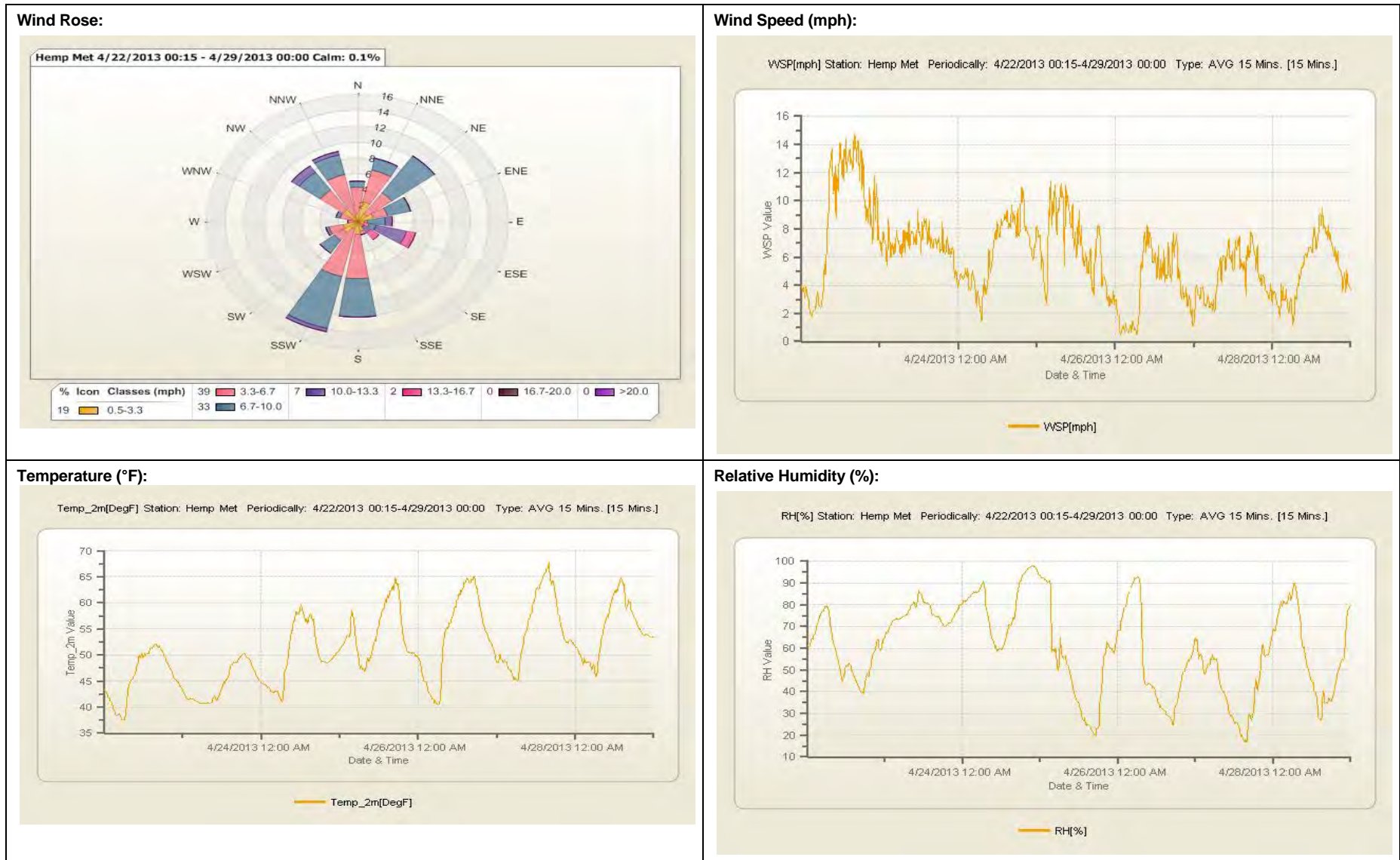
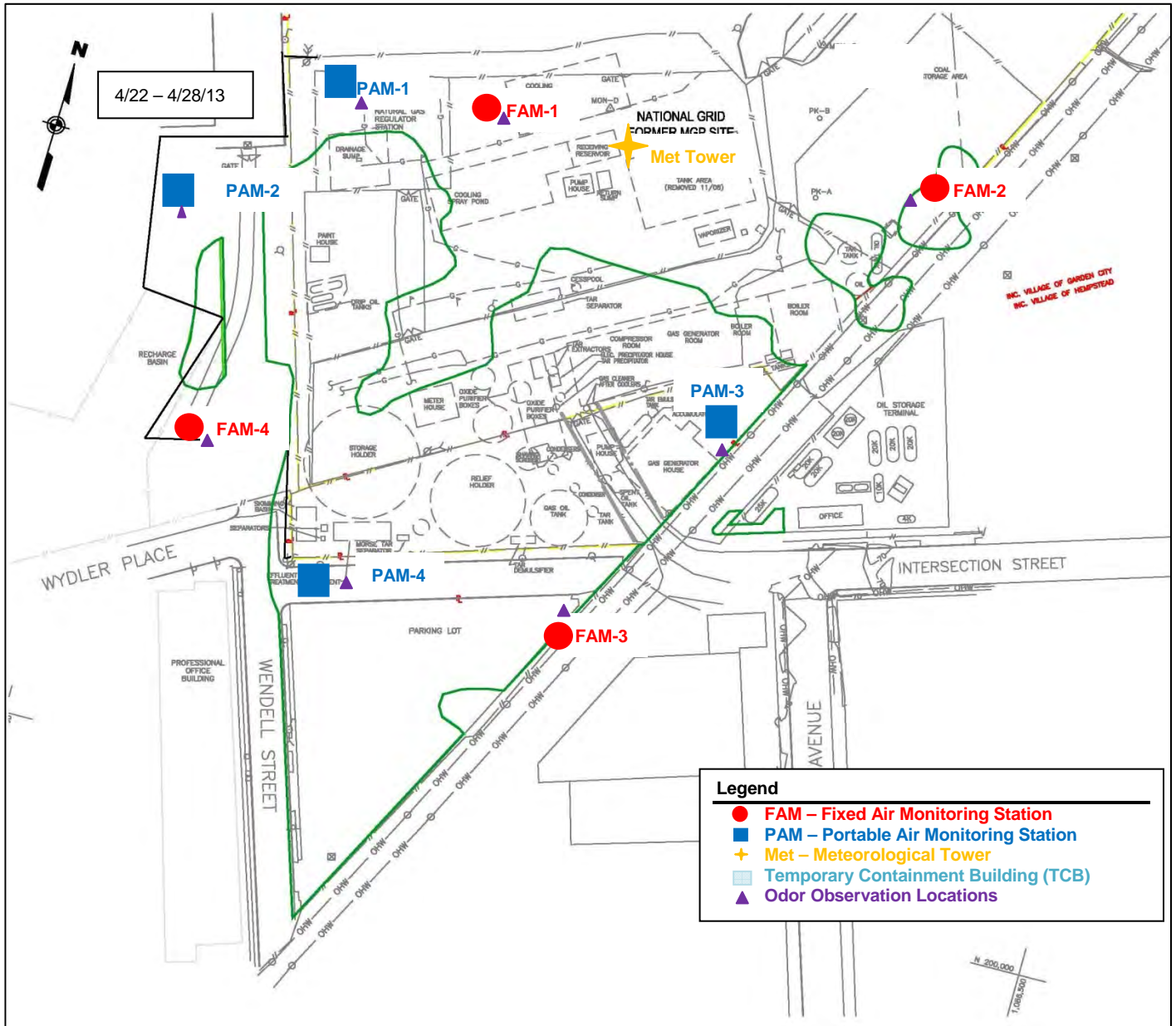


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 15 through April 21, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 4/15/13	11.6	0.1	11.1	0.1	8.4	0.1	6.2	0.1	13.9	0.1	46.9	0.1	18.0	0.1	41.8	0.2	X	X
Tue 4/16/13	11.7	0.1	6.0	0.1	13.3	0.1	3.8	0.1	39.2	0.1	41.8	0.1	16.4	0.1	42.3	0.2	X	X
Wed 4/17/13	22.4	0.1	7.9	0.1	13.7	0.1	7.7	0.1	26.5	0.1	41.9	0.1	38.2	0.1	46.7	0.1	X	X
Thu 4/18/13	20.1	0.1	9.1	0.1	8.5	0.1	8.3	0.1	24.8	0.1	29.3	0.1	34.3	0.3	91.4	0.1	X	X
Fri 4/19/13	11.4	0.1	15.0	0.4	21.4	0.1	7.2	0.1	74.7	0.1	27.3	0.1	32.4	0.1	86.9	0.2	X	X
Sat 4/20/13	10.9	0.1	7.1	0.4	4.8	0.1	7.1	0.1	X	X	X	X	X	X	X	X	X	X
Sun 4/21/13	19.1	0.1	7.7	0.1	6.2	0.1	6.8	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/15/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed Swell/spoils load out; and •Routine air monitoring.
Tue 4/16/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug near main gate and removed asphalt on Intersection street providing foam as needed; and •Routine air monitoring.
Wed 4/17/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Performed DSM production columns installation along main gate (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug area near Intersection street and removed water/gas lines providing foam as needed; •Held Kick-off meeting about POB; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 4/18/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Performed DSM production columns installation near main gate (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug area near Intersection street and removed water/gas lines providing foam as needed; and •Routine air monitoring.
Fri 4/19/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Performed DSM production columns installation near main gate (SR100); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Pre-dug area near Intersection street and removed water/gas lines providing foam as needed; and •Routine air monitoring.
Sat 4/20/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/21/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

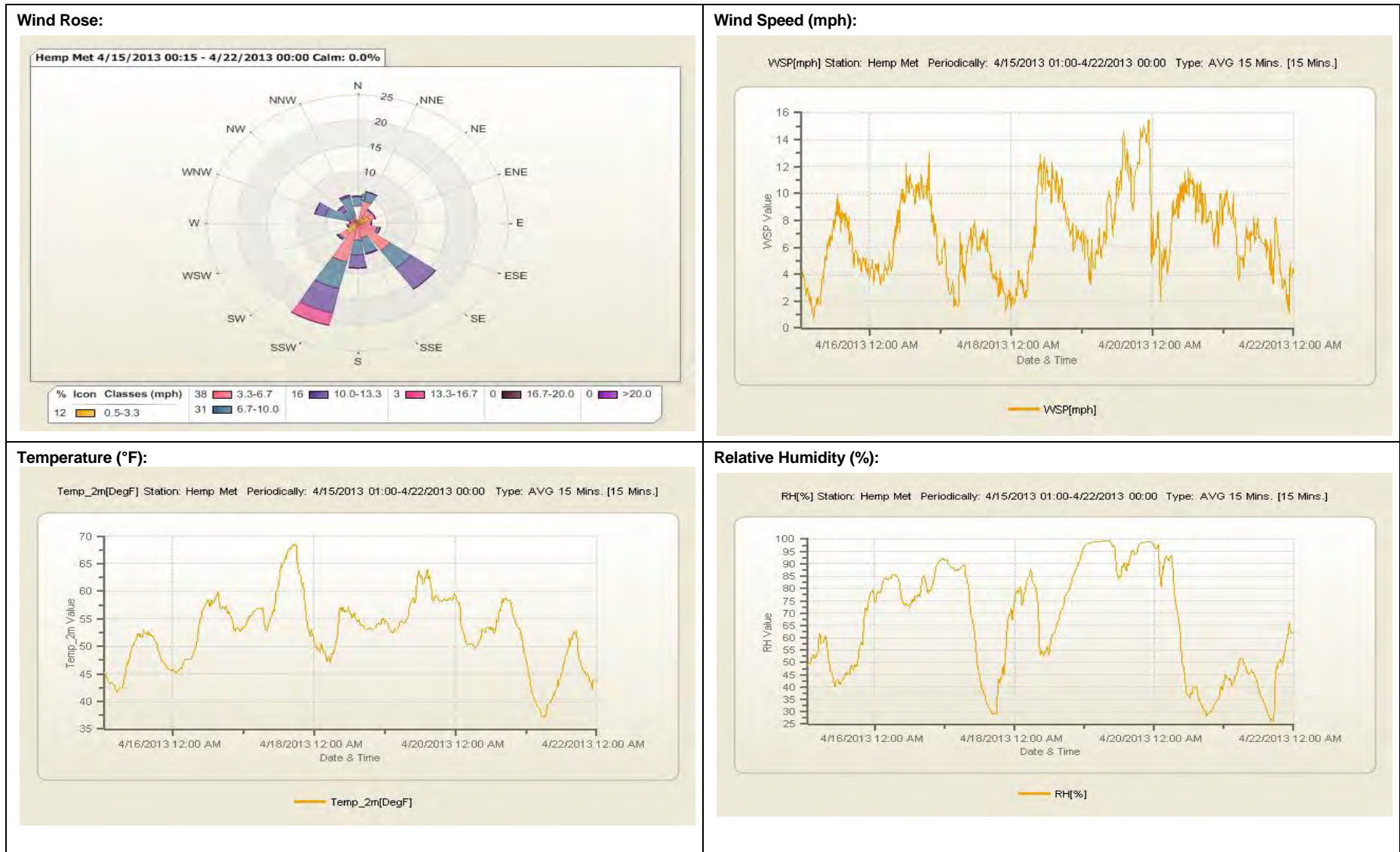
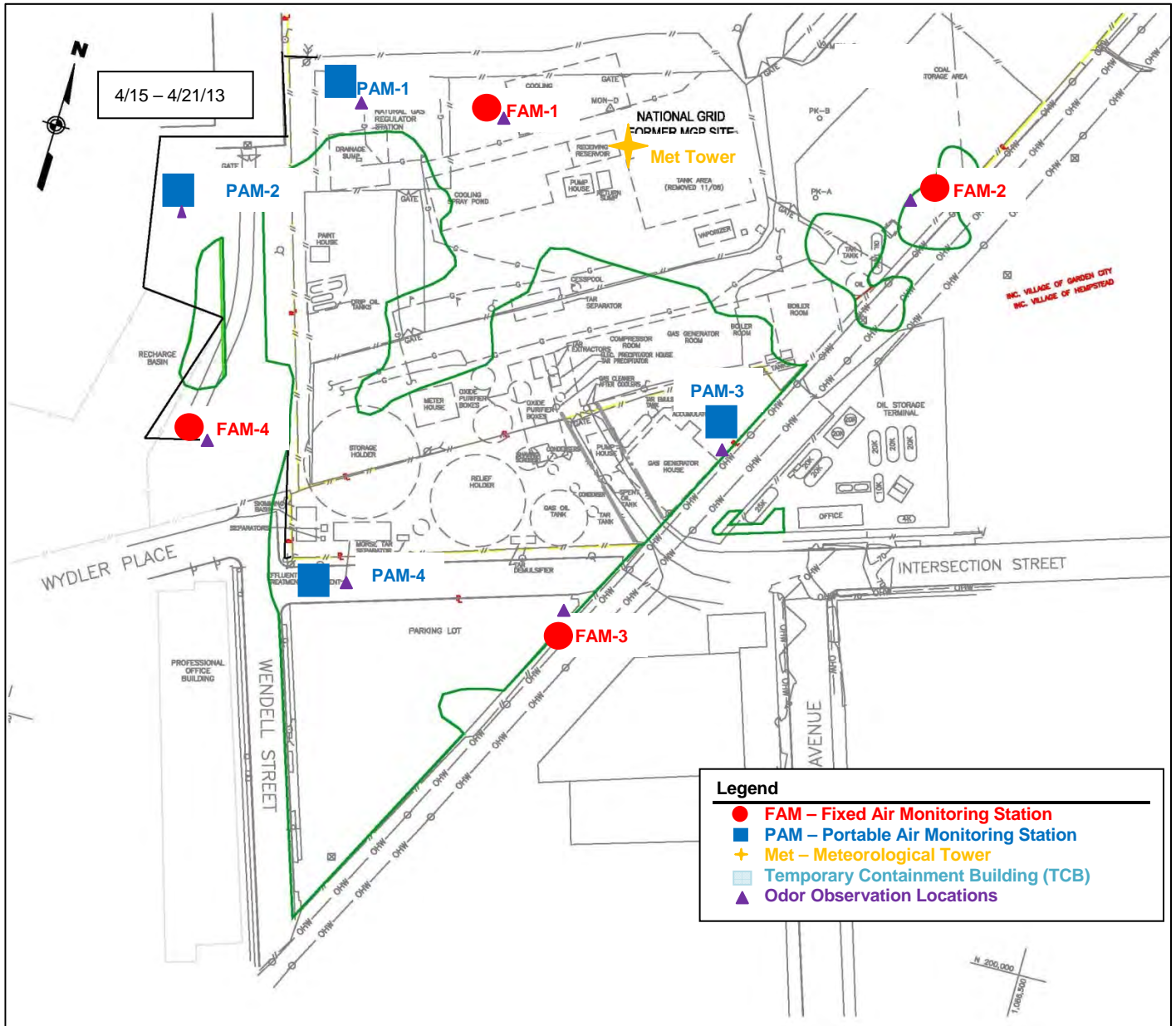


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 8 through April 14, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. However, there were several periods of PM₁₀ concentrations that remained above the Action Limits after background subtraction (see Table 3). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Action or Response Limits after background subtraction. However, there were several periods of PM₁₀ concentrations that remained above the Action and Response Limits after background subtraction (see Table 3 and Table 4). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and 3:** Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 4/8/13	120.0*	0.2	29.8	0.1	48.5	0.4	47.0	0.1	69.8	0.2	91.1	0.1	80.2	0.1	91.7	1.4	X	X
Tue 4/9/13	36.7	0.1	31.5	0.1	124.4*	0.1	49.1	0.1	72.2	0.1	70.7	0.1	203.8*	0.1	80.4	0.2	X	X
Wed 4/10/13	25.8	0.1	20.0	0.1	263.6*	0.1	55.2	0.1	37.2	0.1	69.2	0.1	50.4	0.1	57.8	0.2	X	X
Thu 4/11/13	17.7	0.1	38.5	0.1	73.0	0.1	73.4	0.1	61.7	0.1	62.6	0.1	49.0	0.1	22.1	0.1	X	X
Fri 4/12/13	11.8	0.1	15.9	0.1	2.8	0.1	9.7	0.1	11.7	0.1	13.2	0.1	24.7	0.1	18.2	0.1	X	X
Sat 4/13/13	10.8	0.1	6.2	0.1	7.4	0.1	9.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 4/14/13	14.8	0.1	15.7	0.1	15.0	0.1	17.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 4/9/13	PAM-3	12:46PM 12:59PM	12:53PM 1:01PM	11	150	NW 13.3 mph	WNW 13.4 mph	PAM-1	222.9	19.1	203.8	Action	Elevated concentrations were caused by dust from load-out. Surrounding area was watered and concentrations were reduced.
PM ₁₀	Wed 4/10/13	FAM-3	8:25AM	8:39AM	15	150	ENE 2.3 mph	NNE 4.0 mph	FAM-2	275.9	12.3	263.6	Action	Elevated concentrations were caused by off-site concrete breaking in area.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 4/8/13	FAM-1	10:47AM	10:59AM	13	100	NNE 6.6 mph	NNE 5.8 mph	FAM-2	131.4	11.4	120.0	Response	Elevated concentrations were caused by off-site landscaping in area.
PM ₁₀	Tue 4/9/13	PAM-3	11:59AM 12:39PM 12:54PM 1:02PM 1:32PM	12:12PM 12:45PM 12:58PM 1:13PM 1:41PM	48	100	NNW 14.1 mph	WNW 12.3 mph	PAM-1	144.1	19.7	124.4	Response	Elevated concentrations were caused by dust from load-out. Surrounding area was watered and concentrations were reduced.
PM ₁₀	Wed 4/10/13	FAM-3	8:23AM 8:40AM	8:24AM 8:44AM	7	100	ENE 2.3 mph	NNE 4.0 mph	FAM-2	148.4	12.3	136.1	Response	Elevated concentrations were caused by off-site concrete breaking in area.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/8/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed Swell load out; and •Routine air monitoring.
Tue 4/9/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Performed Swell load out; •Performed POB building video/picture inspection; and •Routine air monitoring.
Wed 4/10/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Installed traffic control measures for POB lot; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 4/11/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers (centralizer on Delmag RH40); •Graded backfill and compacted area in POB temporary parking lot; •Stripped asphalt on Intersection Street; and •Routine air monitoring.
Fri 4/12/13	<ul style="list-style-type: none"> •Performed DSM production columns installation near main gate (RH40); •Welded and repaired augers; •Performed general site cleanup; and •Routine air monitoring.
Sat 4/13/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/14/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

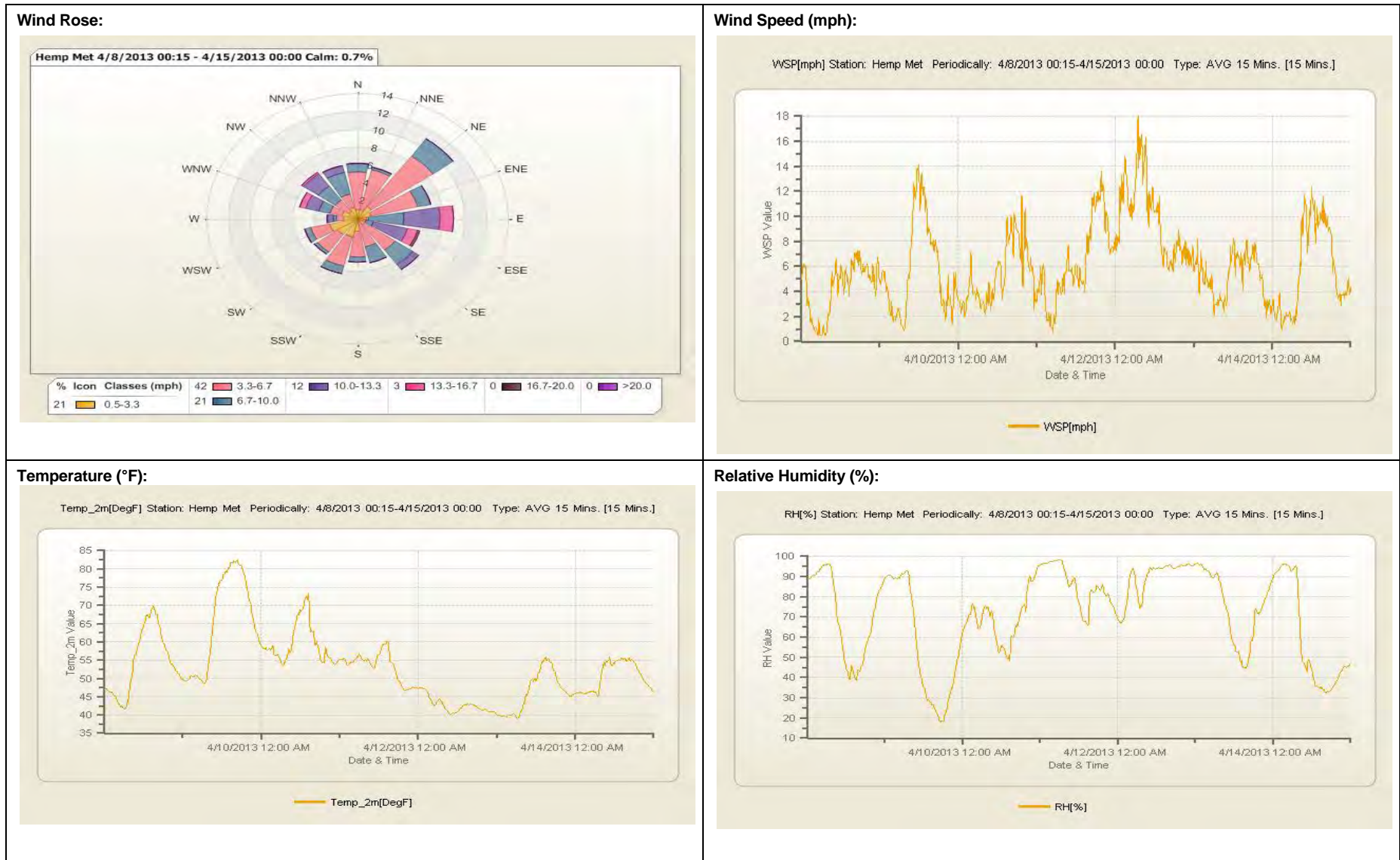
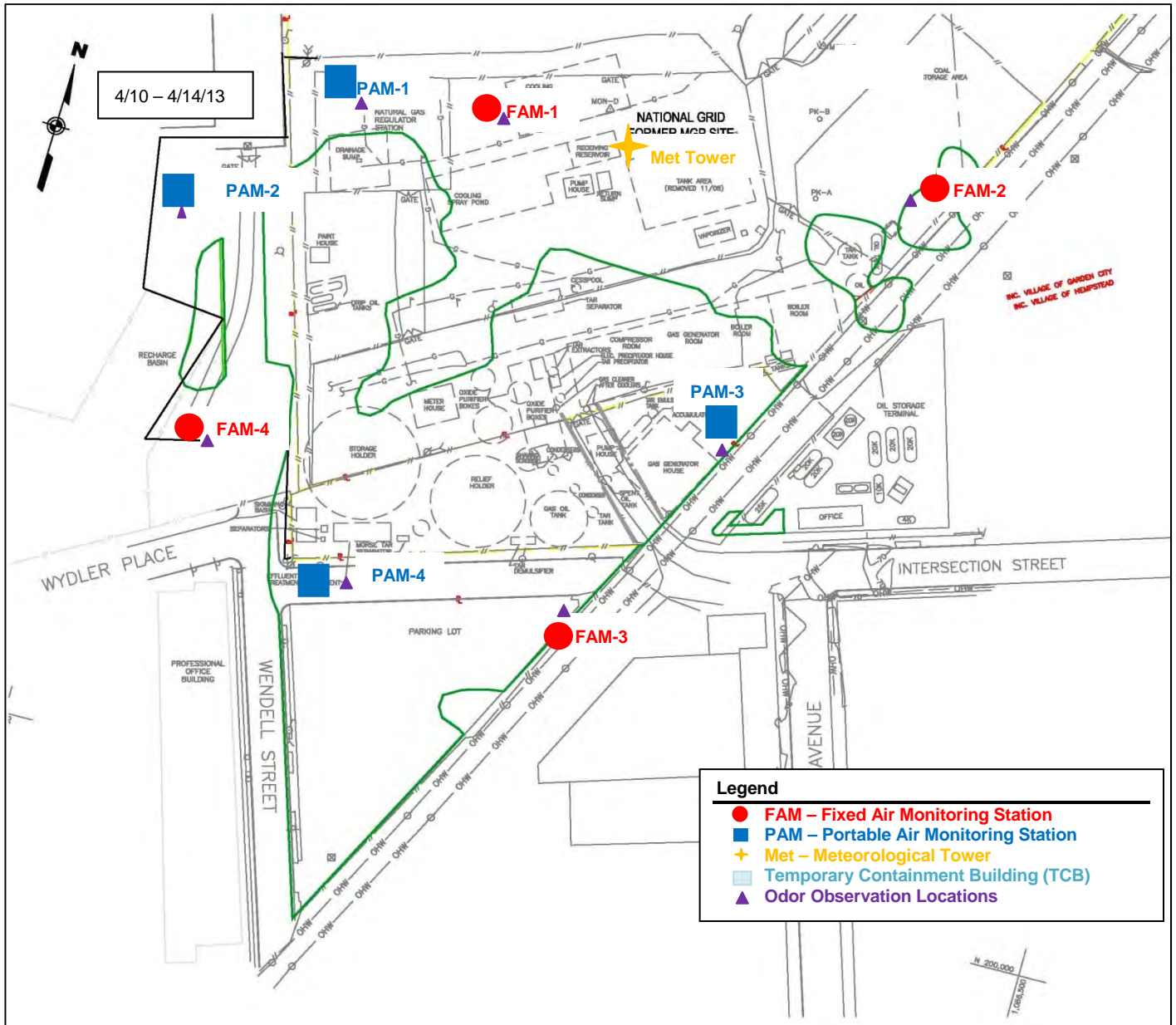


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 1 through April 7, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action or Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 4/1/13	48.7	0.1	67.4	0.1	56.4	0.2	57.9	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 4/2/13	27.0	0.1	11.4	0.1	9.8	0.1	9.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 4/3/13	28.1	0.1	13.1	0.1	25.1	0.1	12.1	0.1	20.7	0.1	20.1	0.1	25.1	0.1	95.6	0.3	X	X
Thu 4/4/13	97.1	0.1	25.8	0.1	29.4	0.1	22.1	0.1	50.7	0.1	36.8	0.1	28.3	0.1	99.3	0.3	X	X
Fri 4/5/13	29.3	0.1	31.5	0.1	54.5	0.2	20.5	0.1	35.0	0.2	31.6	0.1	45.8	0.2	99.7	0.4	X	X
Sat 4/6/13	31.0	0.1	7.2	0.1	21.7	0.2	8.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 4/7/13	11.3	0.1	8.4	0.1	22.5	0.4	6.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ Site closed due to Easter Holiday (no site activity).</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/1/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Tue 4/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Wed 4/3/13	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Welded and repaired augers; •Prepared for temporary parking lot; •Performed load out of soil/debris; •Decontaminated excavator; and •Routine air monitoring.
Thu 4/4/13	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Continued swell load out; •Continued load out of soil/debris; and •Routine air monitoring.
Fri 4/5/13	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Welded and repaired augers; •Continued Grading backfill and compacting area in POB temporary parking lot; •Continued swell load out; •Changed teeth on RH40 Delmag; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 4/6/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/7/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

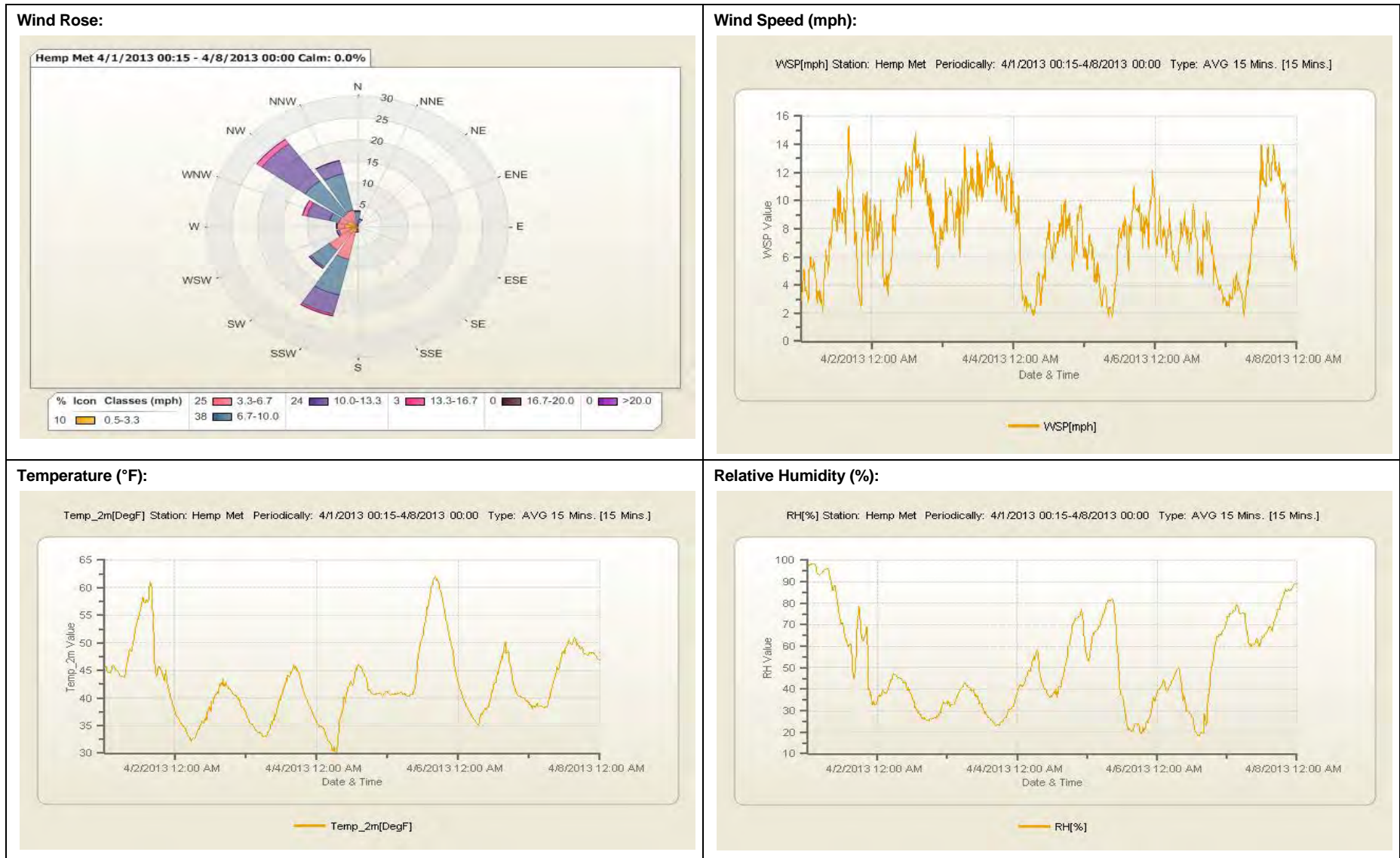
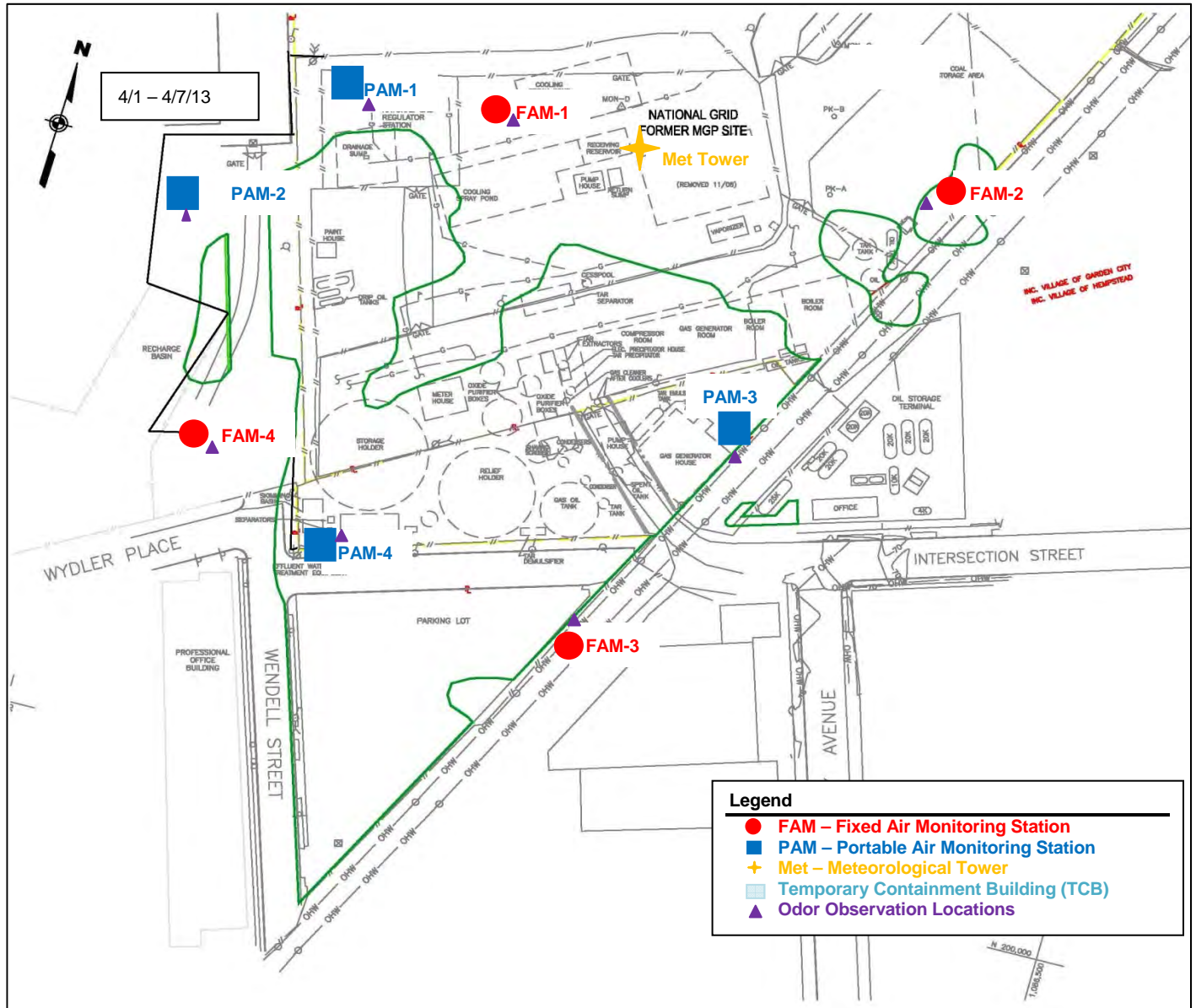


Figure 2: Site Map:



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 25 through March 31, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Response or Action Limits after background subtraction or PM₁₀ concentrations greater than the Action Limit. There was however a short period of PM₁₀ concentrations greater than the Response Limit after background subtraction (see **Table 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 3/25/13	25.2	0.1	73.2	0.1	17.8	0.3	22.8	0.1	17.8	0.1	48.4	0.1	53.2	0.1	46.8	0.1	X	X
Tue 3/26/13	13.0	0.1	14.0	0.1	30.6	0.2	15.5	0.3	35.3	0.1	120.6*	0.1	23.1	0.7	59.9	0.1	X	X
Wed 3/27/13	14.1	0.1	5.0	0.1	7.1	0.1	9.7	0.3	46.0	0.1	20.7	0.1	18.0	0.1	65.5	0.1	X	X
Thu 3/28/13	11.5	0.1	14.6	0.1	14.7	0.1	12.7	0.3	30.4	0.1	31.9	0.1	25.7	0.1	70.6	0.3	X	X
Fri 3/29/13	36.7	0.1	12.0	1.3	10.6	0.1	11.1	0.1	15.7	0.1	13.9	0.1	15.6	0.1	31.8	0.2	X	X
Sat 3/30/13	16.1	0.1	22.6	0.1	19.7	0.1	20.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 3/31/13	43.3	0.1	84.6	0.1	41.5	0.2	43.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 3/26/13	PAM-2	8:27AM	8:50AM	24	100	NNW 2.8 mph	NNW 2.8 mph	FAM-2	130.8	10.2	120.6	Response	Elevated concentrations were caused by clean fill being moved in the vicinity of PAM-2.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/25/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Graded backfill and compacted area in POB temporary parking lot; •Excavated and pre-dug area in front of south entrance gate; •Conducted swell management (GCP); •Continued disassembling TCB; and •Routine air monitoring.
Tue 3/26/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Continued Grading backfill and compacting area in POB temporary parking lot; •Continued Excavating and pre-digging area in front of south entrance gate; •Continued swell management (GCP); •Continued disassembling TCB; and •Routine air monitoring.
Wed 3/27/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Continued Grading backfill and compacting area in POB temporary parking lot; •Continued Excavating and pre-digging area in front of south entrance gate; •Continued swell management (GCP); •Continued disassembling TCB; and •Routine air monitoring.
Thu 3/28/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Continued Grading backfill and compacting area in POB temporary parking lot; •Continued swell management (GCP); •Completed disassembling TCB; and •Routine air monitoring.
Fri 3/29/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Continued Grading backfill and compacting area in POB temporary parking lot; •Covered the area in front of the south entrance gate; •Continued swell management (GCP); •Collected integrated VOC samples; and •Routine air monitoring.
Sat 3/30/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/31/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

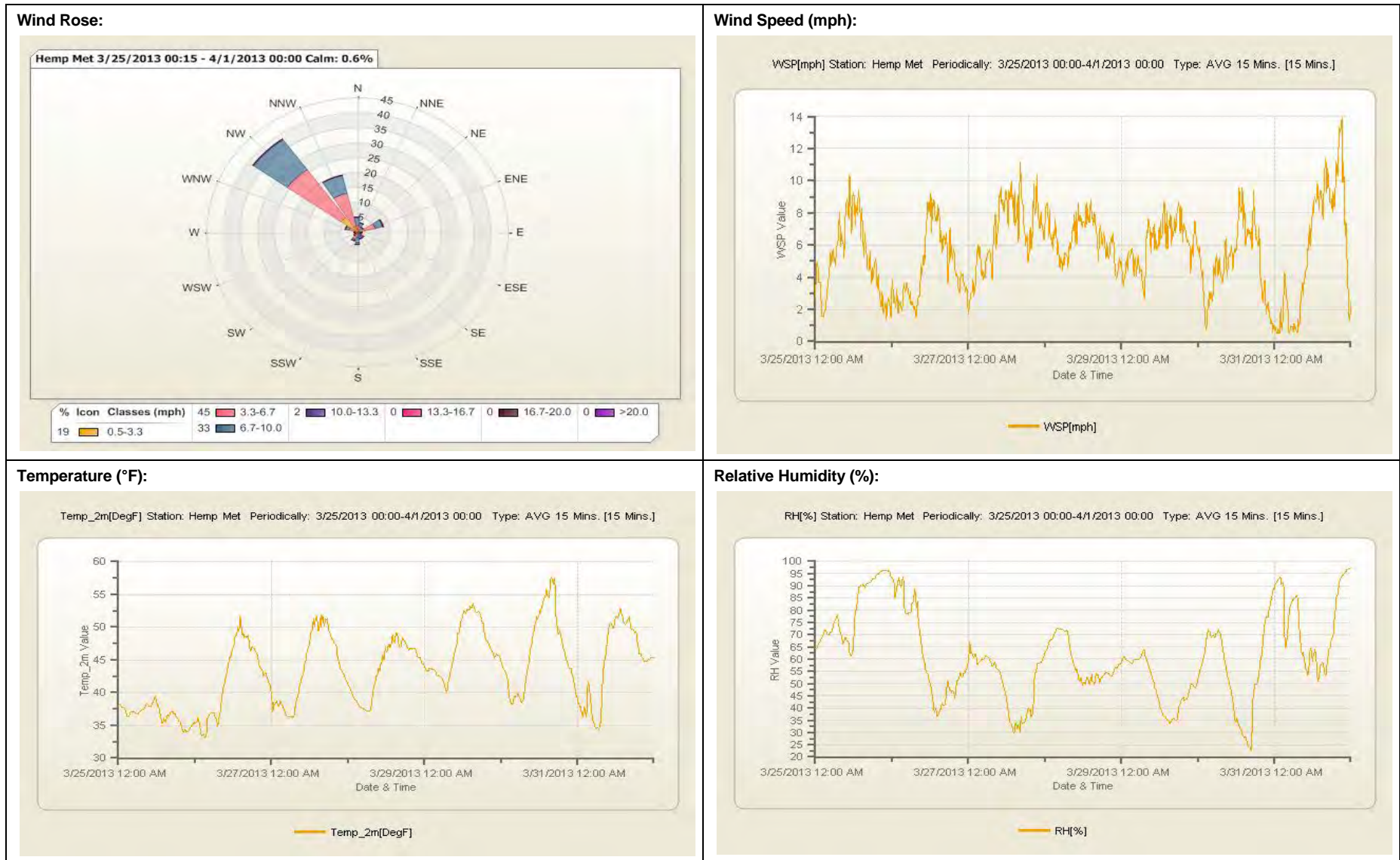
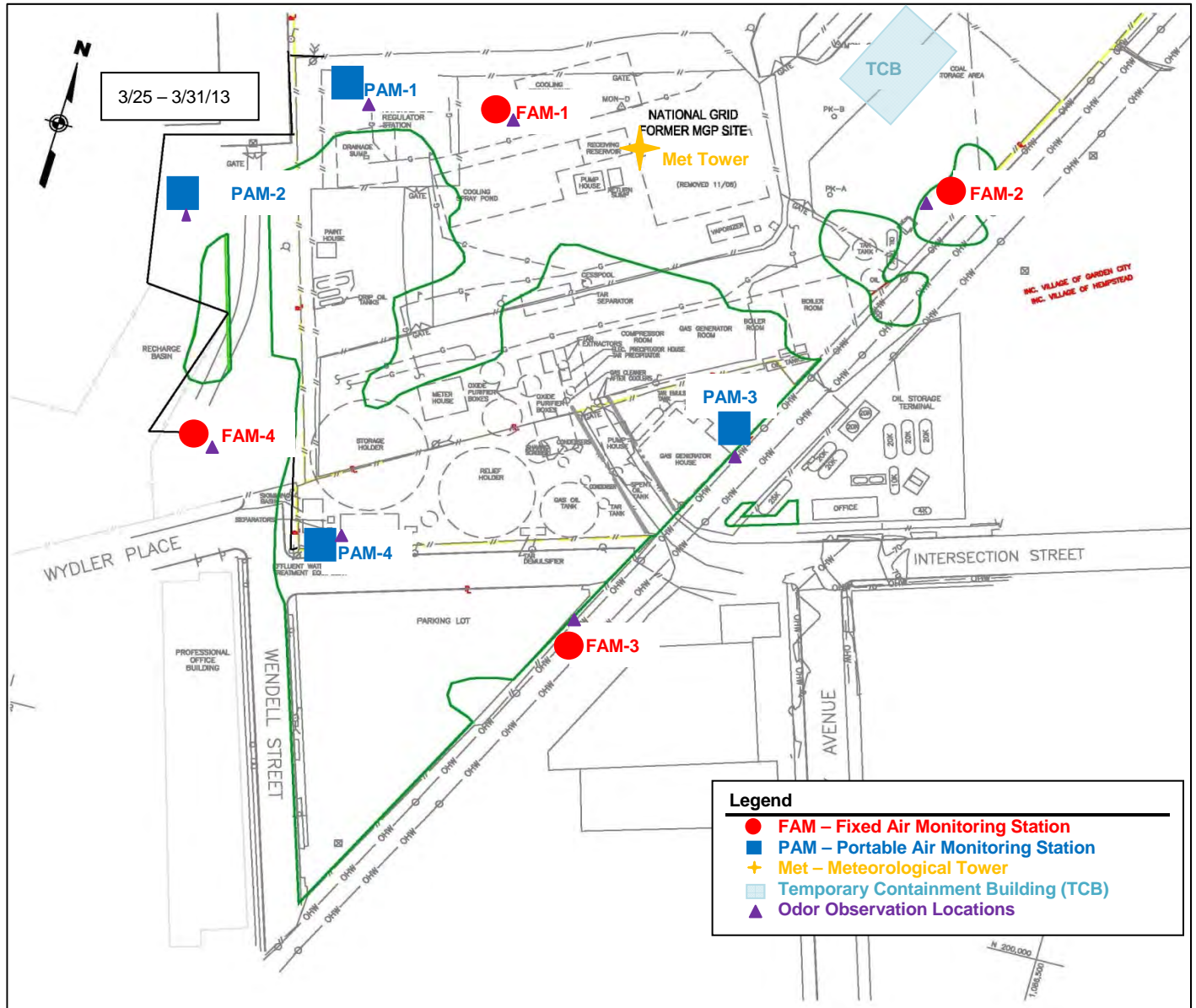


Figure 2: Site Map:



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 18 through March 24, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, Mercury, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability. In addition to the standard monitoring, there were hand-held instantaneous Mercury, TVOC and PM₁₀ measurements conducted hourly in the area of Mercury impacted materials (See **Figure 3** and **Figure 4**). There were no Mercury concentrations detected during this sampling period.

During the report period there were no TVOC concentrations greater than the Response or Action Limits after background subtraction or PM₁₀ concentrations greater than the Action Limit. There was however a short period of PM₁₀ concentrations greater than the Response Limit after background subtraction (see **Table 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2** through **Figure 4:** Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 3/18/13	30.5	0.1	24.6	0.1	11.2	0.2	31.6	0.1	37.6	0.3	72.5	0.1	48.3	0.6	61.0	0.3	X	X
Tue 3/19/13	24.7	0.1	42.9	0.1	42.1	0.3	18.5	0.1	19.2	0.3	42.8	0.5	39.3	0.2	33.0	0.3	X	X
Wed 3/20/13	39.0	0.1	22.1	0.1	28.6	0.2	19.5	0.1	24.8	0.1	71.5	0.1	26.1	0.1	85.4	0.1	X	X
Thu 3/21/13	30.3	0.1	41.6	0.1	13.6	0.2	32.2	0.2	41.3	0.2	49.4	0.1	139.5	0.1	35.9	0.1	X	X
Fri 3/22/13	18.1	0.1	31.5	0.1	12.1	0.1	13.3	0.1	48.6	0.1	33.3	0.1	81.7	0.1	76.9	0.1	X	X
Sat 3/23/13	16.9	0.1	17.1	0.1	13.4	0.1	14.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 3/24/13	13.4	0.1	13.6	0.1	10.2	0.2	11.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Thu 3/21/13	PAM-3	1:32PM 2:17PM	1:37PM 2:31PM	21	100	N 6.2 mph	NNW 6.5 mph	FAM-1	144.9	5.4	139.5	Response	Elevated concentrations were caused by excavation in the vicinity of PAM-3.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/18/13	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Performed DSM production columns installation (SR100) in Garden City Park area; •Welded and repaired augers; •Performed disposal/load out of soil debris in Mercury area; •Performed disposal/load out of Swell; •Performed excavation (2' cut) in Mercury area; •Continued disassembling TCB; and •Routine air monitoring and additional Mercury monitoring.
Tue 3/19/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100) in Garden City Park area; •Welded and repaired augers; •Performed disposal/load out of soil debris in Mercury area; •Performed disposal/load out of Swell; •Completed excavation (2' cut) in Mercury area; •Continued disassembling TCB; and •Routine air monitoring and additional Mercury monitoring.
Wed 3/20/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100) in Garden City Park area; •Welded and repaired augers; •Performed disposal/load out of soil debris in Mercury area; •Performed disposal/load out of Swell; •Continued disassembling TCB; •Collected integrated VOC samples; and •Routine air monitoring and additional Mercury monitoring.
Thu 3/21/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100) in Garden City Park area; •Welded and repaired augers; •Graded, backfilled, and compacted area in POB temporary parking lot; •Pre-dug and excavated area in front of south entrance gate; •Performed Swell management (GCP); •Continued disassembling TCB; and •Routine air monitoring and additional Mercury Monitoring.
Fri 3/22/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Graded, backfilled, and compacted area in POB temporary parking lot; •Pre-dug and excavated area in front of south entrance gate; •Performed Swell management (GCP); •Continued disassembling TCB; and •Routine air monitoring and additional Mercury monitoring.
Sat 3/23/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/24/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

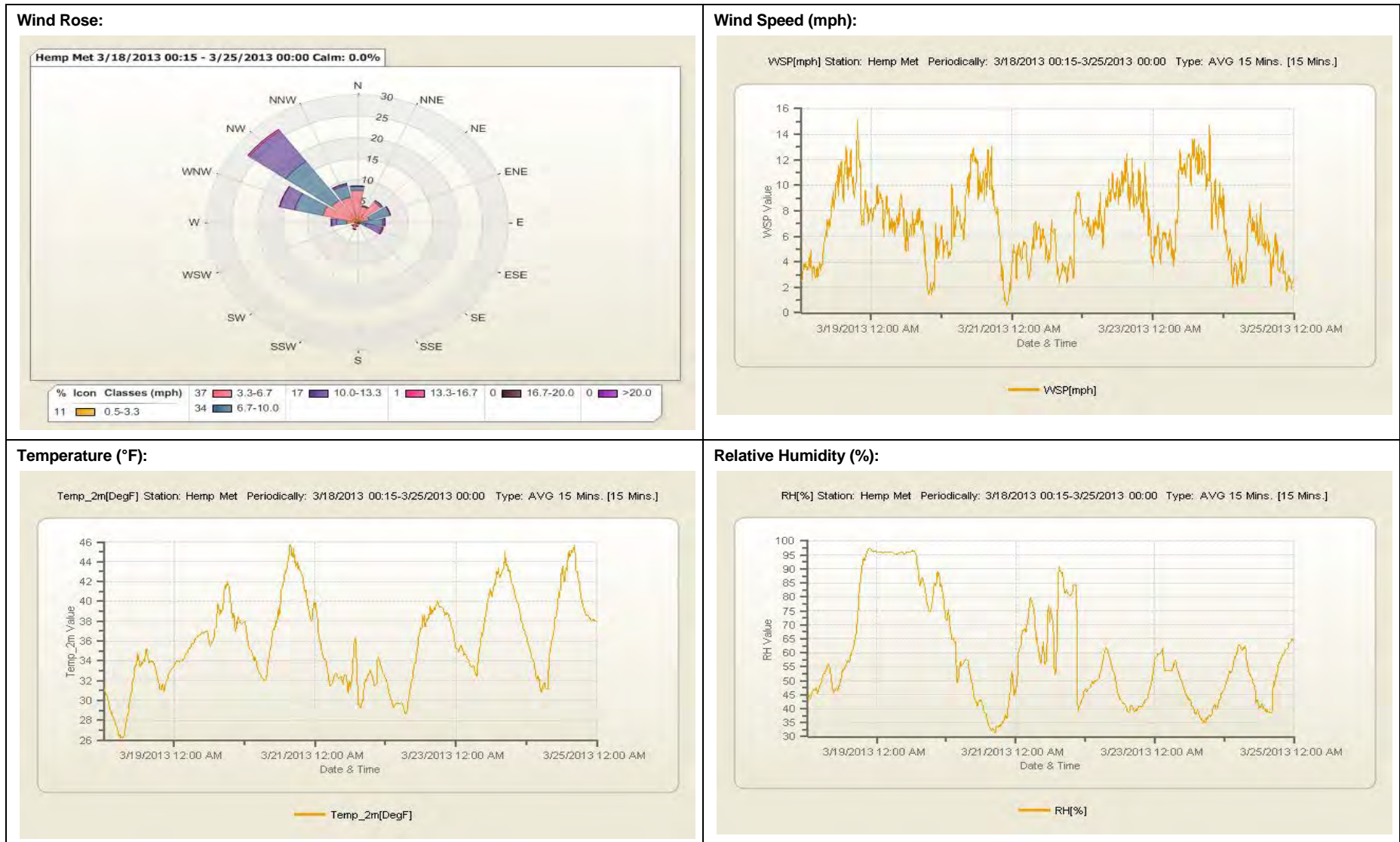


Figure 3: Site Map:

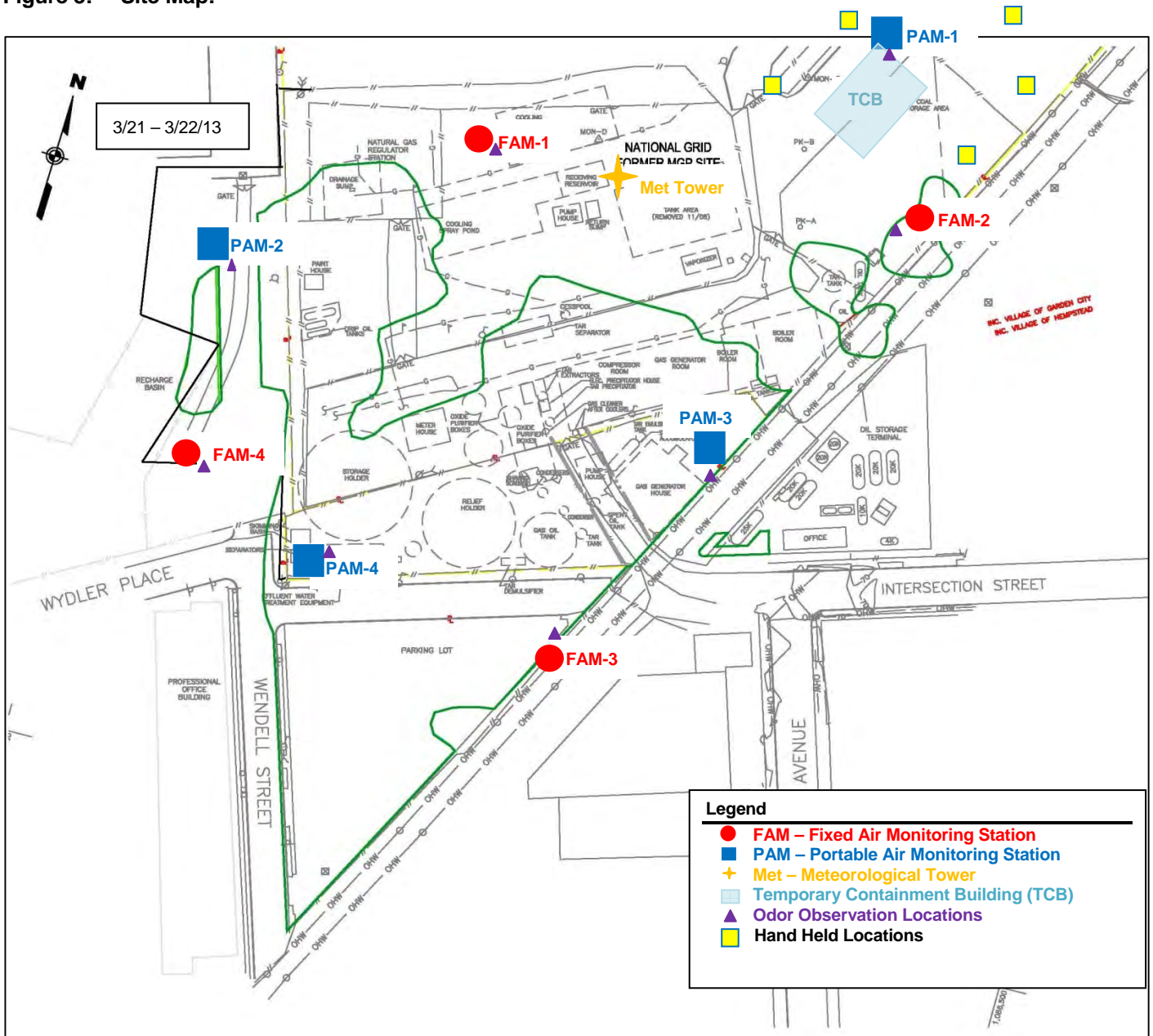
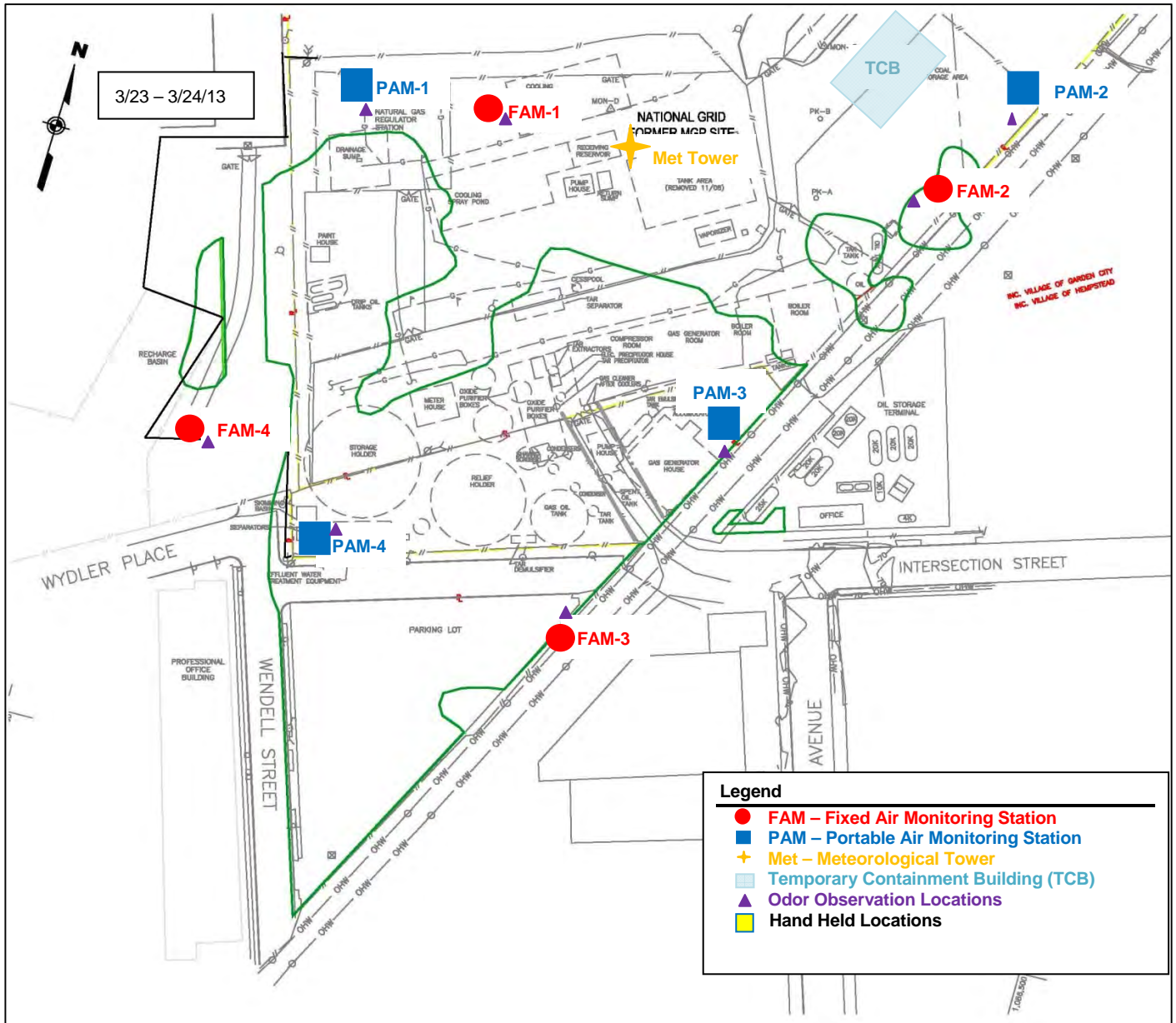


Figure 4: Site Map:



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 11 through March 17, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 3/11/13	8.1	0.1	12.5	0.7	21.0	0.2	19.7	0.2	49.3	0.1	45.3	0.1	40.2	0.1	39.9	0.1	X	X
Tue 3/12/13	37.4	0.1	19.8	0.7	12.9	0.3	19.0	0.1	42.5	1.5	39.3	0.1	30.1	0.1	35.2	0.2	X	X
Wed 3/13/13	21.7	0.1	66.0	0.2	13.6	0.1	16.8	0.1	47.3	0.6	75.2	0.1	46.9	0.1	76.4	0.1	X	X
Thu 3/14/13	23.0	0.1	50.8	0.1	9.4	0.1	6.4	0.1	10.7	0.2	10.6	0.8	77.0	0.1	43.3	0.3	X	X
Fri 3/15/13	28.2	0.1	38.7	0.1	28.7	0.3	30.1	0.1	34.4	0.2	35.2	0.1	37.8	0.1	97.8	0.2	X	X
Sat 3/16/13	17.3	0.1	24.1	0.1	19.5	0.3	23.2	0.1	X	X	X	X	X	X	X	X	X	X
Sun 3/17/13	21.9	0.1	27.3	0.1	22.0	0.3	23.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

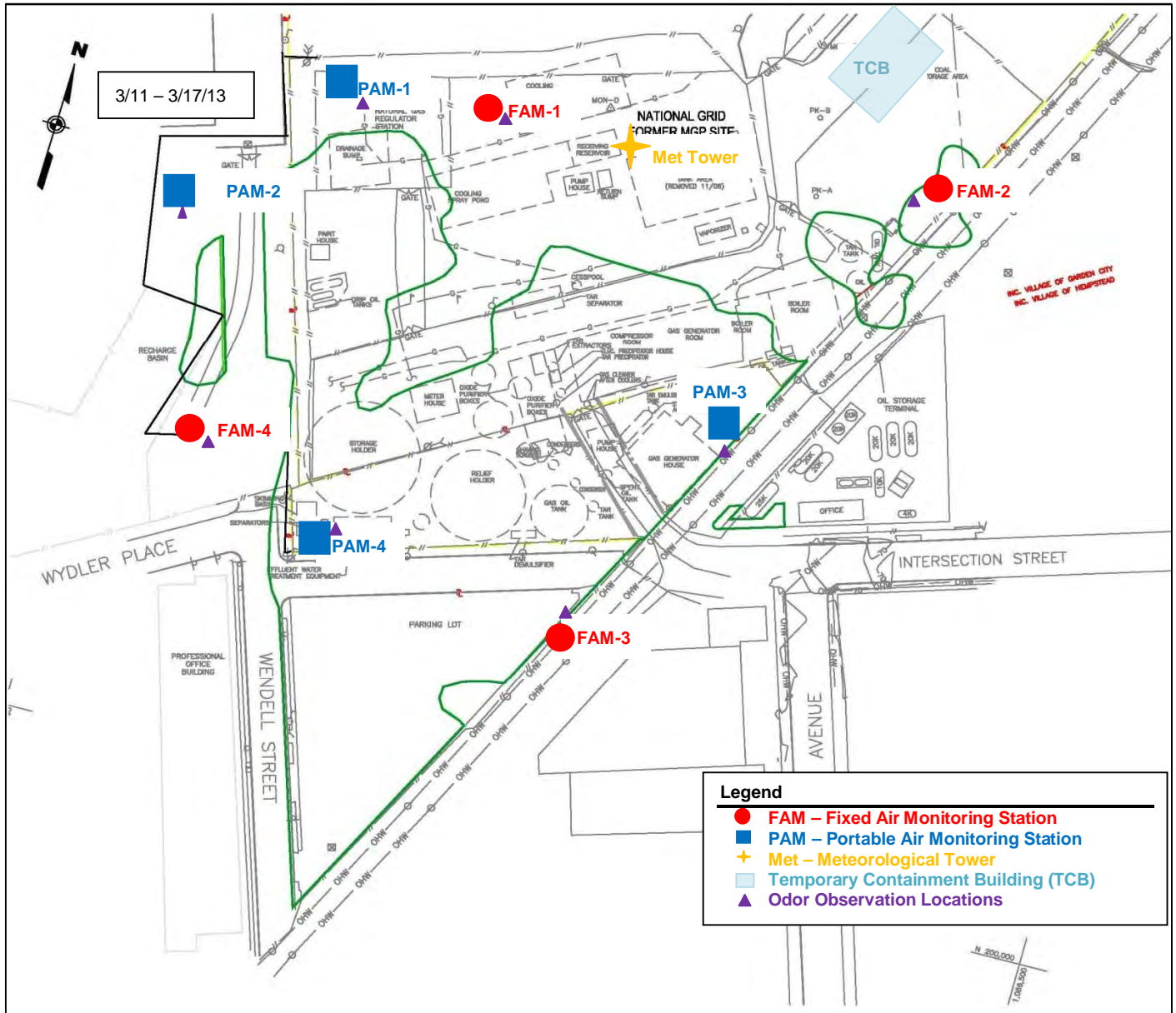
Table 5: Weekly Site Activities

	Site Activities
Mon 3/11/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Completed backfilling with swell/mixing in the south end of the Zipper area; •Started to build a containment barrier in Garden City Park; and •Routine air monitoring.
Tue 3/12/13	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Performed DSM production columns installation (SR100); •Welded and repaired augers; •Completed the containment barrier in Garden City Park, began excavation to prep for DSM; and •Routine air monitoring.
Wed 3/13/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed disposal and load out of soil and debris; •Continued excavation to prep for DSM in Garden City Park; and •Routine air monitoring.
Thu 3/14/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued excavation to prep for DSM in Garden City Park; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 3/15/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued excavation to prep for DSM in Garden City Park; and •Routine air monitoring.
Sat 3/16/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/17/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map:



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 4 through March 10, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
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- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 3/4/13	23.1	0.1	14.1	0.1	14.0	0.1	6.3	0.1	14.6	0.1	19.6	0.1	55.7	0.1	85.7	0.1	X	X
Tue 3/5/13	24.3	0.1	55.3	0.2	10.7	0.1	13.4	0.1	22.9	0.1	12.3	0.1	19.9	0.1	95.9	0.1	X	X
Wed 3/6/13	16.1	0.1	91.0	0.1	9.2	0.1	18.7	0.1	14.8	0.1	32.5	0.1	29.3	0.1	32.4	0.1	X	X
Thu 3/7/13	5.7	0.1	3.0	0.1	3.3	0.1	3.9	0.1	31.9	0.1	11.6	0.1	38.8	0.1	16.7	0.1	X	X
Fri 3/8/13	6.8	0.1	5.9	0.1	4.8	0.1	5.7	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 3/9/13	15.3	0.1	13.8	0.1	11.1	0.1	13.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 3/10/13	12.0	0.1	24.9	0.1	25.2	0.1	12.8	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹ Site closed due to snow storm, no Site activities.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/4/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued repairing wear plates on rotary; •Welded and repaired augers; •Performed disposal and load out of soil and debris in Zipper area; •Performed excavation in Zipper area; and •Routine air monitoring.
Tue 3/5/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Continued disposal and load out of soil and debris in Zipper area; •Continued excavation and backfilling in Zipper area; •Performed general maintenance, fence repair, and Batch Plant cleanup; and •Routine air monitoring.
Wed 3/6/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40) and refreshed the northern row; •Continued DSM production columns installation (SR100) and refreshed the northern row; •Welded and repaired augers; •Continued disposal and load out of soil and debris in Zipper area; •Performed backfilling with Swell mixing; •Continued general maintenance, fence repair, and Batch Plant cleanup; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 3/7/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued disposal and load out of soil and debris in Zipper area; •Finished backfilling with Swell mixing; •Continued general maintenance, fence repair, and Batch Plant cleanup; and •Routine air monitoring.
Fri 3/8/13	<ul style="list-style-type: none"> •No Site activities due to snow/weather; and •Routine air monitoring.
Sat 3/9/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/10/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

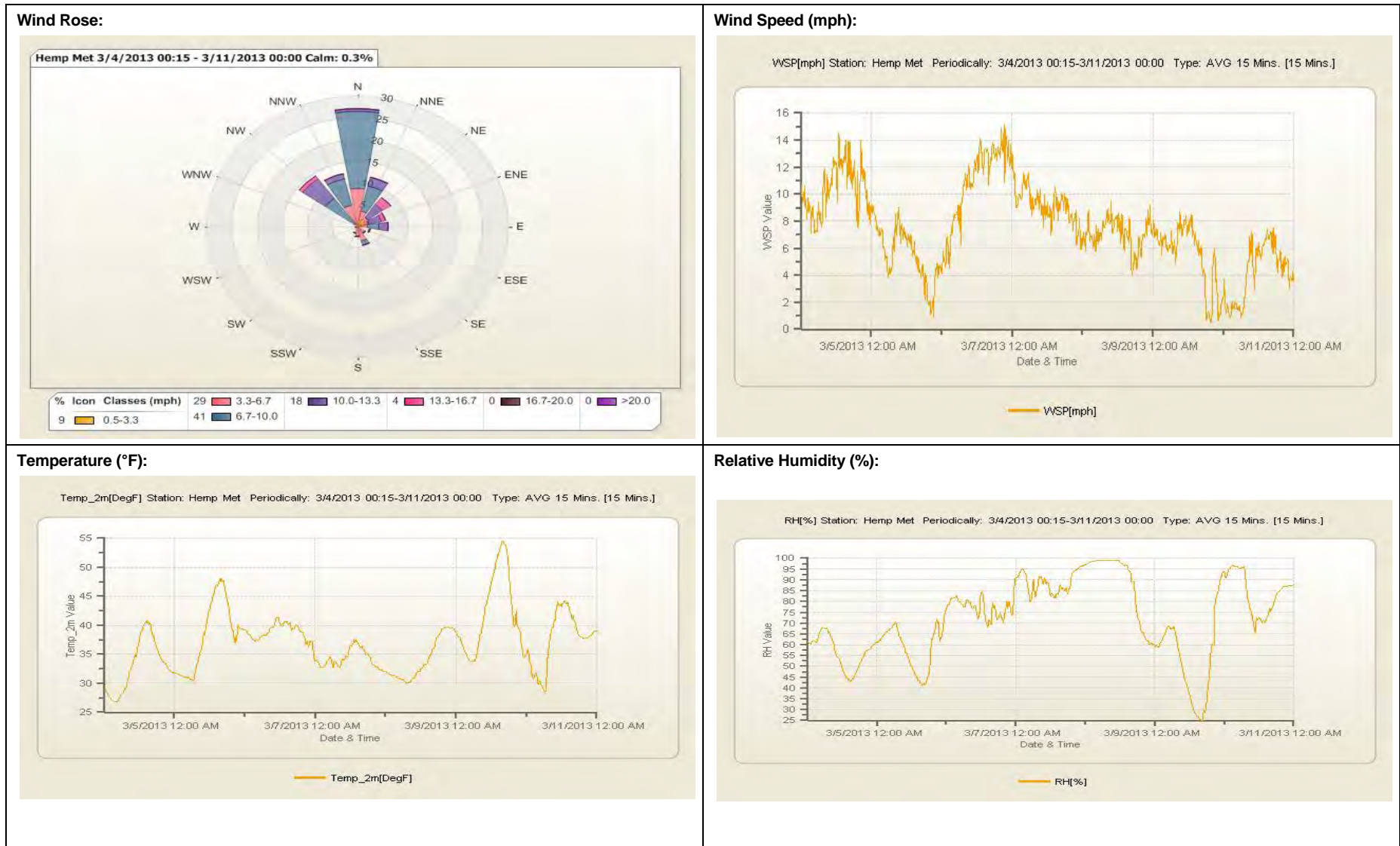
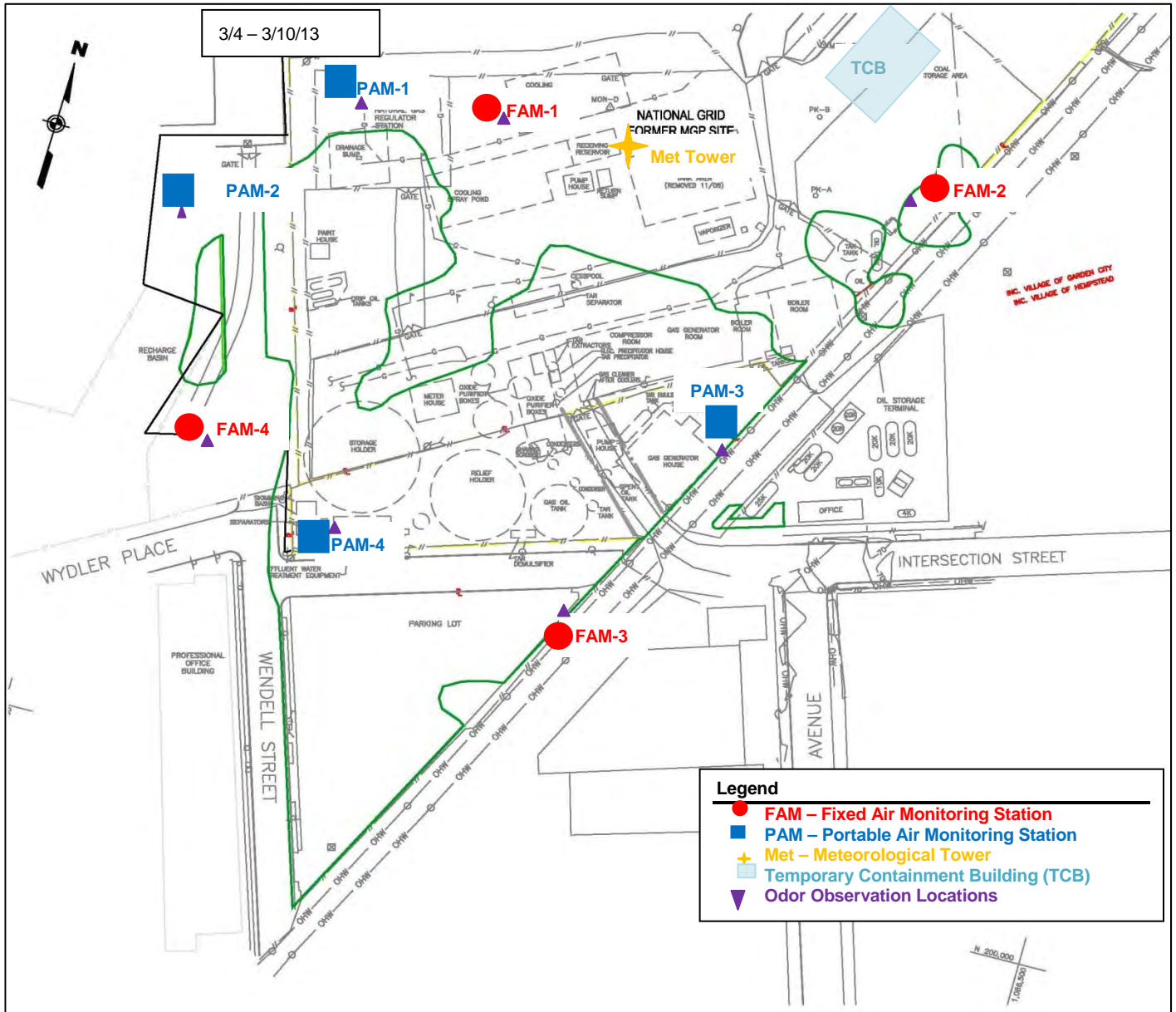


Figure 2: Site Map:



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 25 through March 3, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 2/25/13	33.4	0.1	22.4	0.3	20.6	0.1	34.3	0.1	47.9	0.1	56.6	0.1	52.7	0.1	46.1	0.1	X	X
Tue 2/26/13	43.8	1.1	36.3	0.2	25.0	0.1	26.1	0.1	79.5	0.1	62.8	0.1	80.2	0.1	84.1	0.1	X	X
Wed 2/27/13	50.5	1.0	60.6	0.2	13.7	0.2	30.8	0.1	51.1	0.1	25.5	0.2	41.7	0.1	45.1	0.1	X	X
Thu 2/28/13	47.4	0.1	24.2	0.1	18.4	0.1	29.9	0.1	55.3	0.1	89.6	0.1	87.6	0.1	79.8	0.1	X	X
Fri 3/1/13	15.5	0.1	20.6	0.1	9.7	0.2	29.6	0.1	32.4	0.1	36.5	0.1	38.6	0.1	84.1	0.1	X	X
Sat 3/2/13	12.0	0.1	5.6	0.1	4.6	0.1	5.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 3/3/13	20.9	0.1	5.6	0.1	4.5	0.1	5.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 2/25/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed potholing and pre-digging on the south access road; and •Routine air monitoring.
Tue 2/26/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed potholing and pre-digging on the south access road; and •Routine air monitoring.
Wed 2/27/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed potholing and pre-digging on the south access road; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 2/28/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Removed Kelly Bar and Rotary for repair; •Welded and repaired augers; •Performed excavation in Zipper area and mixed Swell material for trench; and •Routine air monitoring.
Fri 3/1/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Removed Kelly Bar and Rotary for repair; •Welded and repaired augers; •Performed excavation in Zipper area and mixed Swell material for trench; and •Routine air monitoring.
Sat 3/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/3/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

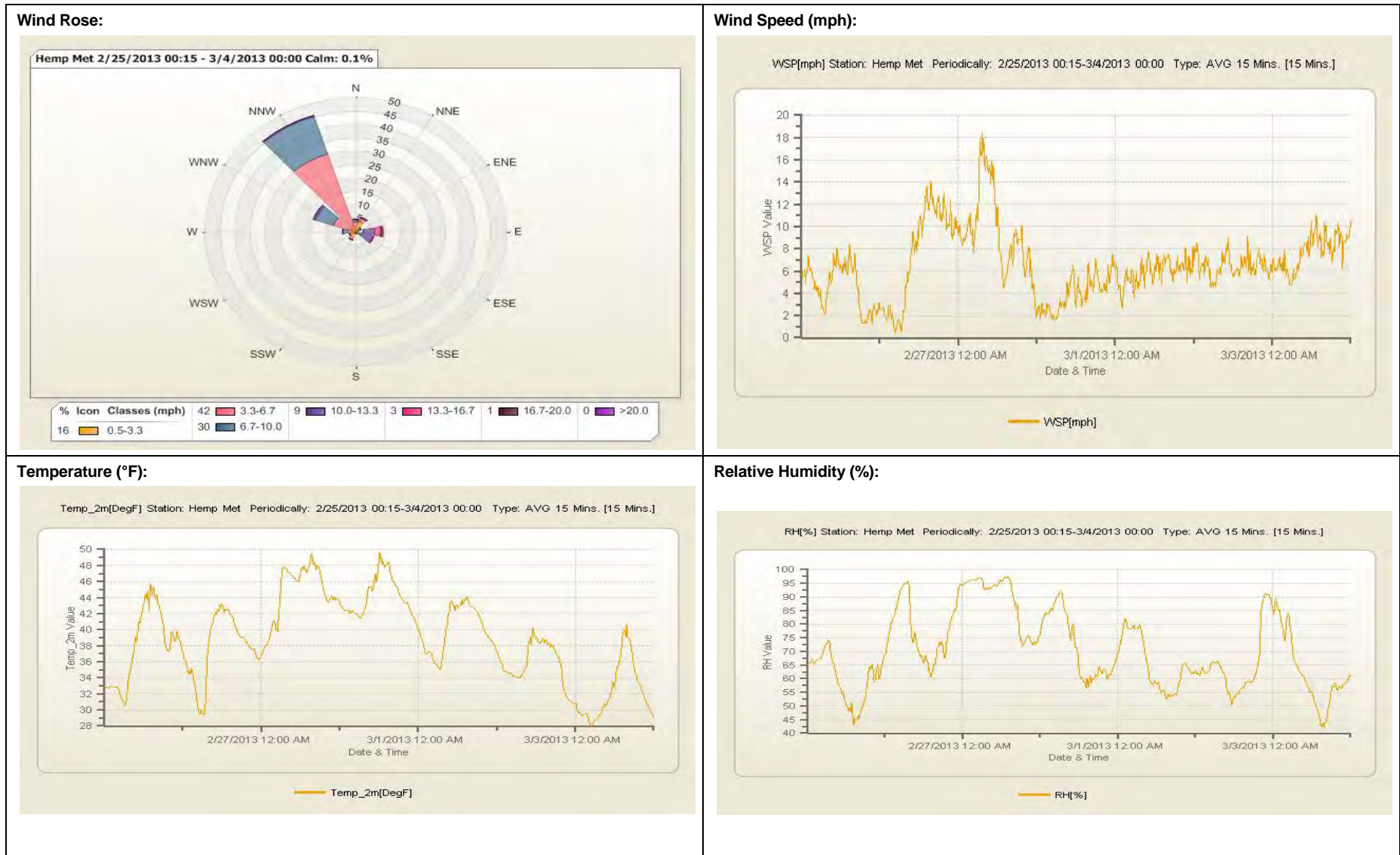
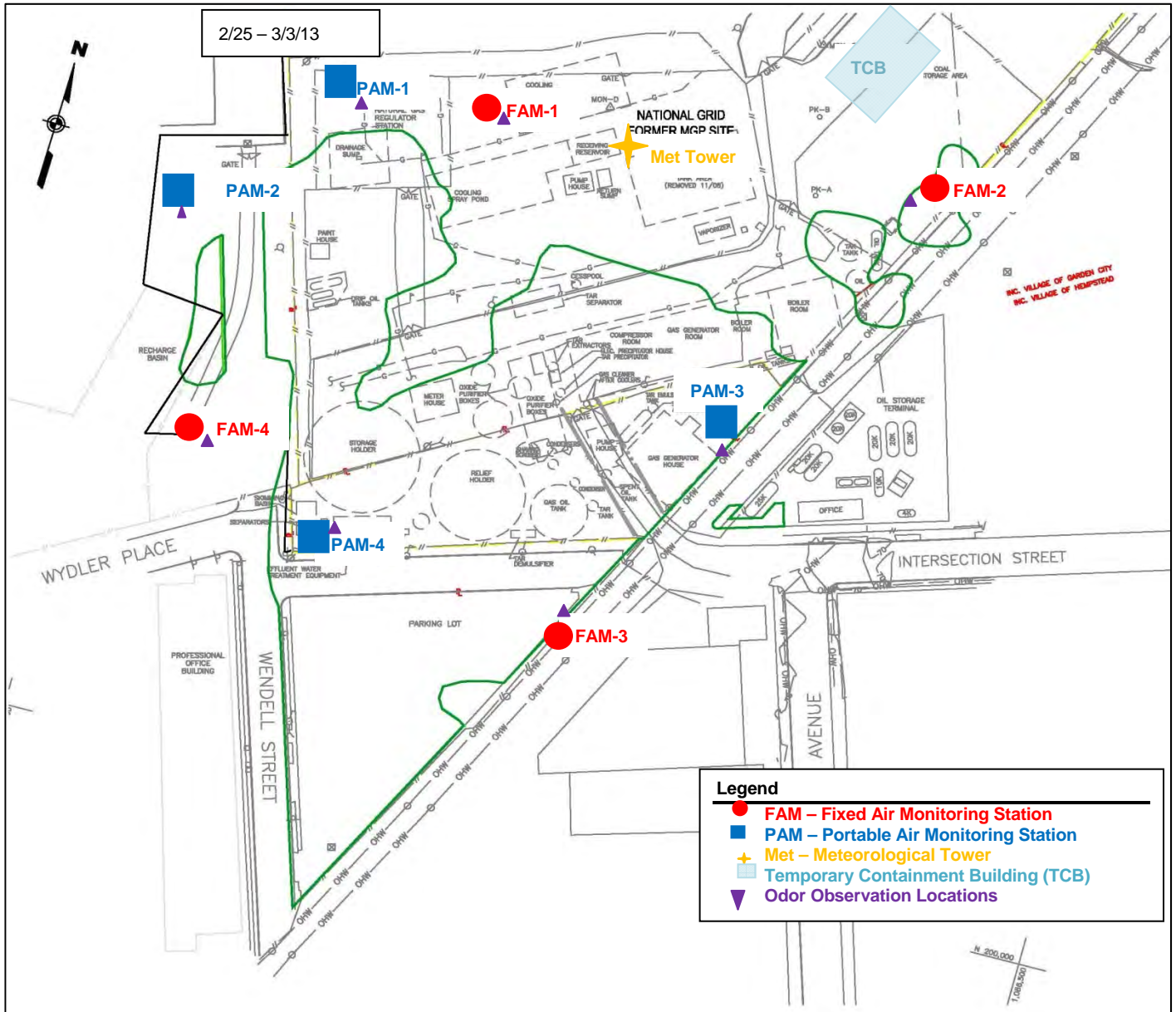


Figure 2: Site Map:



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 18 through February 24, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. There were, however, several periods of PM₁₀ concentrations that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Response or Action Limits. There were, however, PM₁₀ concentrations that remained above the Response and Action Limits after background subtraction. Results of the real-time air monitoring and detailed information on Response and Action Level elevated concentrations are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries;
- **Figures 2A and 2B:** Daily Wind Rose Summaries; and
- **Figure 3:** Weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 2/18/13	33.9	0.1	181.2*	0.3	15.4	0.1	18.3	0.1	14.9	0.1	18.2	0.1	36.3	0.1	37.9	0.1	X	X
Tue 2/19/13	15.7	0.1	11.4	0.4	31.7	0.1	11.6	0.1	24.5	0.1	27.8	0.1	24.5	0.1	27.3	0.1	X	X
Wed 2/20/13	29.5	0.1	166.6*	0.4	12.7	0.1	16.0	0.1	17.4	0.1	26.3	0.1	25.8	0.1	35.2	0.1	X	X
Thu 2/21/13	26.6	0.3	162.2*	0.4	16.0	0.1	5.7	0.1	32.7	0.1	17.7	0.1	46.9	0.1	27.0	0.1	X	X
Fri 2/22/13	34.9	0.9	136.3*	0.2	15.0	0.1	14.3	0.1	22.1	0.1	22.2	0.1	65.4	0.1	30.8	0.1	X	X
Sat 2/23/13	26.6	1.8	212.9*	0.4	2.6	0.1	7.5	0.1	X	X	X	X	X	X	X	X	X	X
Sun 2/24/13	29.4	1.6	13.7	0.4	15.0	0.1	22.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). ¹ No on-site ground intrusive activities performed. 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 2/18/13	FAM-2	8:23 AM 8:30 AM	8:25 AM 8:32 AM	6	150.0	NW 10.6 mph	NW 11.9 mph	FAM-4	186.4	5.2	181.2	Action	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Action Limit and Bio Solve spraying was relocated.
PM ₁₀	Wed 2/20/13	FAM-2	8:24 AM	8:34 AM	11	150.0	WNW 12.9 mph	NW 10.5 mph	FAM-1	175.0	8.4	166.6	Action	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Action Limit and Bio Solve spraying was relocated.
PM ₁₀	Thu 2/21/13	FAM-2	8:13 AM	8:16 AM	4	150.0	NW 10.7 mph	WNW 14.9 mph	FAM-1	164.8	2.6	162.2	Action	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Action Limit and Bio Solve spraying was relocated.
PM ₁₀	Sat 2/23/13	FAM-2	4:54 AM 5:26 AM 5:46 AM 7:05 AM 7:51 AM 8:10 AM	5:06 AM 5:29 AM 6:01 AM 7:19 AM 8:00 AM 8:17 AM	66	150.0	ESE 5.9 mph	ESE 9.0 mph	FAM-3	214.0	1.1	212.9	Action	Elevated concentrations occurred during non-work hours (no Site activities). An off-site, unidentified source is suspected based on the wind direction at the time.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 2/18/13	FAM-2	8:20 AM 8:33 AM	8:22 AM 8:35 AM	6	100.0	NW 10.6 mph	NW 11.9 mph	FAM-4	146.1	5.2	140.9	Response	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Response Limit and Bio Solve spraying was relocated.
PM ₁₀	Wed 2/20/13	FAM-2	8:20 AM 8:35 AM	8:23 AM -	5	100.0	WNW 12.9 mph	NW 10.5 mph	FAM-1	148.5	7.3	141.2	Response	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Response Limit and Bio Solve spraying was relocated.
PM ₁₀	Thu 2/21/13	FAM-2	8:04 AM 8:17 AM	8:12 AM -	10	100.0	NW 10.7 mph	WNW 14.9 mph	FAM-1	147.1	1.8	145.3	Response	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Response Limit and Bio Solve spraying was relocated.
PM ₁₀	Fri 2/22/13	FAM-2	7:19 PM 7:49 PM 8:18 PM 8:26 PM 8:36 PM 8:59 PM 9:37 PM	7:34 PM 7:53 PM 8:22 PM 8:31 PM 8:41 PM 9:18 PM 9:45 PM	67	100.0	ESE 7.0 mph	ESE 6.5 mph	FAM-3	138.4	2.1	136.3	Response	Elevated concentrations occurred during non-work hours (no Site activities). An off-site, unidentified source is suspected based on the wind direction at the time.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits, Continued

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sat 2/23/13	FAM-2	4:47 AM 5:07 AM 5:20 AM 5:30 AM 6:02 AM 6:16 AM 7:02 AM 7:20 AM 7:46 AM 8:01 AM 8:18 AM	4:53 AM 5:09 AM 5:25 AM 5:45 AM 6:09 AM 6:34 AM 7:04 AM 7:23 AM 7:50 AM 8:09 AM 8:21 AM	84	100.0	ESE 6.6 mph	ESE 9.0 mph	FAM-3	150.0	1.1	148.9	Response	Elevated concentrations occurred during non-work hours (no Site activities). An off-site, unidentified source is suspected based on the wind direction at the time.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 2/18/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed disposal and load out of soil debris; •Performed potholing and pre-digging on the south access road; and •Routine air monitoring.
Tue 2/19/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed potholing and pre-digging on the south access road; and •Routine air monitoring.
Wed 2/20/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed disposal and load out of soil debris; •Continued potholing and pre-digging on the south access road; and •Routine air monitoring.
Thu 2/21/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued disposal and load out of soil debris; •Continued potholing and pre-digging on the south access road; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 2/22/13	<ul style="list-style-type: none"> •Welded and repaired augers; •Continued disposal and load out of soil debris; •Continued potholing and pre-digging on the south access road; and •Routine air monitoring.
Sat 2/23/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/24/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

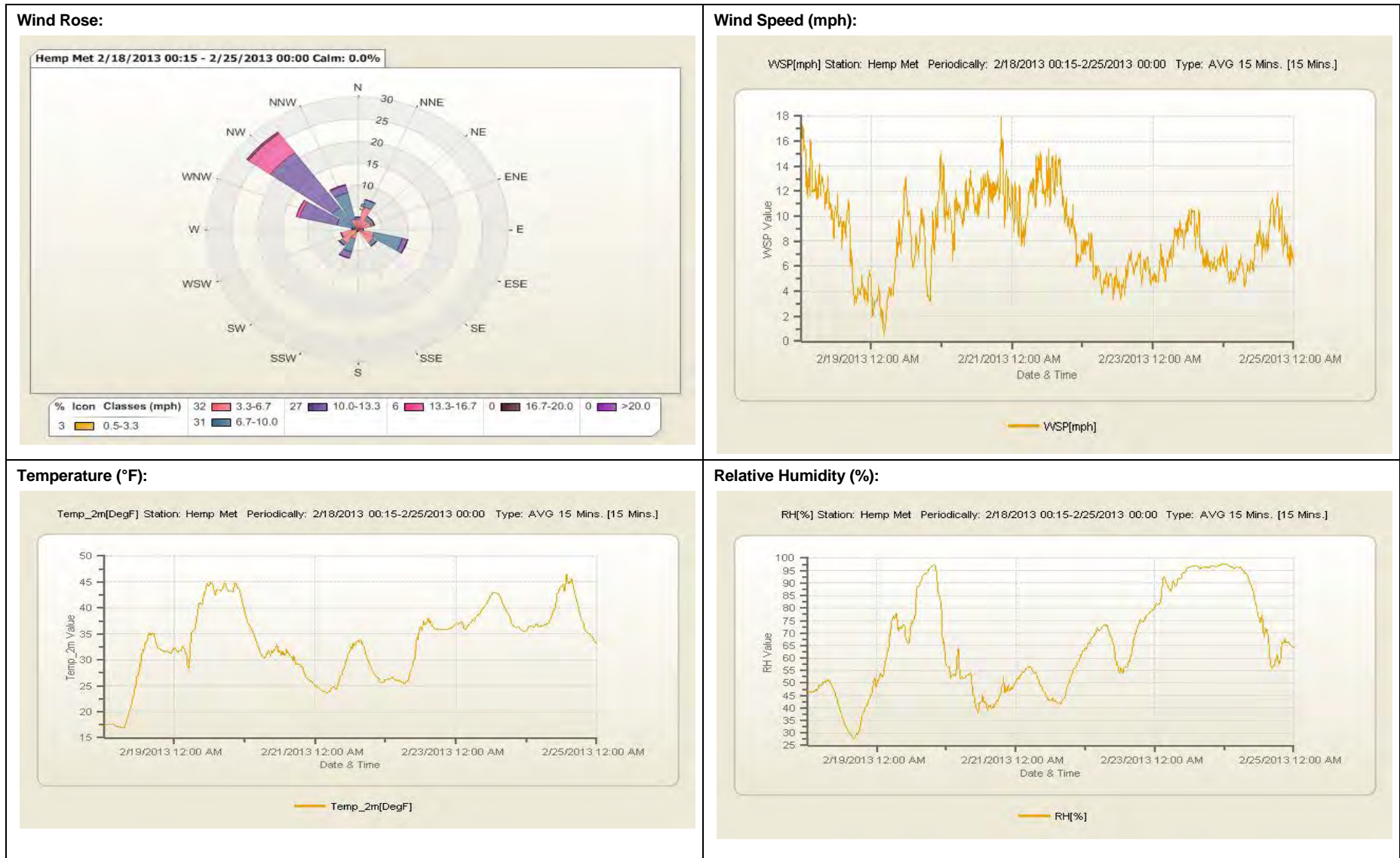


Figure 2A: Daily Wind Rose Summaries



Figure 2B: Daily Wind Rose Summaries

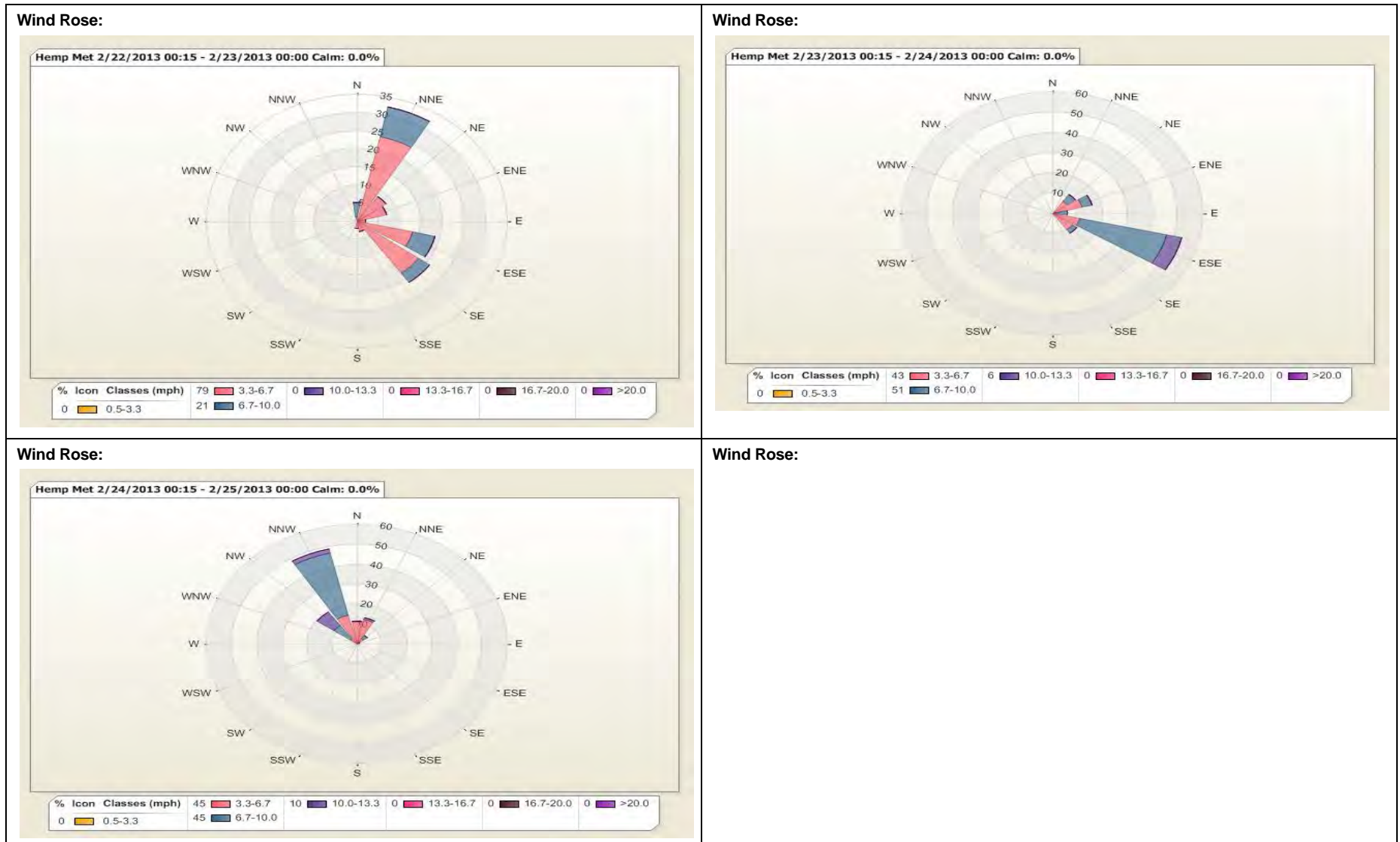
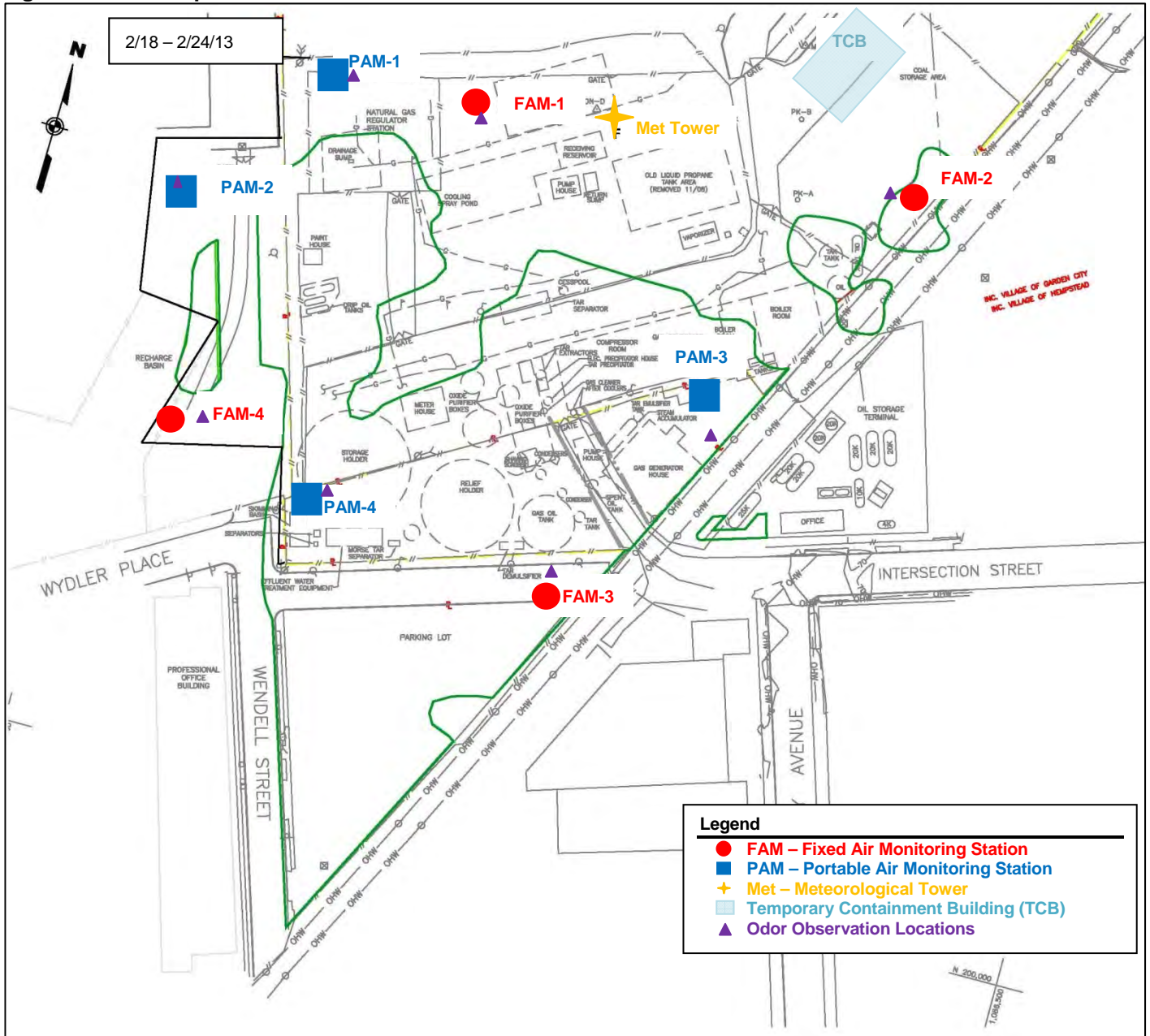


Figure 3: Site Map



Legend

- FAM – Fixed Air Monitoring Station
- PAM – Portable Air Monitoring Station
- ★ Met – Meteorological Tower
- Temporary Containment Building (TCB)
- ▲ Odor Observation Locations

Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 11 through February 17, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. There was, however, one period of PM₁₀ concentrations that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no TVOC concentrations greater than the Response or Action Limits. There were, however, PM₁₀ concentrations that remained above the Response and Action Limits after background subtraction. Results of the real-time air monitoring and detailed information on Response and Action Level elevated concentrations are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 and 3:** Daily/weekly Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 2/11/13	32.8	0.1	157.2*	0.4	37.1	0.4	31.6	0.1	43.0	0.1	88.3	0.1	89.3	0.1	85.6	0.1	X	X
Tue 2/12/13	29.3	0.1	28.2	0.1	30.7	0.1	26.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 2/13/13	38.0	0.1	92.9	0.1	34.2	0.1	32.6	0.1	76.0	0.1	89.7	0.1	84.1	0.1	77.7	0.1	X	X
Thu 2/14/13	56.5	0.1	81.5	0.1	65.6	0.1	60.0	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 2/15/13	55.2	0.3	71.6	0.1	63.9	0.1	58.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 2/16/13	25.0	0.2	33.5	0.1	31.5	0.1	30.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 2/17/13	36.4	0.1	22.9	0.1	12.9	0.1	6.8	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). ¹ No on-site ground intrusive activities performed. 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 2/11/13	FAM-2	2:48 PM	2:55 PM	8	150.0	W 2.6 mph	WSW 3.1 mph	PAM-1	178.5	21.3	157.2	Action	Excavation activity in area. Operations were stopped until concentrations returned below the Action Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

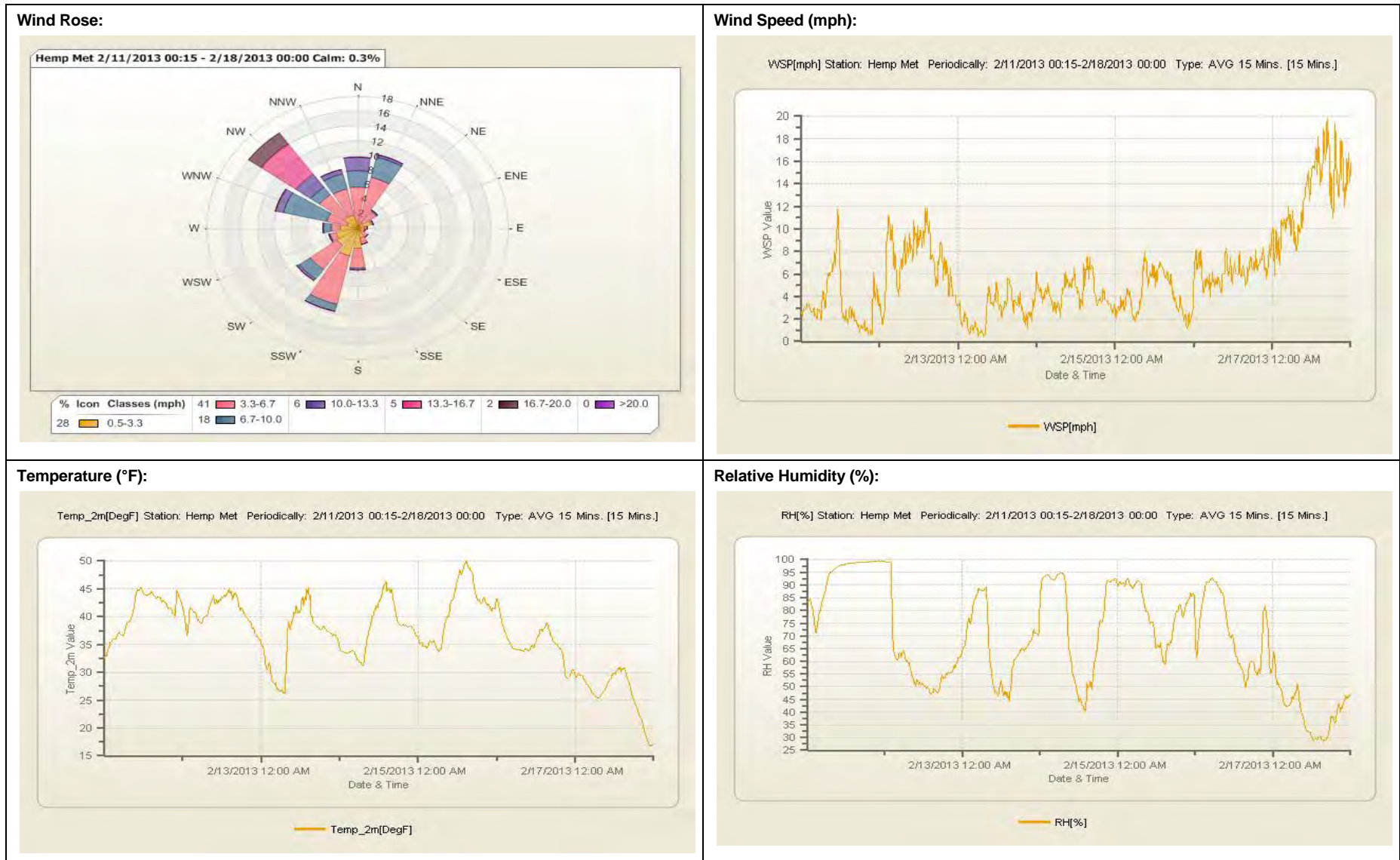
Table 4: Concentrations Above the Response Limits

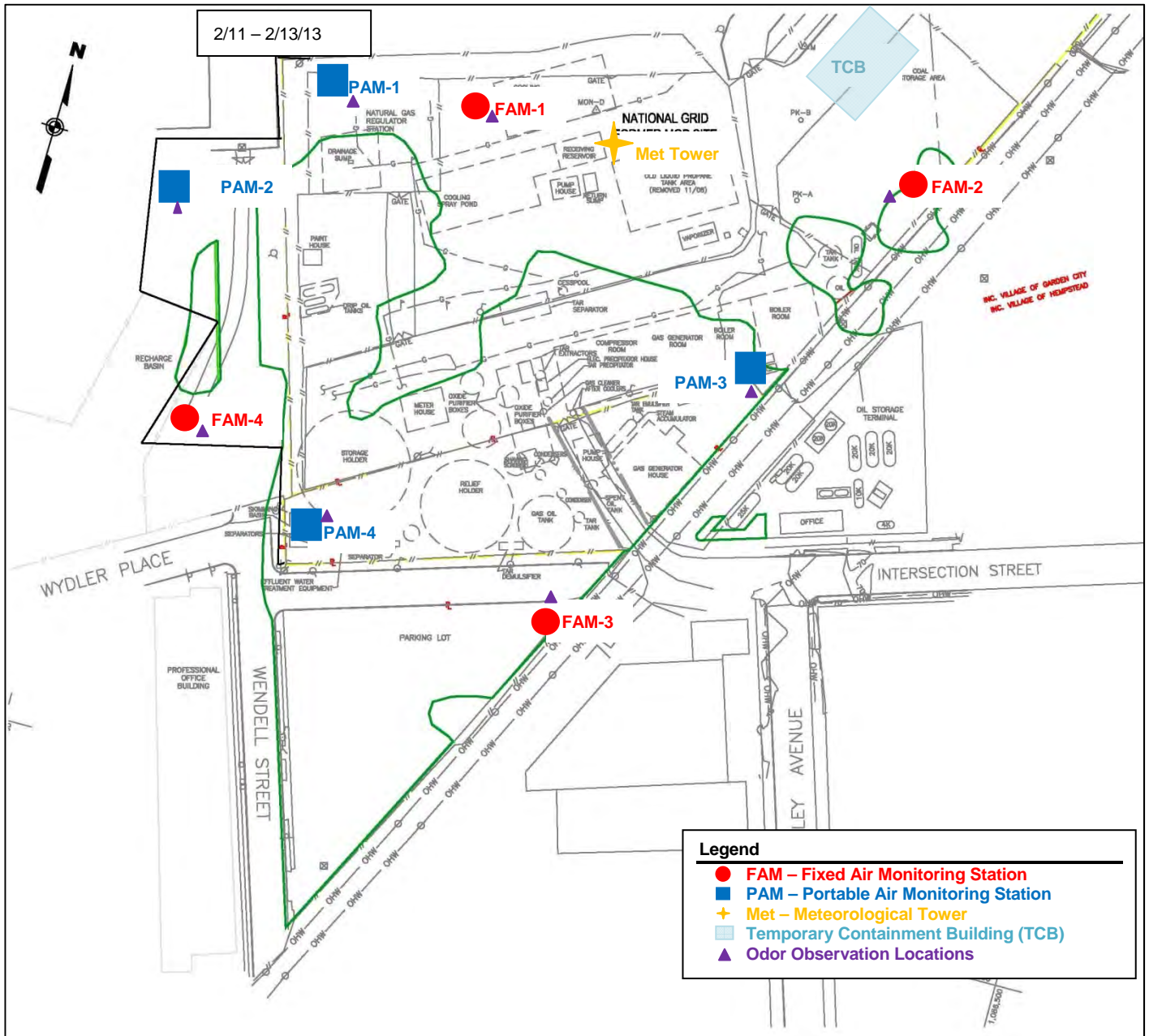
Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 2/11/13	FAM-2	2:42 PM 2:56 PM	2:47 PM 3:00 PM	11	100.0	W 2.6 mph	WSW 3.1 mph	PAM-1	148.2	20.9	127.3	Response	Excavation activity in area. Operations were stopped until concentrations returned below Response Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 2/11/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed disposal and load out of soil debris; •Performed potholing and pre-digging on the south access road; and •Routine air monitoring.
Tue 2/12/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Wed 2/13/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued potholing and pre-digging on the south access road; •Cold patched north exit road and rocked GCP gate entrance; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 2/14/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 2/15/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 2/16/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/17/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries





Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 4 through February 10, 2013

During the report period there were no TVOC concentrations greater than the Action Limits. There was, however, one period of PM₁₀ concentrations that remained above the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
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- **Figures 2 and 3:** Daily/weekly Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ² [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds
 PID = Photoionization Detector
 GC = Gas Chromatograph
 PM₁₀ = Respirable Particulate Matter
 ppm = Parts per million volume
 µg/m³ = Micrograms per cubic meter
 [C] = Concentration of target collected from a discrete sample
 [C_{avg}] = 15-minute average concentration of target
 DT = Dräger Tubes
 OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
 NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 2/4/13	58.6	0.1	62.1	0.1	55.1	0.1	56.8	0.1	22.5	0.1	20.8	0.1	62.4	0.1	39.7	0.1	X	X
Tue 2/5/13	60.1	0.1	56.5	0.2	49.1	0.1	61.8	0.1	71.0	0.1	96.9	0.1	75.1*	0.1	94.5	0.1	X	X
Wed 2/6/13	75.3	0.1	33.2*	0.2	75.3	0.1	78.3	0.1	90.4	0.3	28.8*	0.1	180.6*	0.5	70.5*	0.1	X	X
Thu 2/7/13	37.3	0.1	24.4	0.4	66.6	0.1	29.1	0.1	23.6	0.1	19.8	0.1	46.7	0.1	36.3	0.1	X	X
Fri 2/8/13	12.3	0.1	12.9	0.1	10.2	0.1	17.4	0.1	30.1	0.1	32.3	0.2	61.5	0.1	30.9	0.1	X	X
Sat 2/9/13	32.3	0.1	17.2	0.1	9.1	0.1	8.4	0.1	X	X	X	X	X	X	X	X	X	X
Sun 2/10/13	53.6	0.1	50.9	0.1	37.7	0.2	37.7	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 2/6/13	PAM-3	10:47 AM 11:25 AM	10:58 AM 11:38 AM	26	150.0	NW 8.2 mph	WNW 9.1 mph	PAM-1	209.2	28.6	180.6	Action	Open excavation activity in area. Operator was directed to stop and let the dust clear.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

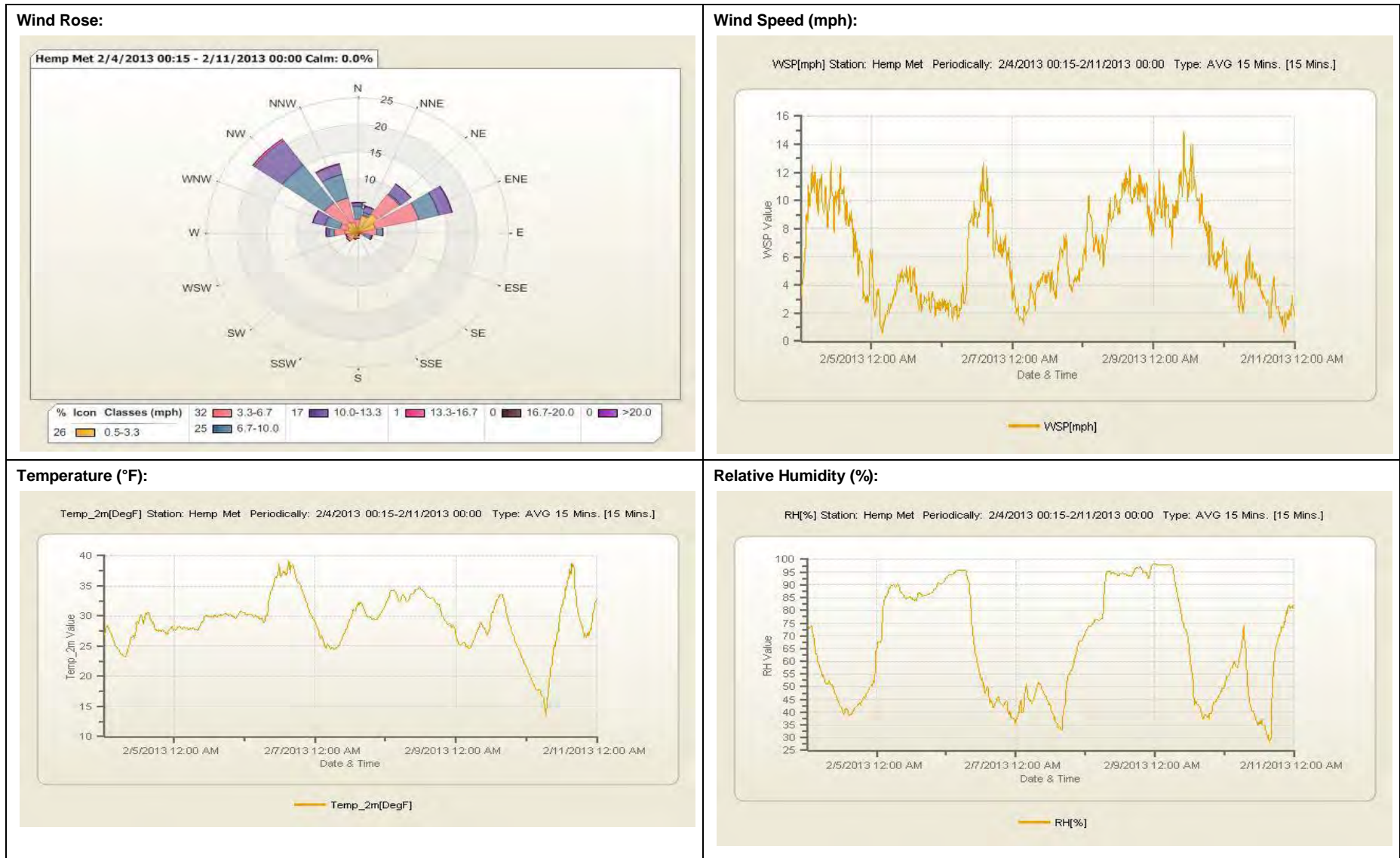
Table 4: Concentrations Above the Response Limits

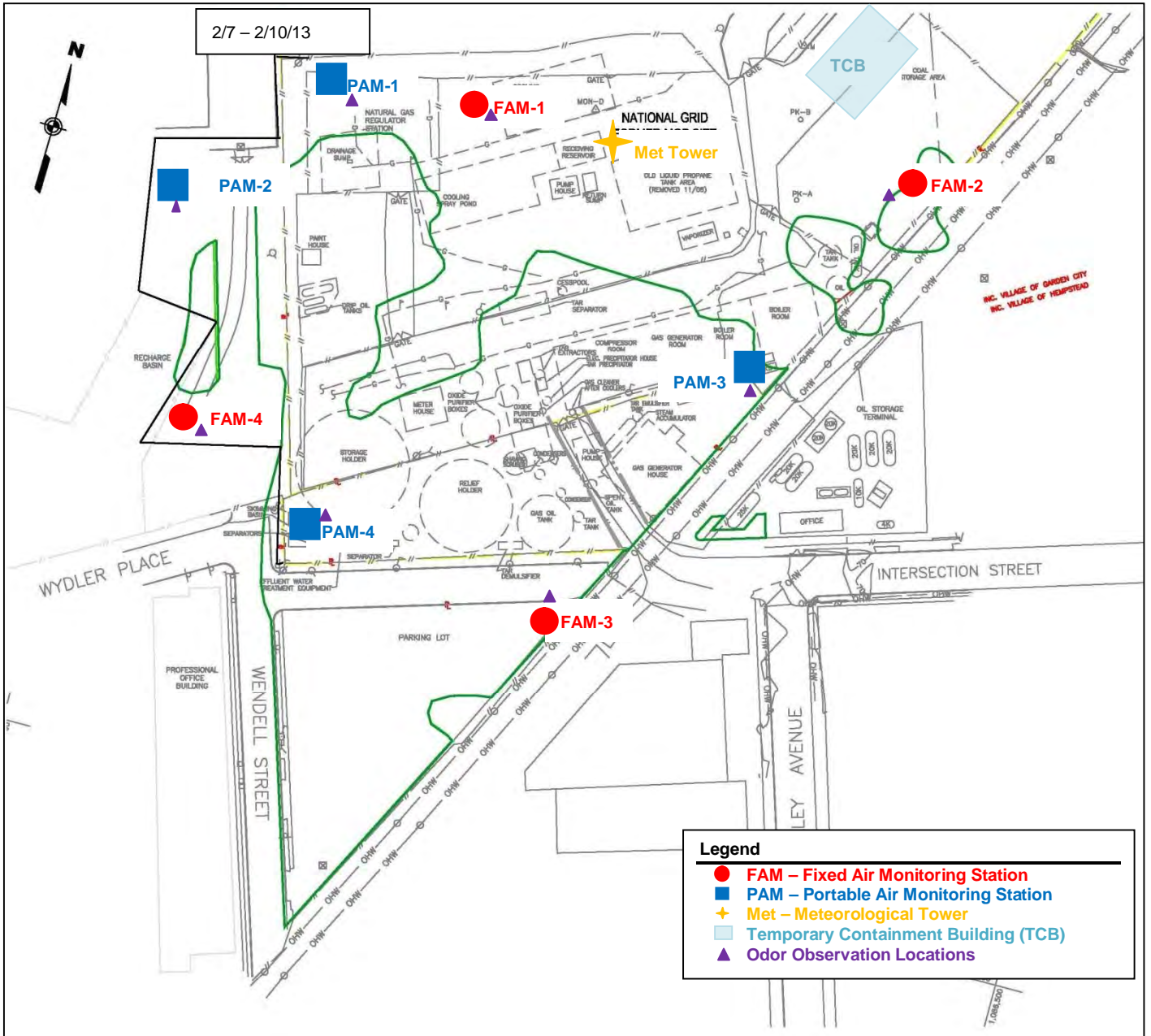
Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 2/6/13	PAM-3	10:43 AM 10:59 AM 11:21 AM 11:39 AM	10:46 AM 11:15 AM 11:24 AM 11:40 AM	27	100.0	NW 8.2 mph	WNW 9.1 mph	PAM-1	146.4	35.5	110.9	Response	Open excavation activity in area. Operator was directed to stop and let the dust clear.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 2/4/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued repairs of TCB and privacy fence fabric; •Performed disposal and load out of soil debris; and •Routine air monitoring.
Tue 2/5/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100) •Welded and repaired augers; •Continued disposal and load out of soil debris; and •Routine air monitoring.
Wed 2/6/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued disposal and load out of soil debris; and •Routine air monitoring.
Thu 2/7/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued disposal and load out of soil debris; and •Routine air monitoring.
Fri 2/8/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Prepared site for upcoming blizzard conditions; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 2/9/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/10/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries





Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 28 through February 3, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively, National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response Limits is to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system with alarm notification capability.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 1/28/13	71.7	0.2	70.9	0.2	63.6	0.5	64.8	0.1	75.2	0.1	86.6	0.1	97.0	0.1	92.7*	0.1	X	X
Tue 1/29/13	83.3	0.3	76.4	0.2	80.1	0.1	78.0	0.1	14.6*	0.1	71.3*	0.1	61.6*	0.1	90.2*	0.1	X	X
Wed 1/30/13	54.8	0.5	83.7	0.2	56.0	0.2	61.6	0.1	98.4	0.4	96.5	0.1	46.1*	0.1	61.6*	0.2	X	X
Thu 1/31/13	30.3	0.9	42.8	0.2	21.7	0.3	31.4	0.1	5.9	0.1	7.9	0.1	20.1	0.1	11.6	0.1	X	X
Fri 2/1/13	32.8	0.1	54.5	0.1	13.8	0.1	13.1	0.1	16.6	0.1	17.2	0.1	36.9	0.1	21.6	0.1	X	X
Sat 2/2/13	32.9	0.1	22.5	0.1	19.1	0.1	19.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 2/3/13	53.8	0.1	59.9	0.1	52.5	0.1	50.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

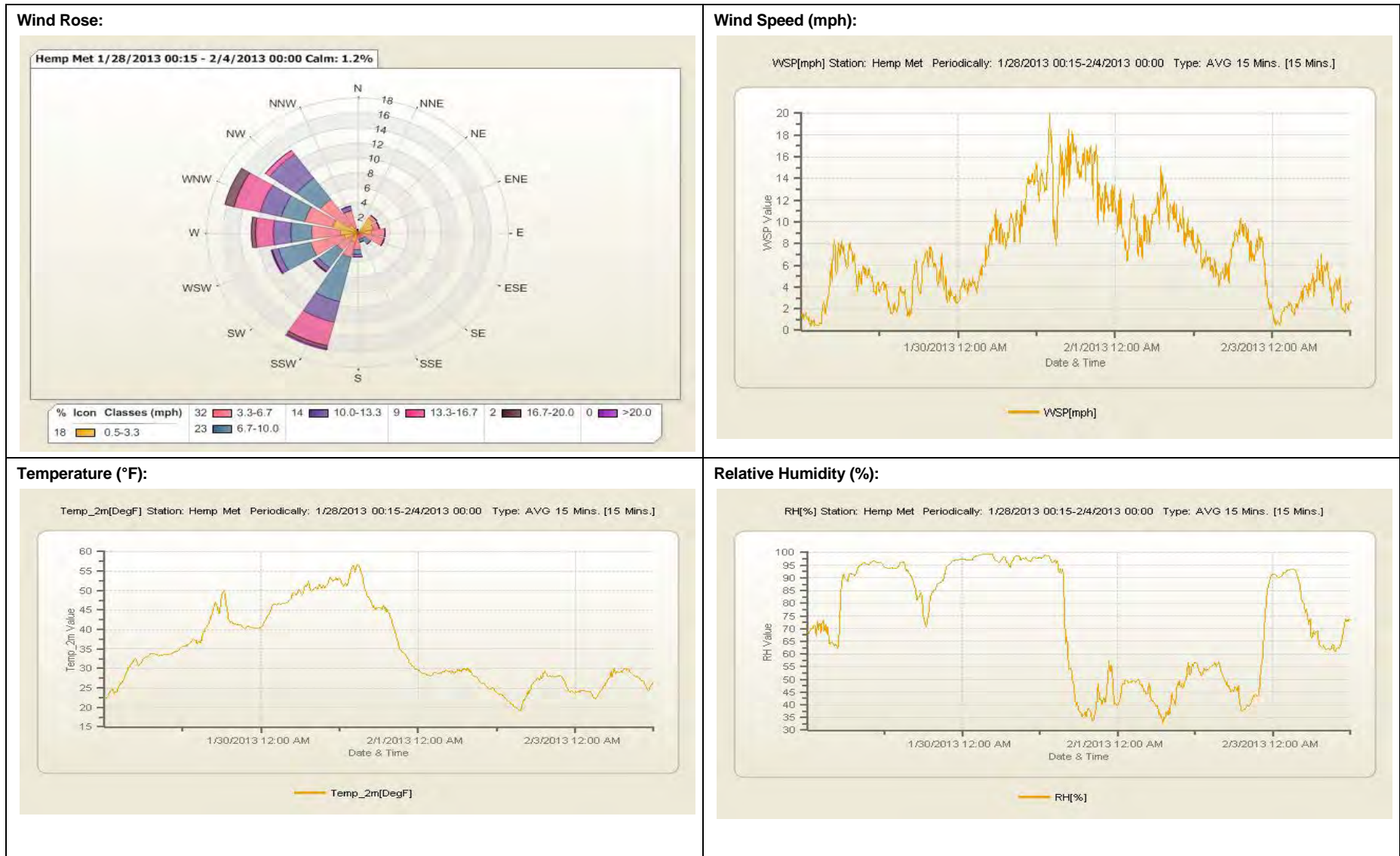
Table 4: Concentrations Above the Response Limits

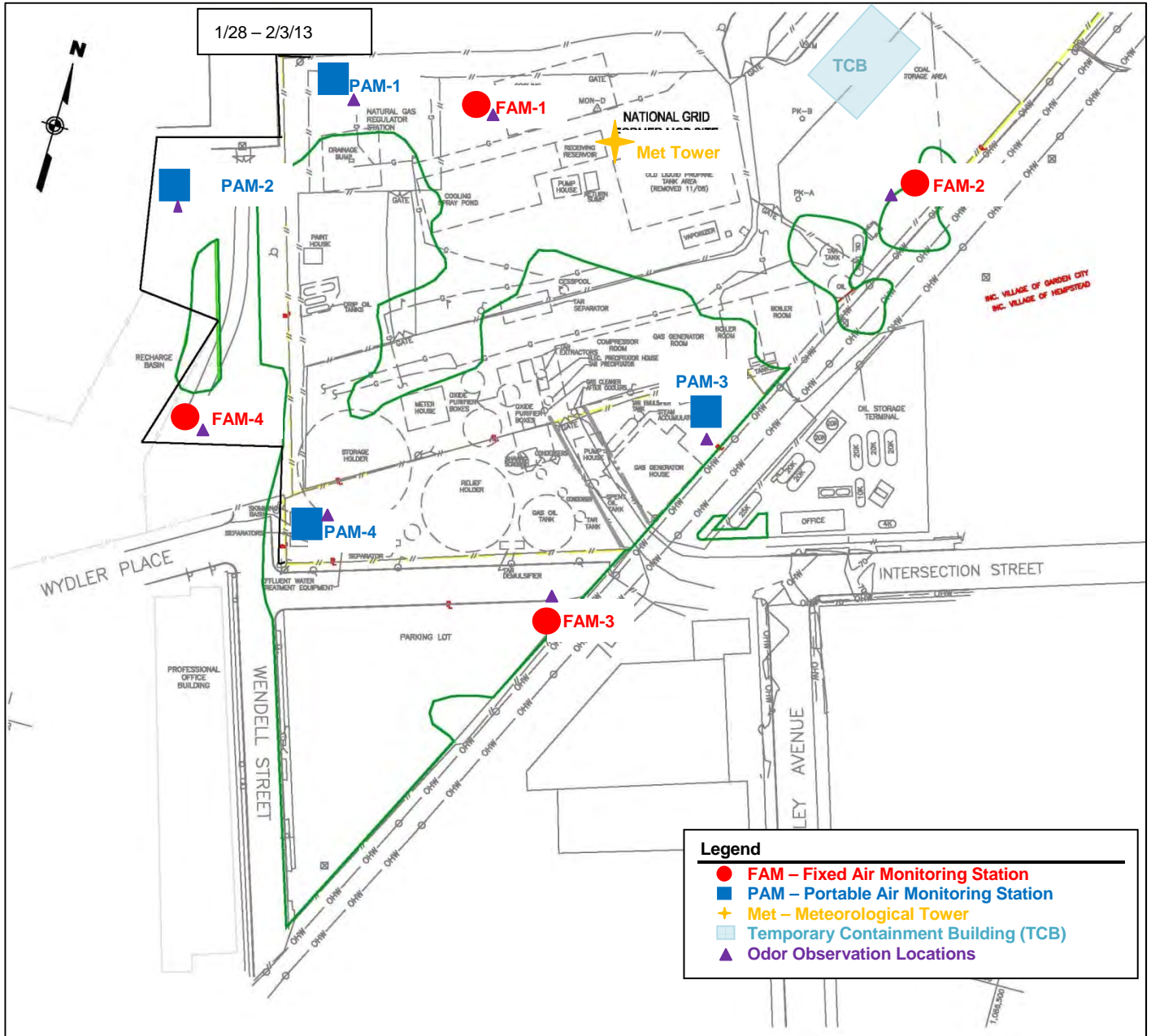
Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 1/28/13	<ul style="list-style-type: none"> •Began reassembling repaired slide rails on mast for RH40; •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 1/29/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued reassembling repaired slide rails on mast for RH40; •Continued DSM production columns installation (SR100) •Welded and repaired augers; and •Routine air monitoring.
Wed 1/30/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued reassembling repaired slide rails for RH40; •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 1/31/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Completed reassembly of repaired slide rails for RH40 and continued DSM production columns installation; •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Began repairs of wind damage to TCB; •Installed Silt fence in Garden City Park; and •Routine air monitoring.
Fri 2/1/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued repairs of wind damage to TCB and privacy fence fabric. and •Routine air monitoring.
Sat 2/2/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/3/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries





Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 21 through January 27, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits or TVOC greater than the Response Limit after background subtraction. However, there were several PM₁₀ concentrations greater than the Response Limit after background subtraction (**see Table 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 and 3:** Daily/weekly Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 1/21/13	21.9	0.1	30.5	0.2	26.0	0.1	26.1	0.1	19.7	0.1	21.5	0.1	42.6	0.1	26.9	0.1	X	X
Tue 1/22/13	25.3	0.1	47.3	0.1	26.5	0.1	26.1	0.1	18.5	0.1	19.8	0.1	51.1	0.1	62.3	0.1	X	X
Wed 1/23/13	29.5	0.1	48.1	0.1	20.6	0.1	21.0	0.1	14.5	0.1	18.8	0.1	46.5	0.1	114.7*	0.1	X	X
Thu 1/24/13	25.2	0.1	47.5	0.1	26.6	0.1	16.9	0.1	18.1	0.1	31.1	0.2	101.5*	0.1	91.3	0.1	X	X
Fri 1/25/13	71.9	0.1	66.2	0.1	30.2	0.1	30.5	0.1	34.3	0.1	26.2	0.1	66.3	0.1	40.4	0.1	X	X
Sat 1/26/13	65.3	0.1	30.2	0.1	27.8	0.1	29.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 1/27/13	66.7	0.1	28.3	0.3	27.4	0.2	35.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations..</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 1/23/13	PAM-4	11:21 AM	11:33 AM	13	100.0	NW 9.4 mph	WNW 9.3 mph	FAM-4	125.0	10.3	114.7	Response	Excavation activity in area.
PM ₁₀	Thu 1/24/13	PAM-3	1:49 PM	1:53 PM	5	100.0	NW 12.4 mph	NW 12.4 mph	PAM-1	113.2	11.7	101.5	Response	Excavation/Load Out and spraying of Biosolve.

FAM = Fixed Air Monitoring Station
 PAM = Portable Air Monitoring Station
 PM₁₀ = Respirable Particulate Matter (µg/m³)
 TVOC = Total Volatile Organic Compounds (ppm)
 Nap = Naphthalene
 VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)
 NA = Not Applicable
 ND = No Data

- Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Table 5: Weekly Site Activities

	Site Activities
Mon 1/21/13	<ul style="list-style-type: none"> •Performed disposal and load out of Swell. •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 1/22/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued DSM production columns installation (SR100) •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 1/23/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Welded and repaired augers; and •Routine air monitoring.
Thu 1/24/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Fri 1/25/13	<ul style="list-style-type: none"> •Continued disposal and load out of Swell; •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Sat 1/26/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/27/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

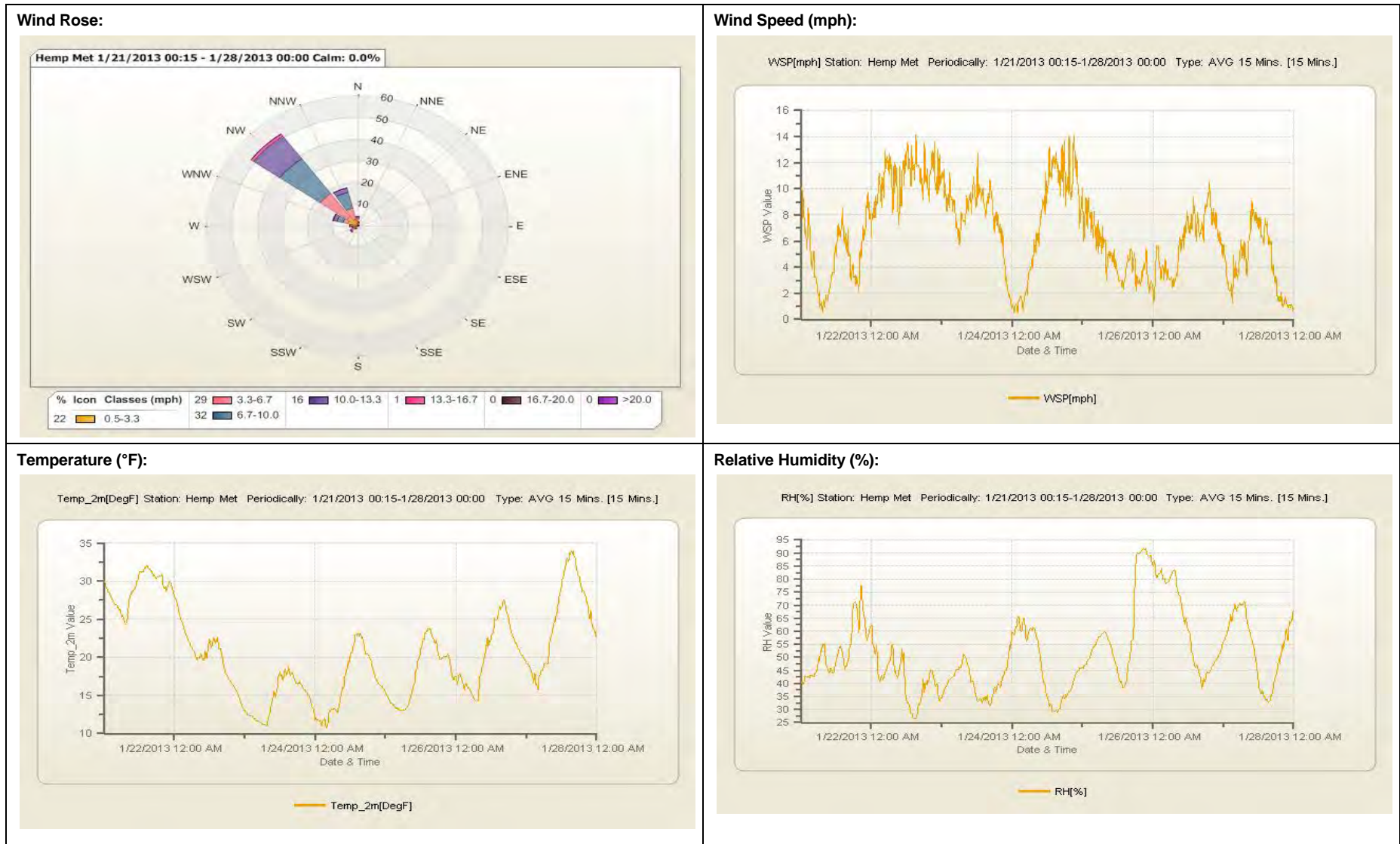
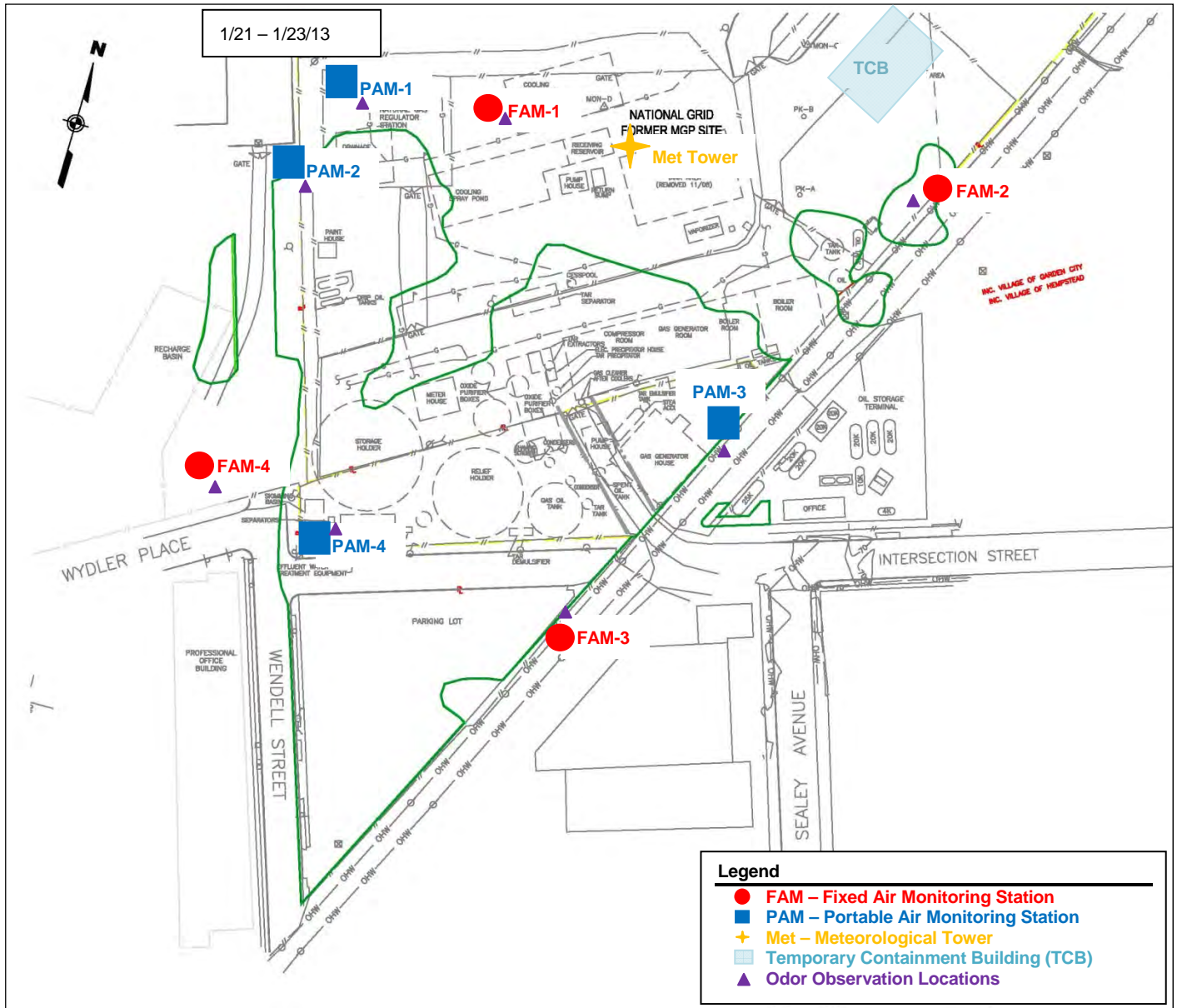


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 14 through January 20, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 1/14/13	64.4	0.1	84.0	0.1	71.3	0.3	76.5	0.2	41.8*	0.4	76.9*	0.2	89.3	0.2	77.7*	0.2	X	X
Tue 1/15/13	31.4	0.1	30.4	0.1	88.8	0.2	18.9	0.1	23.8	0.1	35.4	0.1	63.2	0.1	52.5	0.1	X	X
Wed 1/16/13	42.5	0.1	51.9	0.2	47.9	0.1	47.7	0.1	50.9	0.1	34.5	0.1	75.1	1.8	45.0	0.8	X	X
Thu 1/17/13	27.0	0.1	44.8	0.1	28.2	0.1	28.3	0.1	32.0	0.1	48.3	0.1	37.1	0.1	49.3	0.1	X	X
Fri 1/18/13	21.5	0.1	21.7	0.2	18.9	0.1	19.9	0.1	8.4	0.1	10.7	0.1	26.4	0.1	13.2	0.1	X	X
Sat 1/19/13	10.4	0.1	13.4	0.2	15.6	0.2	17.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 1/20/13	10.0	0.1	10.8	0.2	12.7	0.1	13.6	0.4	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations..</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 1/14/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Completed repairs on TCB damage; • Welded and repaired augers; and •Routine air monitoring.
Tue 1/15/13	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100) and completed welding crack on Kelly Bar; •Welded and repaired augers; and •Routine air monitoring.
Wed 1/16/13	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris; •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Cut RH40 Kelly Bar and removed Rotary and Kelly from machine; • Collected integrated VOC samples; and •Routine air monitoring.
Thu 1/17/13	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris; • Continued DSM production columns installation (SR100); •Welded and repaired augers; •Broke down and removed upper mast from RH40 for repairs; •Excavated and removed Kelly Bar and cutter from ground; and •Routine air monitoring.
Fri 1/18/13	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris; •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Loaded upper mast from RH40 and shipped for repair; and •Routine air monitoring.
Sat 1/19/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/20/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

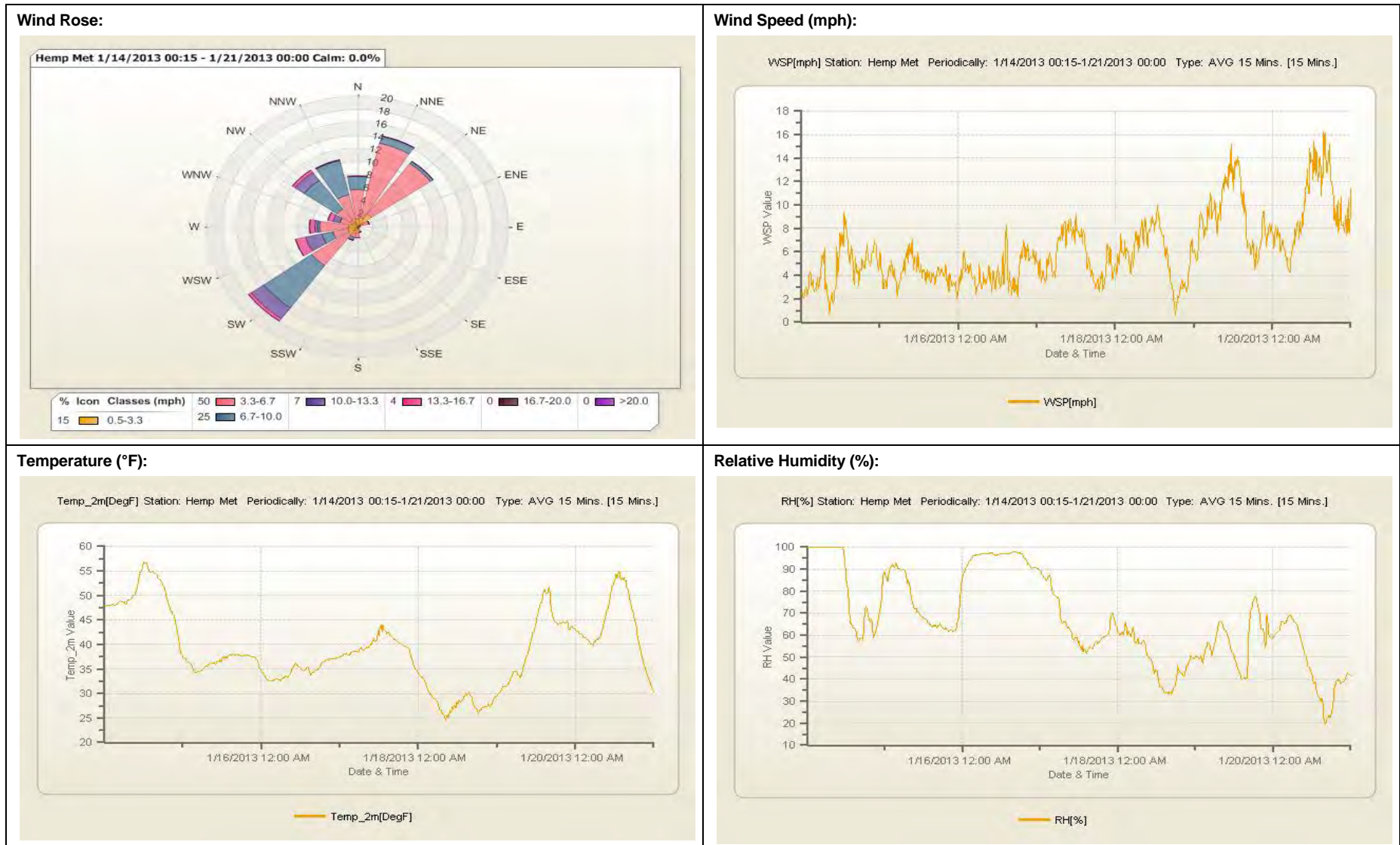
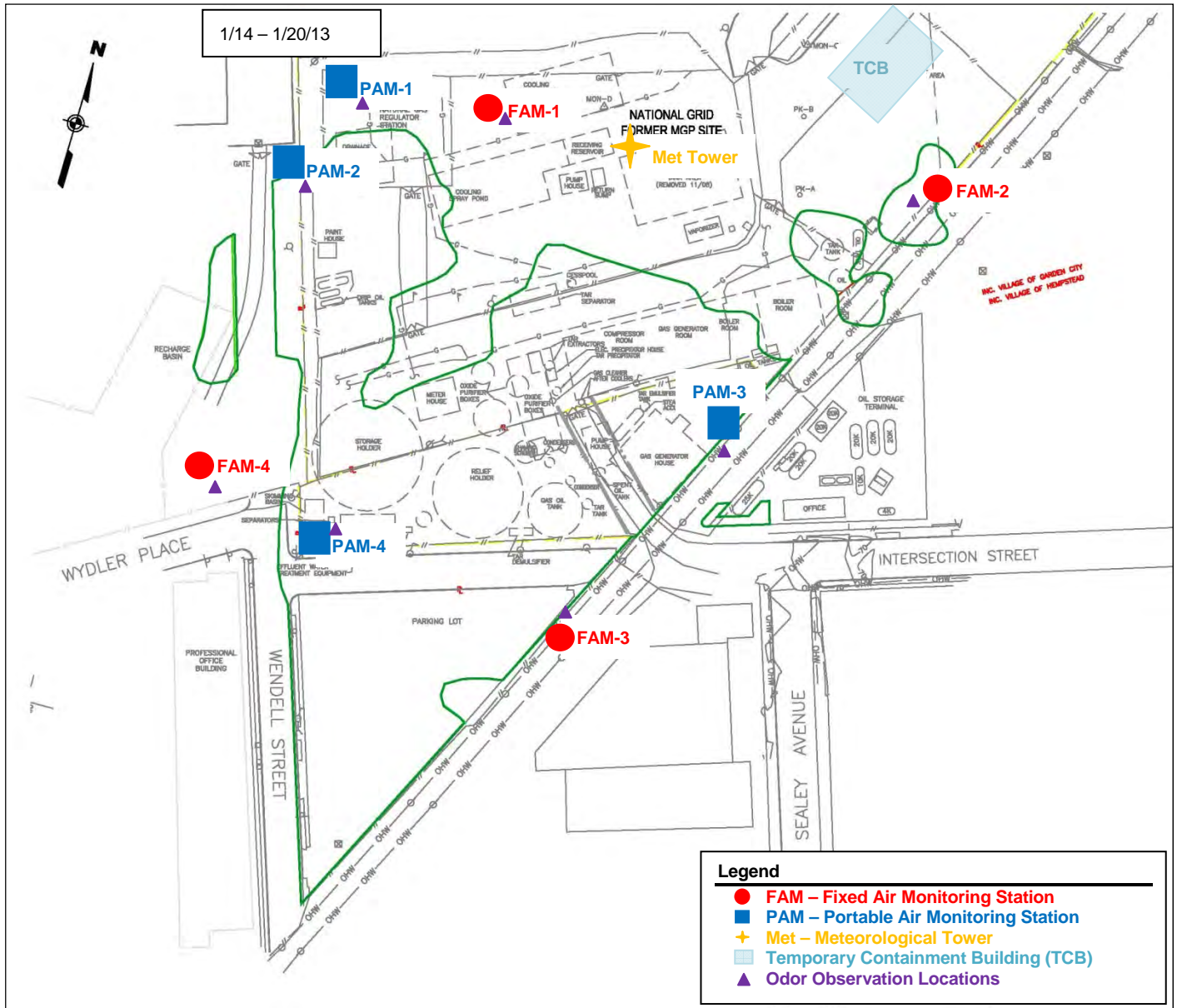


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 7 through January 13, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

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Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

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	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 1/7/13	41.4	0.1	60.6	0.5	34.1	0.3	33.5	0.1	41.7	0.1	56.1	0.2	60.5	0.1	51.2	0.1	X	X
Tue 1/8/13	45.5	0.1	54.3	0.4	47.2	0.2	45.1	0.1	62.1	0.1	86.9	0.1	54.7*	0.1	88.9	0.1	X	X
Wed 1/9/13	83.8	0.1	50.7*	0.4	92.1	0.2	91.0	0.2	72.1	0.1	78.6	0.1	88.5	0.1	82.9	0.1	X	X
Thu 1/10/13	26.2	0.1	41.9	0.5	29.0	0.1	30.3	0.1	11.0	0.1	19.6	0.1	30.1	0.1	15.6	0.1	X	X
Fri 1/11/13	27.5	0.1	20.0	0.3	18.0	0.1	16.1	0.3	29.5	0.1	24.5	0.1	22.0	0.1	26.5	0.1	X	X
Sat 1/12/13	27.0	0.1	30.2	0.1	33.8	0.2	34.1	0.2	X	X	X	X	X	X	X	X	X	X
Sun 1/13/13	47.9	0.1	54.7	0.1	53.9	0.1	63.8	0.2	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations..</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

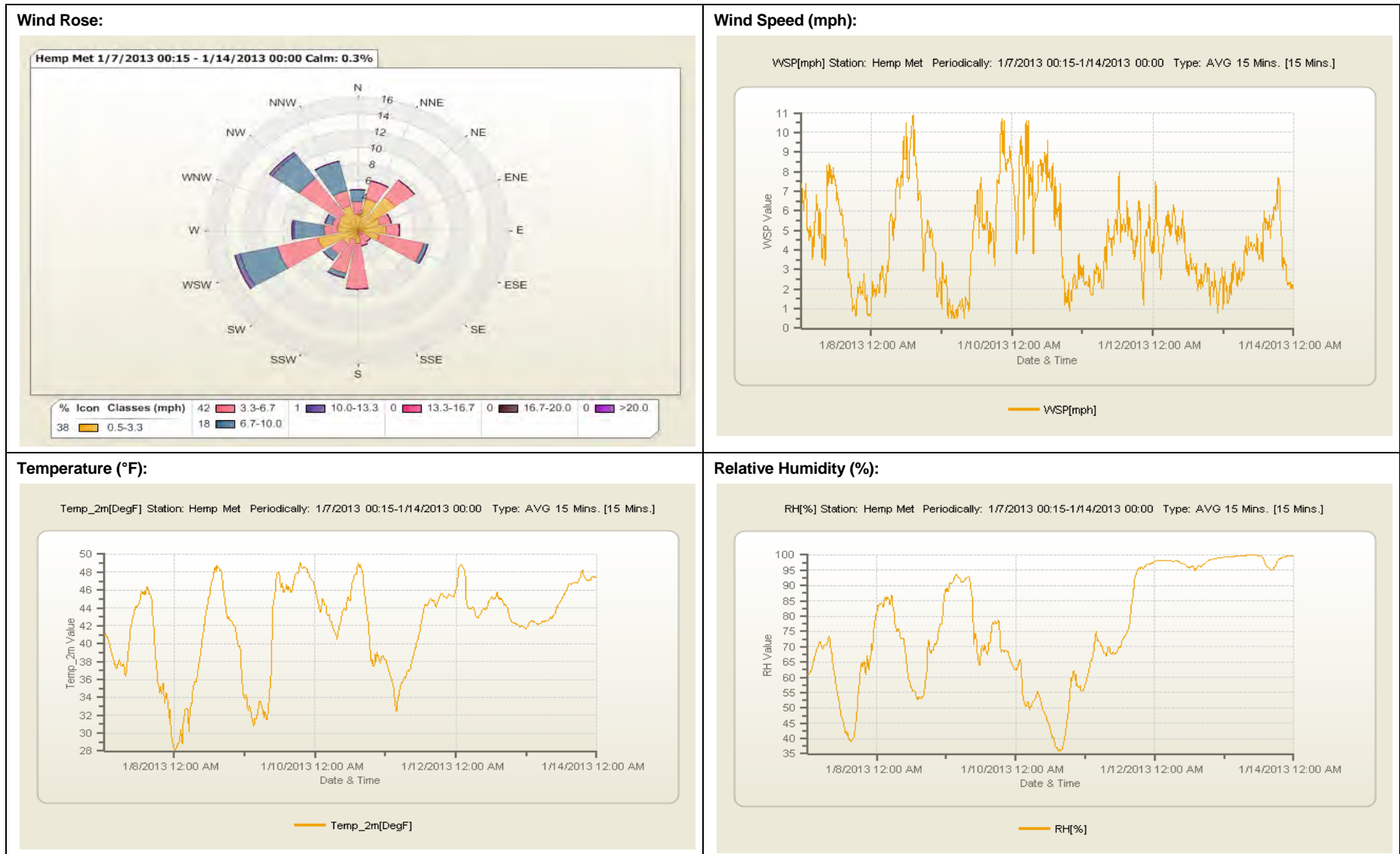
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 1/7/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Began repairing TCB damage; and •Routine air monitoring.
Tue 1/8/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued repairing TCB damage; and •Routine air monitoring
Wed 1/9/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued repairing TCB damage; and •Routine air monitoring
Thu 1/10/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued repairing TCB damage; and •Routine air monitoring
Fri 1/11/13	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Continued repairing TCB damage; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 1/12/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/13/13	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 31, 2012 through January 6, 2013

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/31/12	34.4	0.3	75.5	0.1	27.2	0.1	27.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 1/1/13	33.0	1.2	33.2	0.1	28.8	0.1	29.7	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 1/2/13	32.6	0.6	23.5	0.1	12.9	0.1	12.9	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Thu 1/3/13	57.6	1.0	55.0	0.1	45.1	0.1	46.0	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 1/4/13	59.6	1.3	57.8	0.1	47.5	0.1	48.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 1/5/13	67.3	0.1	68.6	0.1	57.8	0.1	61.9	0.2	X	X	X	X	X	X	X	X	X	X
Sun 1/6/13	62.7	0.1	62.2	0.2	51.6	0.2	55.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations..</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

¹ Site closed for holiday break (no Site activities).

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 12/31/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Tue 1/1/13	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Wed 1/2/13	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Thu 1/3/13	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Fri 1/4/13	<ul style="list-style-type: none">•No Site activities;•Collected integrated VOC samples; and•Routine air monitoring.
Sat 1/5/13	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sun 1/6/13	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

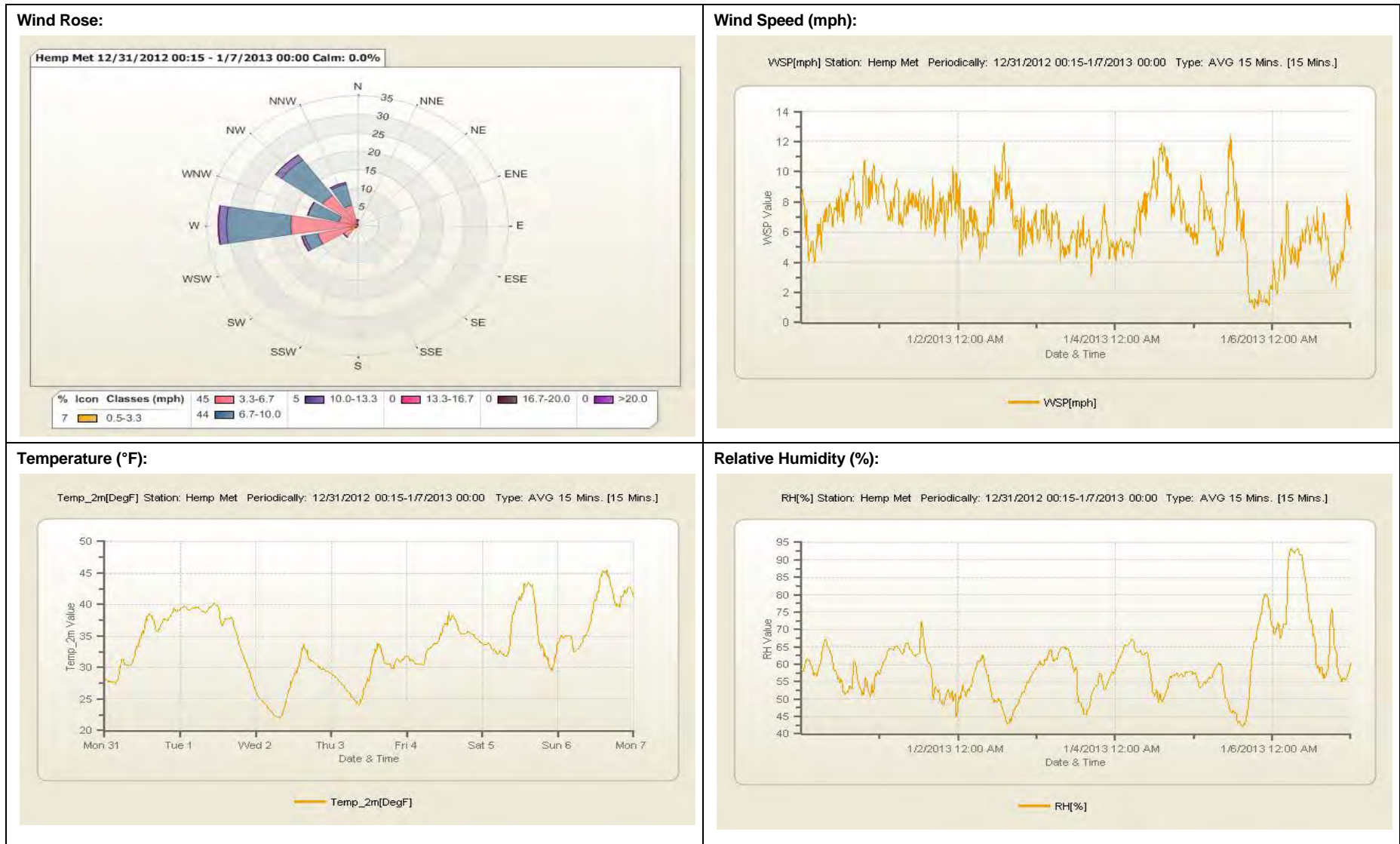
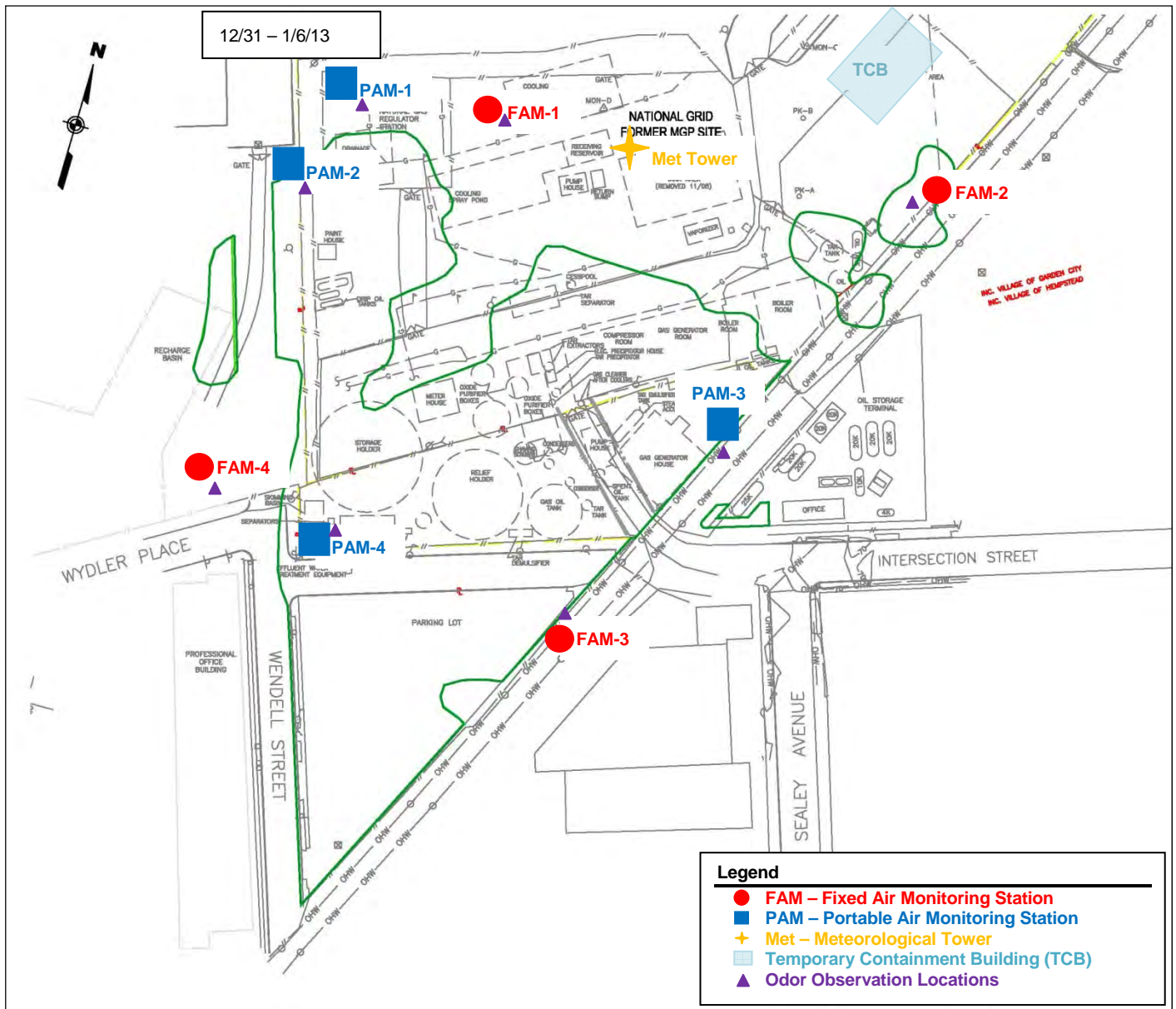


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 24 through December 30, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/24/12	45.8	0.1	75.9	0.4	44.5	0.1	48.7	0.1	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	X	X
Tue 12/25/12	39.9	1.0	52.2	0.3	41.0	0.1	44.5	0.1	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	X	X
Wed 12/26/12	21.9	1.6	24.5	0.3	15.0	0.1	16.2	0.1	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	X	X
Thu 12/27/12	7.8	0.6	6.4	0.1	7.1	0.1	16.8	0.1	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	X	X
Fri 12/28/12	19.6	0.4	18.7	0.1	20.8	0.1	23.0	0.1	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	X	X
Sat 12/29/12	19.8	0.9	21.2	0.1	38.9	0.1	21.2	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/30/12	20.4	0.3	12.8	0.1	12.5	0.1	12.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations..</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

¹ Site closed for holiday break (no Site activities).

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 12/24/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Tue 12/25/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Wed 12/26/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Thu 12/27/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Fri 12/28/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sat 12/29/12	<ul style="list-style-type: none">•No Site activities;•Collected integrated VOC samples; and•Routine air monitoring.
Sun 12/30/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

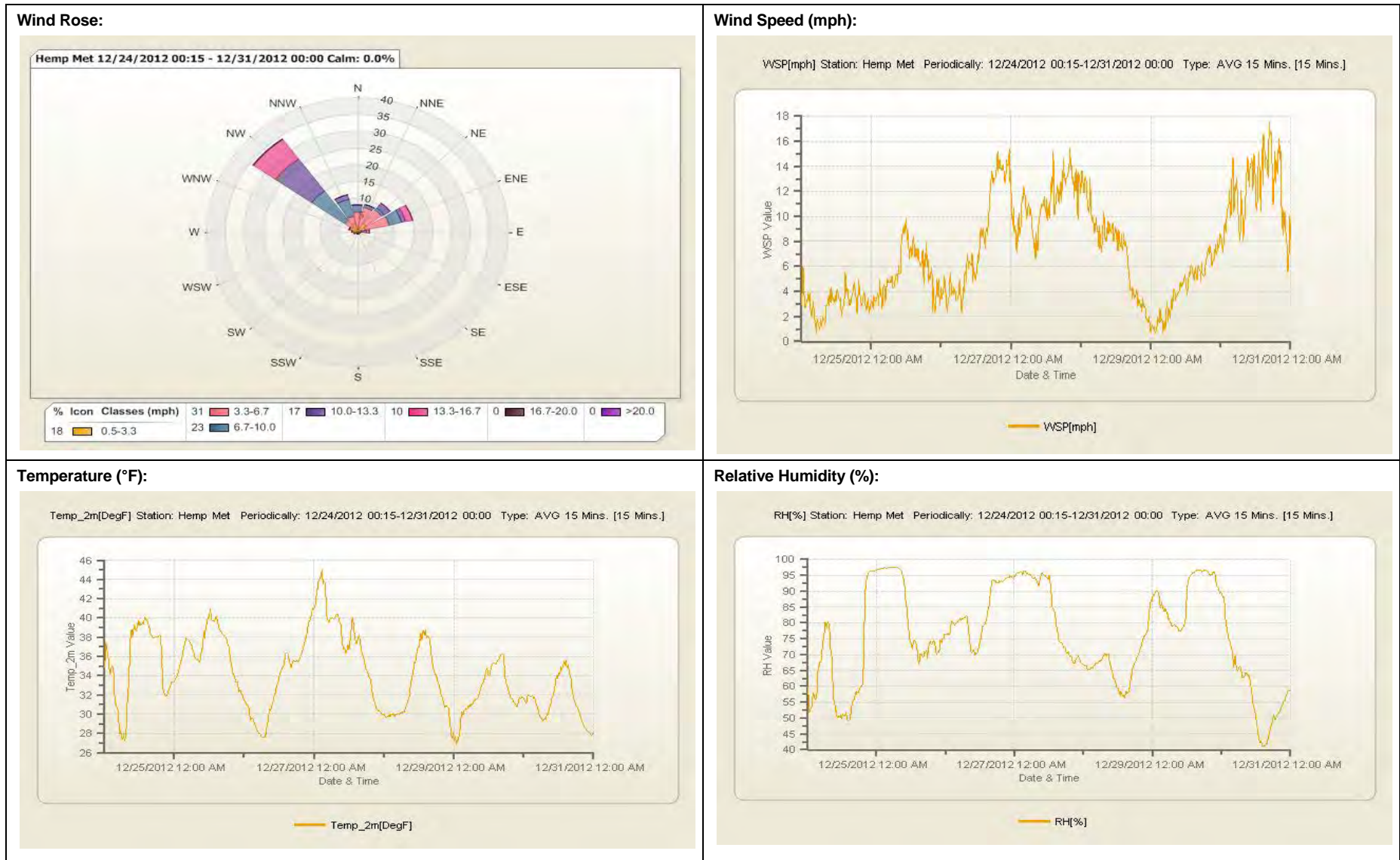
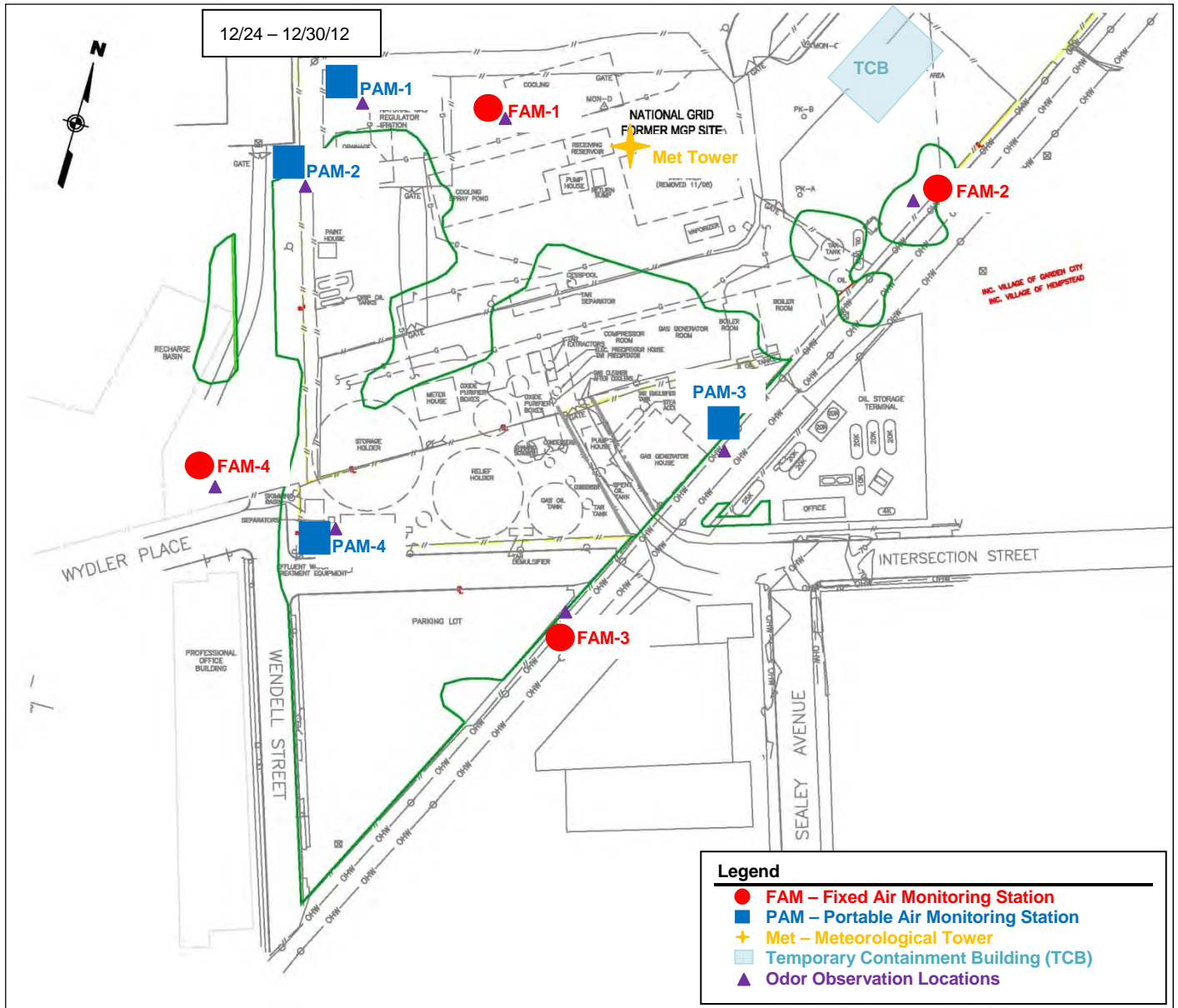


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 17 through December 23, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/17/12	6.8	0.1	11.8	0.6	14.2	0.1	16.1	0.1	35.3	0.1	29.3	0.1	46.9	0.1	35.1	0.1	X	X
Tue 12/18/12	19.7	0.1	31.7	0.3	23.7	0.2	29.6	0.1	80.4	0.1	62.6	0.1	97.7	0.1	45.0	0.3	X	X
Wed 12/19/12	14.7	0.1	57.5	0.1	8.6	0.1	10.7	0.1	11.6	0.1	24.5	0.2	27.1	0.2	13.7	0.1	X	X
Thu 12/20/12	60.0	0.1	18.4	0.3	17.2	0.1	18.4	0.1	86.2	0.1	47.7	0.2	16.7	0.1	28.7	0.1	X	X
Fri 12/21/12	8.0	0.1	11.5	0.3	22.3	0.3	32.5	0.1	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	X	X
Sat 12/22/12	12.5	0.1	13.1	0.1	7.9	0.1	10.6	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/23/12	31.5	0.1	41.8	0.9	31.7	0.1	29.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations..</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

¹ Site closed (Remedial activities were not conducted).

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

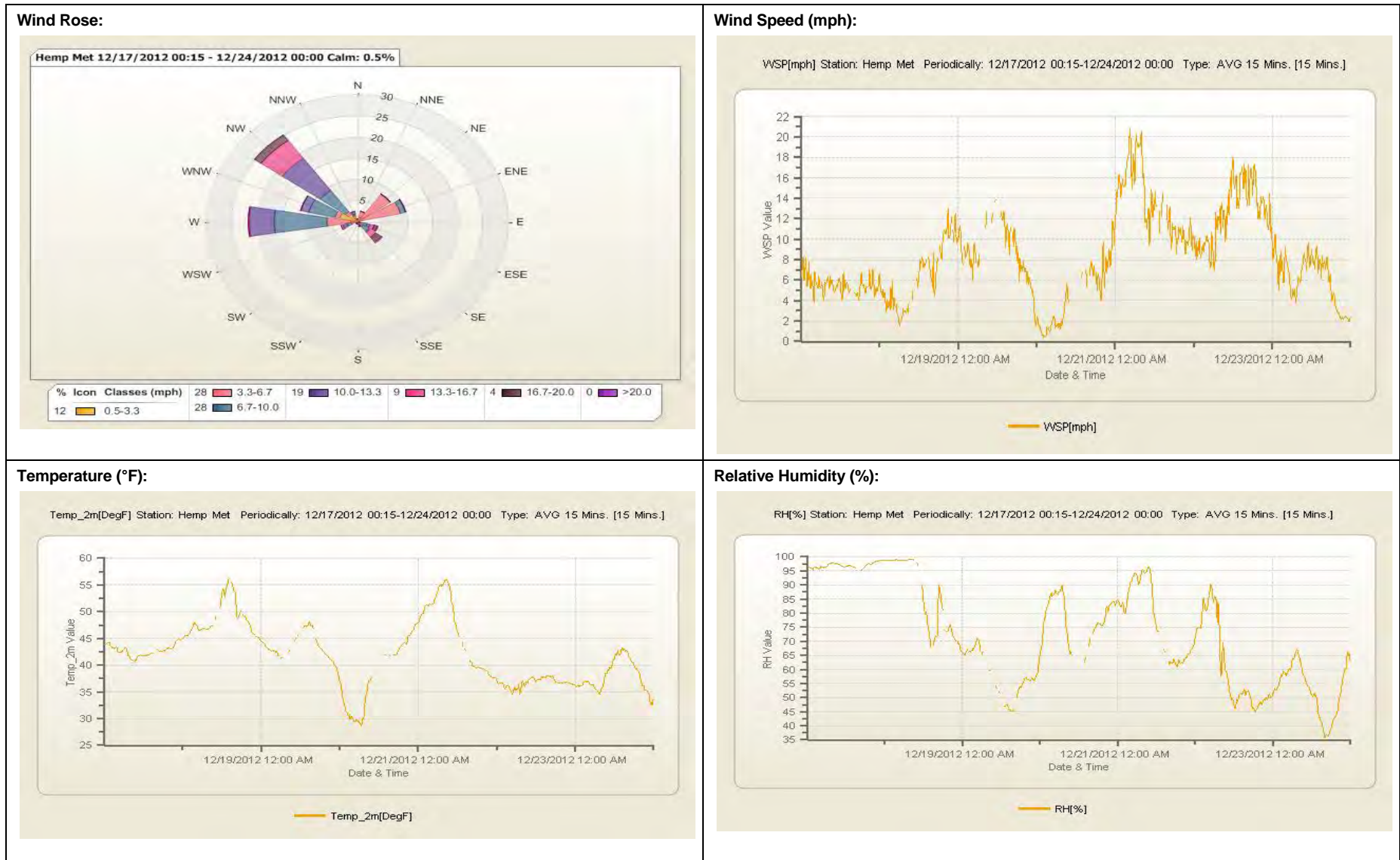
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

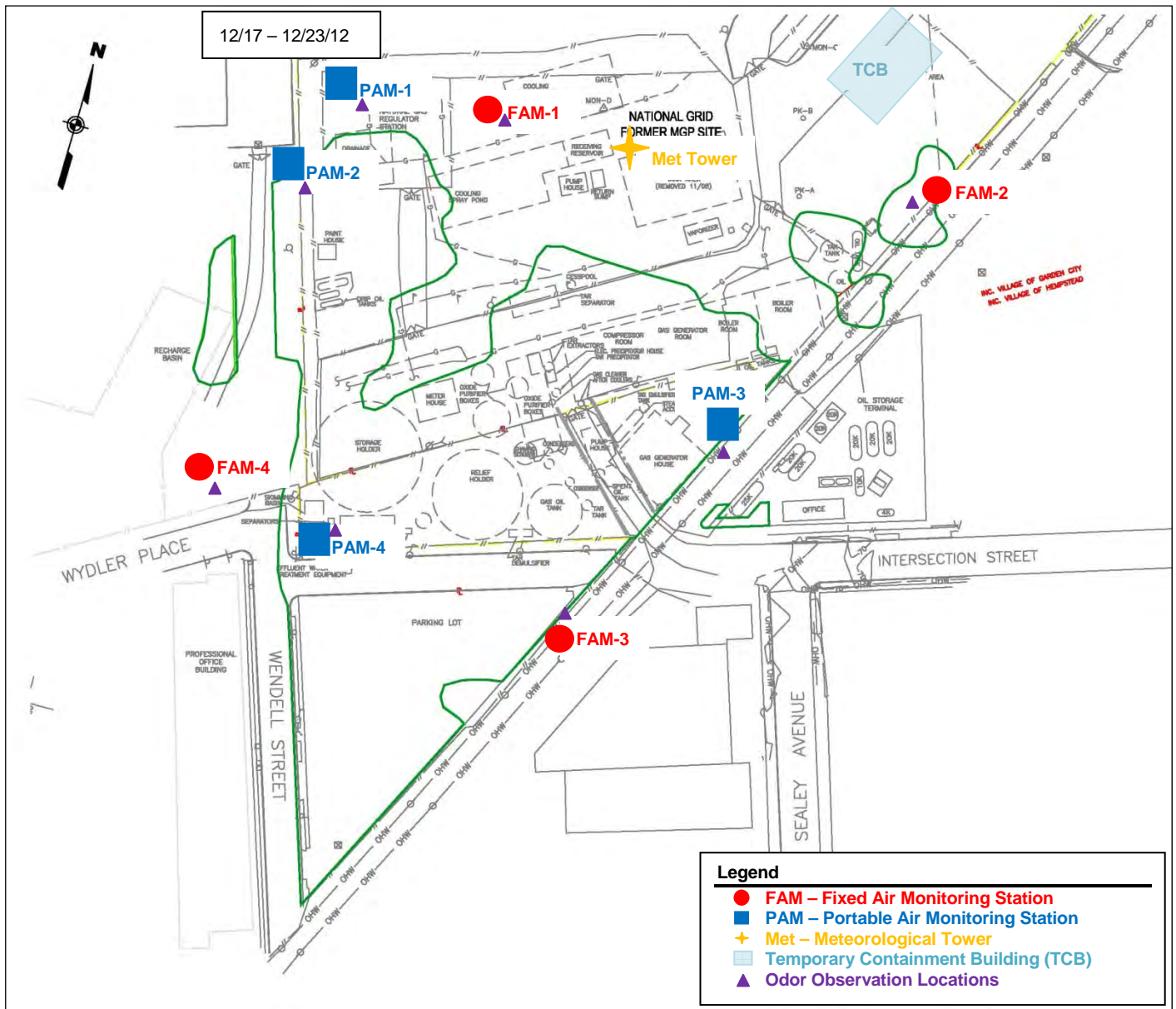
	Site Activities
Mon 12/17/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB; •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out; and •Routine air monitoring.
Tue 12/18/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out; and •Routine air monitoring.
Wed 12/19/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Routine air monitoring.
Thu 12/20/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Pre-dug/excavated soils/debris for load out; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 12/21/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 12/22/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/23/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries*



*Periods of missing/invalid meteorological observations caused by power interruptions.

Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 10 through December 16, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limit and no TVOC greater than the Response Limit. However, there were elevated PM₁₀ concentrations above the Response Limit after background subtraction at PAM-3 on Wednesday, December 12, 2012 (see Table 4 for specific date and times). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

TVOC = Total Volatile Organic Compounds

PID = Photoionization Detector

GC = Gas Chromatograph

PM₁₀ = Respirable Particulate Matter

ppm = Parts per million volume

µg/m³ = Micrograms per cubic meter

[C] = Concentration of target collected from a discrete sample

[C_{avg}] = 15-minute average concentration of target

DT = Dräger Tubes

OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.

NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/10/12	42.8	0.4	54.9	0.5	46.4	0.4	48.1	0.1	74.1	1.1	58.2	0.1	71.8	0.1	84.8	0.1	X	X
Tue 12/11/12	33.4	0.4	50.3	0.3	42.2	0.3	38.6	0.1	17.8	0.6	37.4	0.1	99.3	0.1	9.6	0.1	X	X
Wed 12/12/12	38.8	0.1	36.2	0.2	29.1	0.1	29.3	0.1	59.3	2.0	58.6	0.1	117.7*	0.1	39.2	0.1	X	X
Thu 12/13/12	48.6	0.1	56.2	0.5	50.2	0.2	54.1	0.1	55.2	0.1	44.9	0.1	50.7	0.1	45.9	0.1	X	X
Fri 12/14/12	55.9	0.1	98.0	0.9	51.0	0.1	49.8	0.1	82.1	0.1	83.5	0.1	68.8	0.1	64.3	0.1	X	X
Sat 12/15/12	43.7	0.1	51.2	0.8	42.9	0.1	44.3	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/16/12	28.9	0.1	36.3	0.5	32.6	0.1	35.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

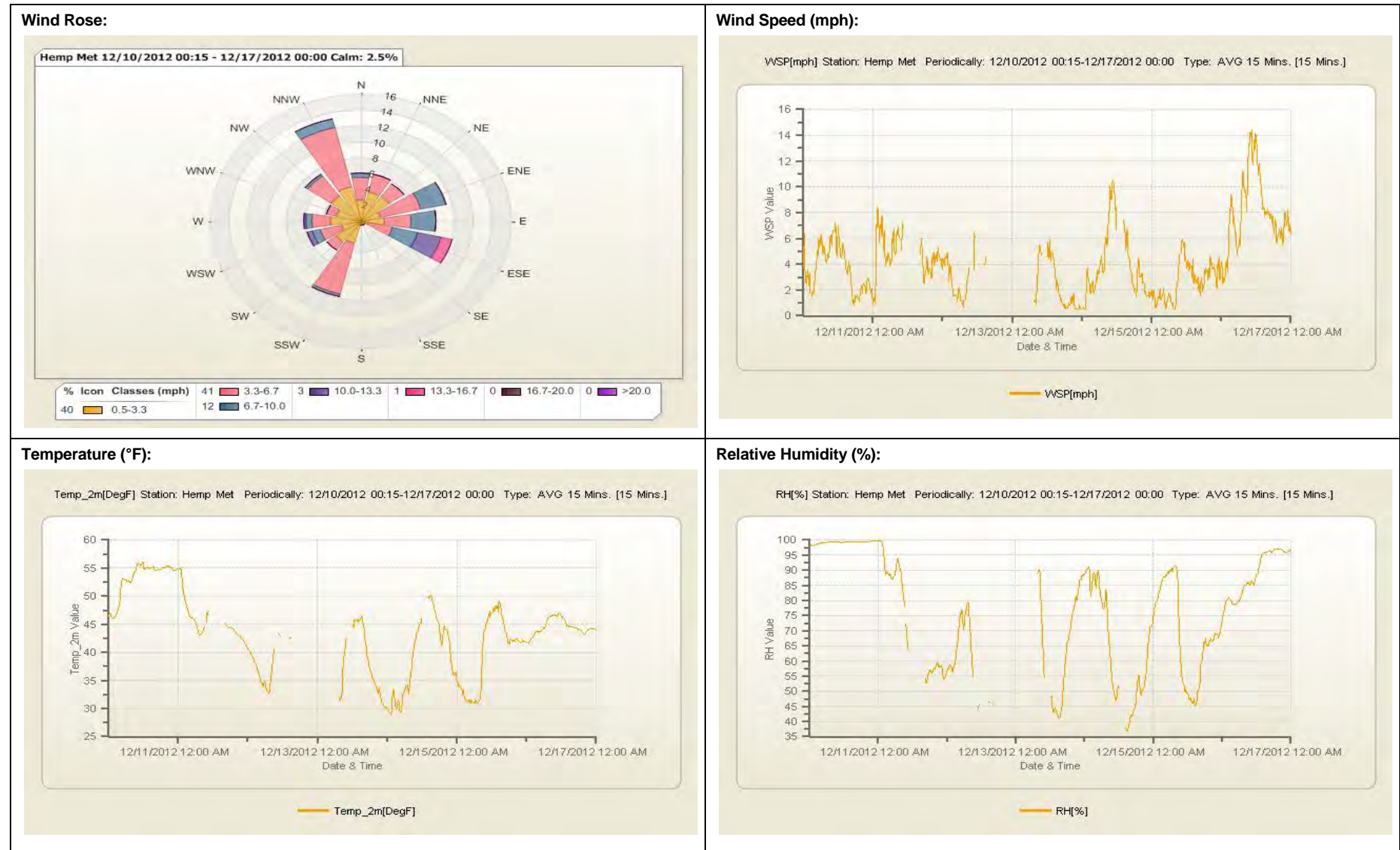
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 12/12/12	PAM-3	10:42 AM	10:52 AM	11	100.0	NW 3.6 mph	NW 3.6 mph	FAM-1	136.0	18.3	117.7	Response	Biosolve mist was being sprayed in the area of PAM-3. Laborer relocated slightly to avoid further Response Conditions.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

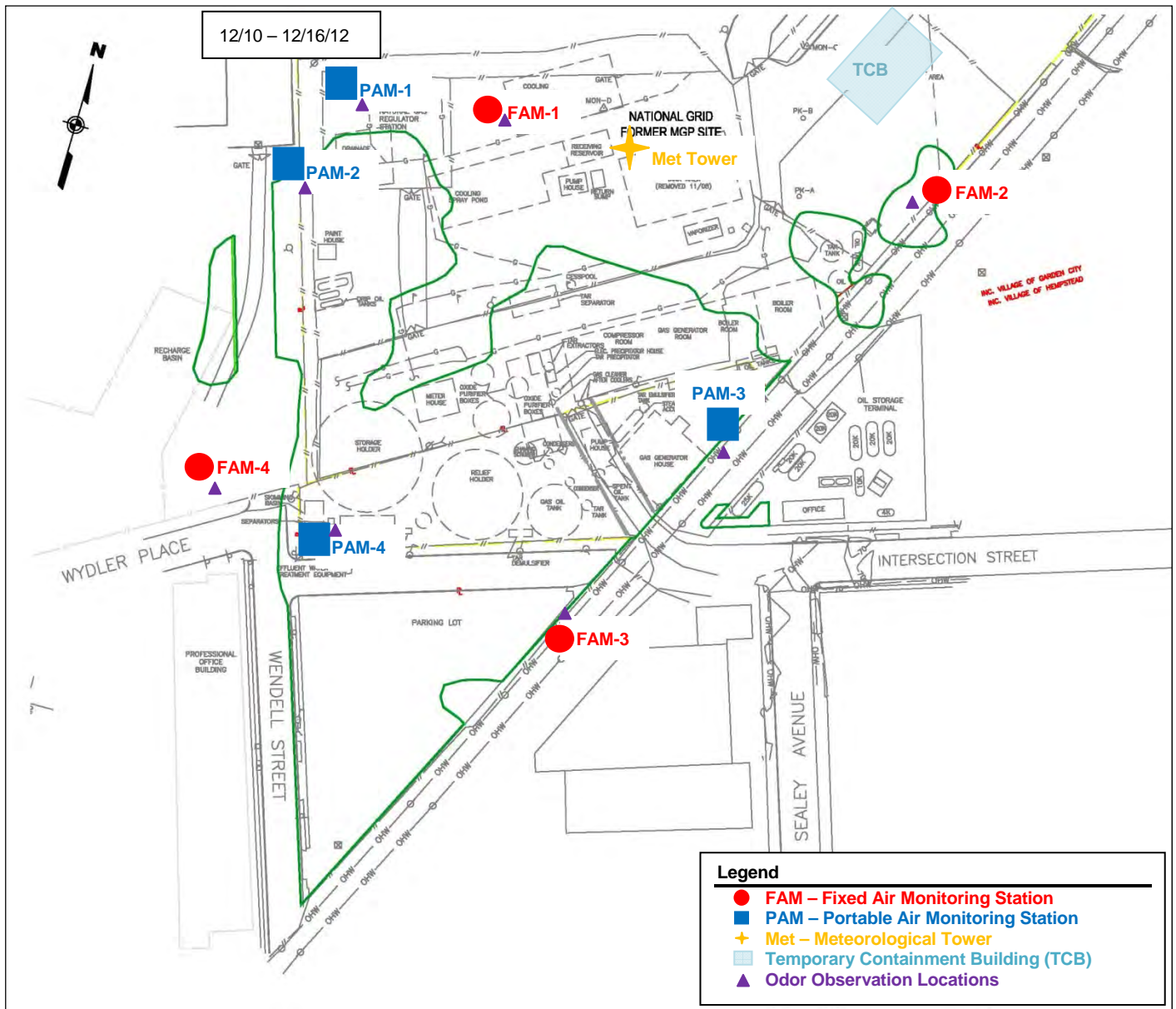
	Site Activities
Mon 12/10/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out; and •Routine air monitoring.
Tue 12/11/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out; and •Routine air monitoring.
Wed 12/12/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 12/13/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40) •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out; and •Routine air monitoring.
Fri 12/14/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Pre-dug/excavated soils/debris for load out and •Routine air monitoring.
Sat 12/15/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/16/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries*



*Periods of missing/invalid meteorological observations caused by power interruptions.

Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 3 through December 9, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no PM₁₀ and TVOC concentrations greater than the Response or Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
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Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ² [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 12/3/12	42.5	0.3	55.1	0.2	55.7	0.3	63.2	0.1	80.5	0.2	88.6	0.3	89.8	0.5	88.5	0.1	X	X
Tue 12/4/12	30.4	0.4	42.1	0.1	36.2	0.2	65.2	0.1	96.2	0.1	98.7	0.1	87.5	0.9	87.9	0.2	X	X
Wed 12/5/12	16.0	0.1	12.3	0.1	14.7	0.1	18.2	0.1	13.4	0.1	34.6	0.1	24.1	0.1	15.8	0.1	X	X
Thu 12/6/12	29.7	0.1	21.8	0.3	16.8	0.1	17.5	0.1	11.3	0.1	20.7	0.1	12.6	0.1	20.1	0.1	X	X
Fri 12/7/12	31.5	0.6	45.5	0.3	32.9	0.4	47.0	0.1	70.7	0.9	90.6	0.6	53.1	0.1	73.6	0.1	X	X
Sat 12/8/12	67.1	0.1	85.7	0.3	75.0	0.1	75.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/9/12	48.0	0.1	62.8	0.3	54.3	0.1	55.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

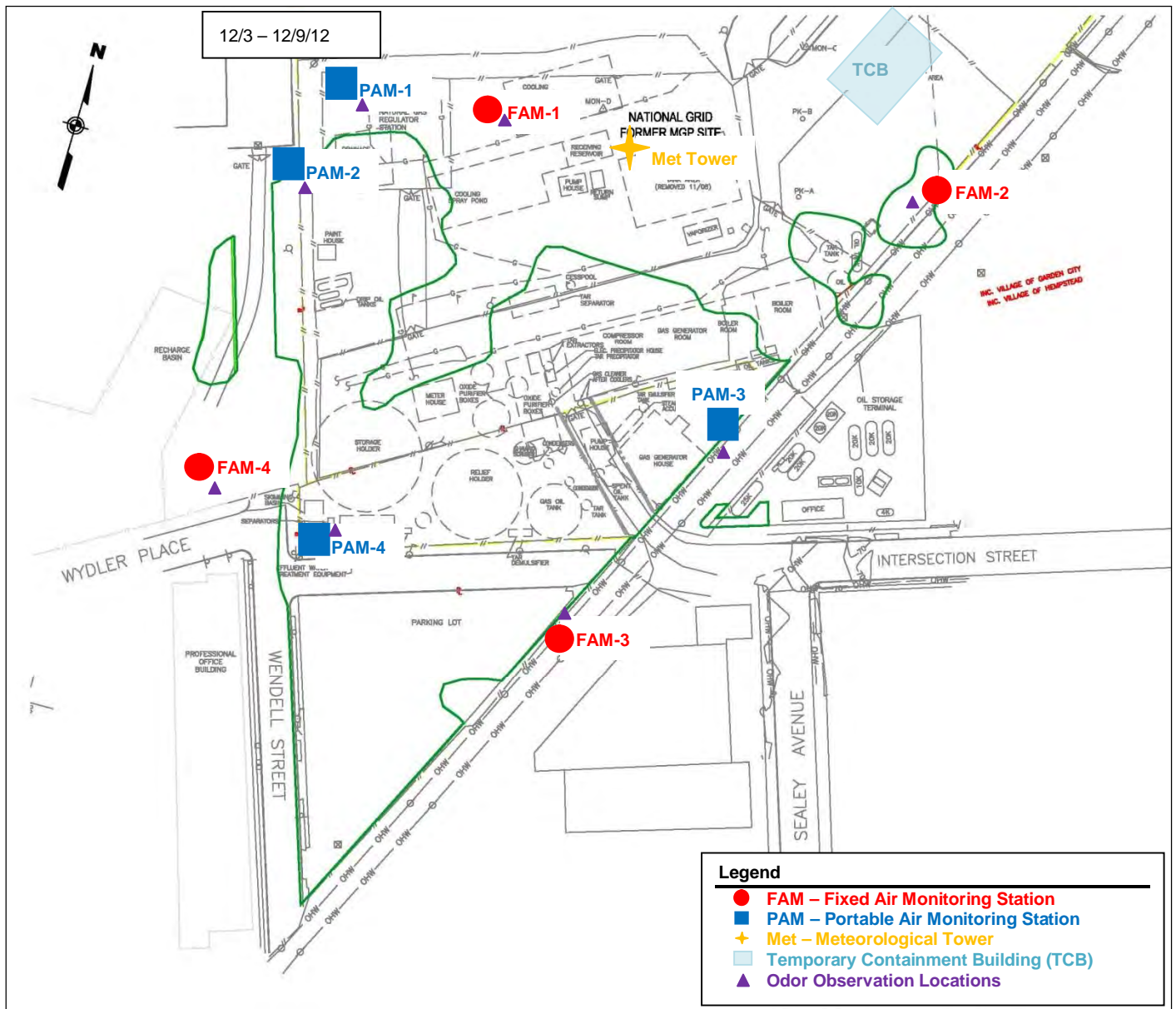
Table 5: Weekly Site Activities

	Site Activities
Mon 12/3/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (9 trucks); •Continued DSM production columns installation (RH40); •Welded and repaired augers; and •Routine air monitoring.
Tue 12/4/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (9 trucks); •Welded and repaired augers; •Performed 1,000-hour service on RH40; and •Routine air monitoring.
Wed 12/5/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (9 trucks); •Continued DSM production columns installation (RH40); •Welded and repaired augers; and •Routine air monitoring.
Thu 12/6/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Installed new hoist cable for SR100; and •Routine air monitoring.
Fri 12/7/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB; •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 12/8/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/9/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 26 through December 2, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ and TVOC concentrations greater than the Response or Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/26/12	47.7	0.6	95.0	0.3	35.6	0.1	32.7	0.1	57.0	0.1	45.8	0.1	64.6	0.1	62.9	0.1	X	X
Tue 11/27/12	52.8	0.8	87.1	0.1	37.5	0.2	99.0	0.1	93.6	0.2	63.3	0.1	95.7	0.1	69.0	0.1	X	X
Wed 11/28/12	32.9	0.1	38.9	0.1	37.1	0.1	36.1	0.1	69.1	0.1	47.1	0.1	45.4	0.1	53.6	0.1	X	X
Thu 11/29/12	30.7	0.1	34.1	0.1	32.2	0.1	39.6	0.1	68.7	0.1	72.6	0.1	68.3	0.1	73.0	0.1	X	X
Fri 11/30/12	41.8	0.1	41.1	0.2	38.8	0.1	45.5	0.1	77.7	0.2	85.8	0.1	89.9	0.1	83.7	0.1	X	X
Sat 12/1/12	18.2	0.1	24.5	0.1	22.0	0.1	32.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 12/2/12	23.5	0.1	32.5	0.2	33.0	0.3	41.8	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/26/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 11/27/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Wed 11/28/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Thu 11/29/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 11/30/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Welded and repaired augers; and •Routine air monitoring.
Sat 12/1/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/2/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

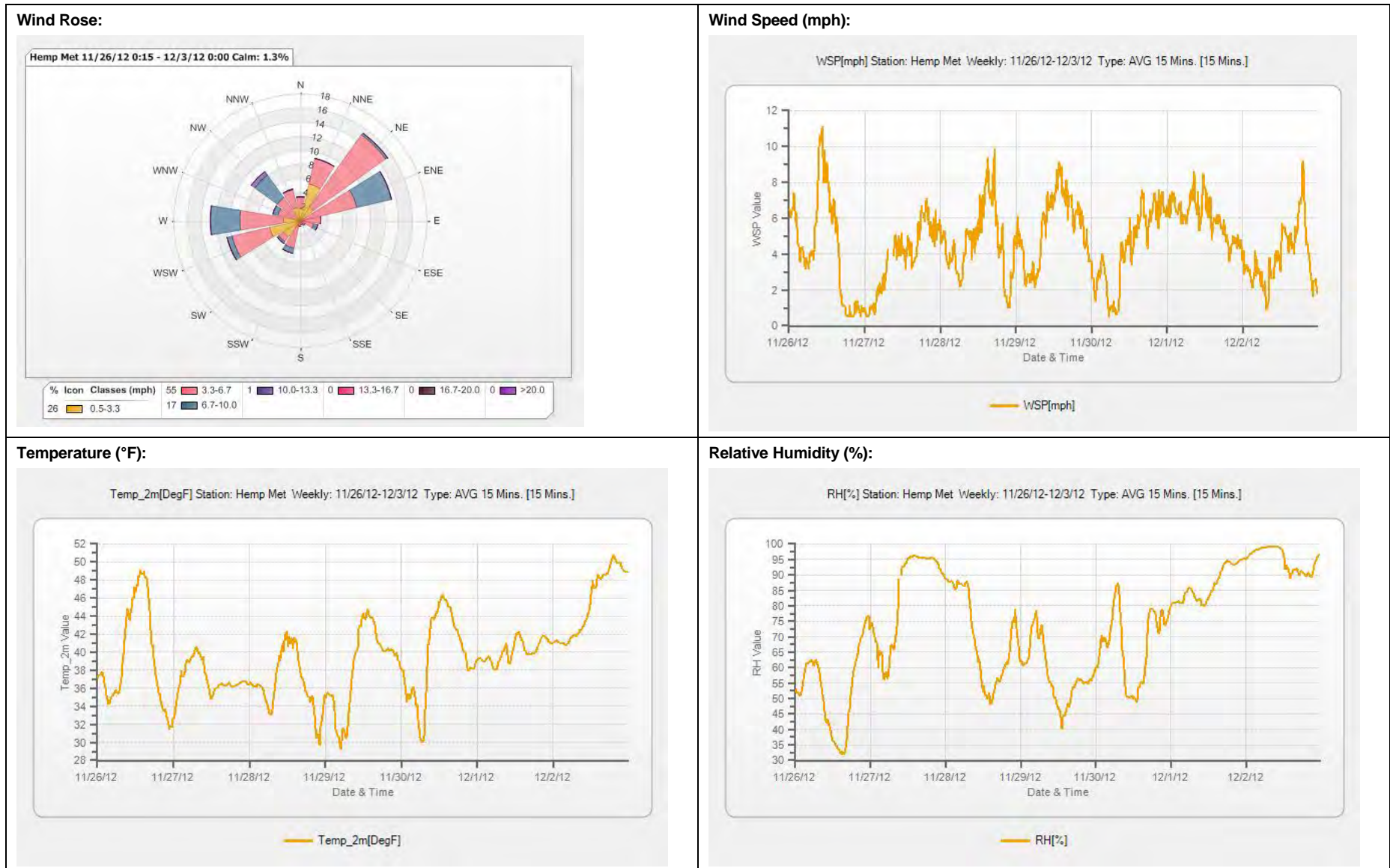
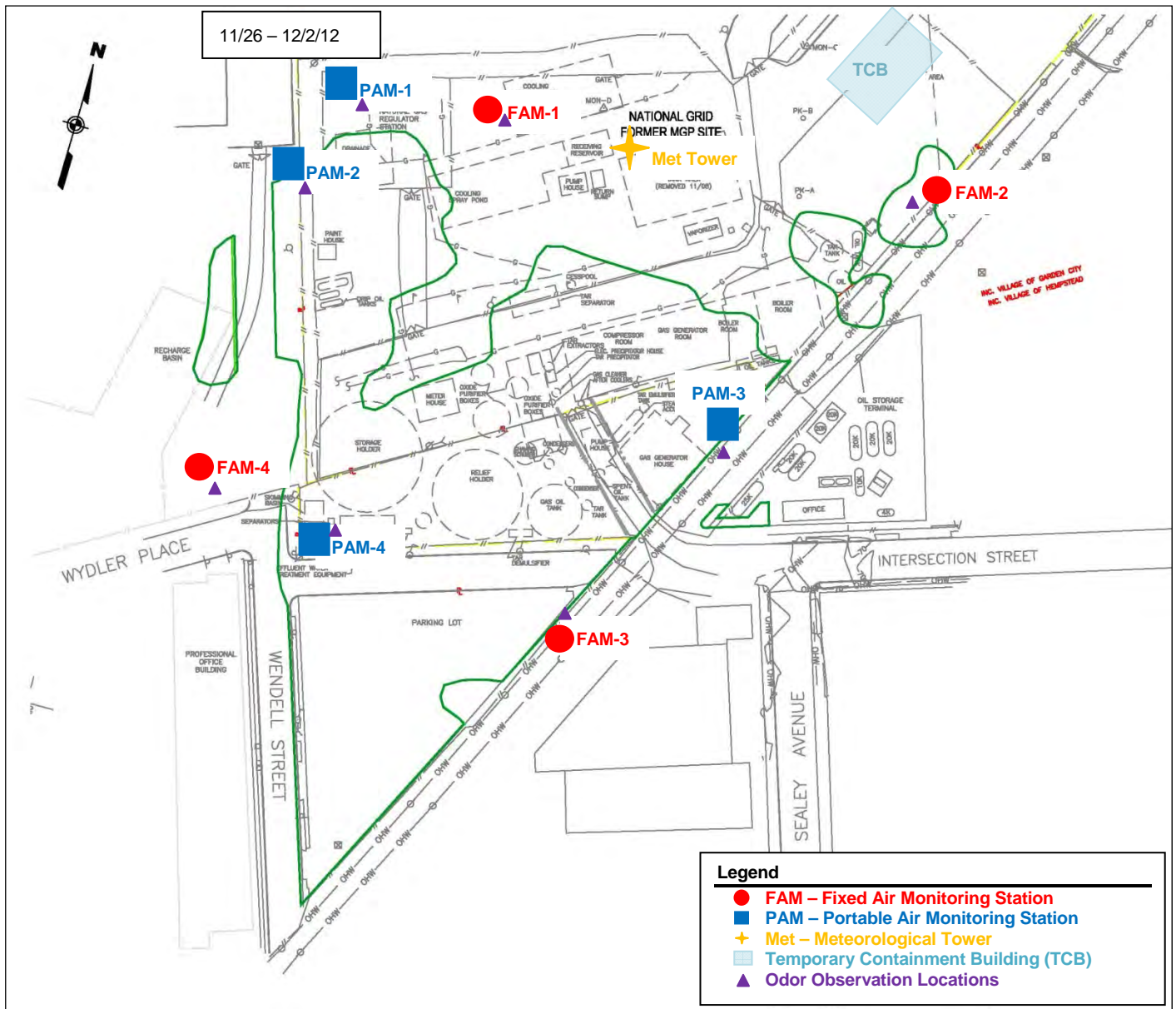


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 19 through November 25, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

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- PM₁₀ = Respirable Particulate Matter
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Notes:

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- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

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	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/19/12	13.8	1.2	14.0	0.1	12.8	0.1	16.7	0.1	38.6	0.1	27.4	0.1	55.9	0.1	33.8	0.1	X	X
Tue 11/20/12	17.6	0.2	17.7	0.1	16.6	0.2	18.6	0.1	88.2	0.1	49.8	0.1	62.1	0.1	73.3	0.1	X	X
Wed 11/21/12	28.3	0.2	31.7	0.1	27.6	0.1	30.3	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Thu 11/22/12	58.8	0.4	61.4	0.2	56.6	0.1	67.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 11/23/12	59.6	1.6	64.3	0.1	56.9	0.1	67.4	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 11/24/12	17.3	1.6	18.0	0.1	18.3	0.1	23.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/25/12	30.9	0.1	25.4	0.1	20.6	0.1	20.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ Site closed for Thanksgiving holiday (no Site activities).</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Response Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/19/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 11/20/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Wed 11/21/12	<ul style="list-style-type: none"> •Performed Site maintenance activities (sand bags, securing fence fabric, batch plant cleanup); •Collected integrated VOC samples; and •Routine air monitoring.
Thu 11/22/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 11/23/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 11/24/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 11/25/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 12 through November 18, 2012

During the report period there were no TVOC and PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Response or Action Limits and there were no PM₁₀ concentrations greater than the Action Limit. There was, however, a period of PM₁₀ concentrations that remained above the Response Limit after background subtraction on Tuesday, November 13, 2012 (see **Table 4** for specific details). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ² [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/12/12	27.0	0.8	27.4	0.1	29.0	0.2	33.5	0.1	64.7	0.1	53.6	0.1	50.5	0.4	58.2	0.6	X	X
Tue 11/13/12	17.0	0.6	15.9	0.1	16.5	0.1	10.6	0.1	15.4	0.1	8.3	0.2	121.5*	0.1	22.3	0.3	X	X
Wed 11/14/12	21.2	0.1	15.8	0.1	10.7	0.1	10.5	0.1	13.6	0.1	30.3	0.1	23.0	0.1	18.9	0.1	X	X
Thu 11/15/12	19.1	0.1	15.3	0.1	16.4	0.1	20.0	0.1	32.0	0.1	23.4	0.1	26.3	0.1	38.8	0.1	X	X
Fri 11/16/12	30.1	0.1	18.2	0.1	17.9	0.1	18.9	0.1	36.1	0.1	37.8	0.3	31.8	0.1	50.5	0.1	X	X
Sat 11/17/12	38.6	0.1	47.9	0.1	34.5	0.2	35.5	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/18/12	29.6	0.2	32.5	0.1	27.6	0.1	31.8	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Concentrations remained below the Action Limits.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue. 11/13/12	PAM 3	2:21PM	2:33PM	13	100	NNE 5.2 mph	NNE 3.8 mph	FAM 2	127.2	5.7	121.5	Response	Elevated PM ₁₀ concentrations were caused by a delivery truck stirring up dust. Concentrations quickly fell below the Response Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

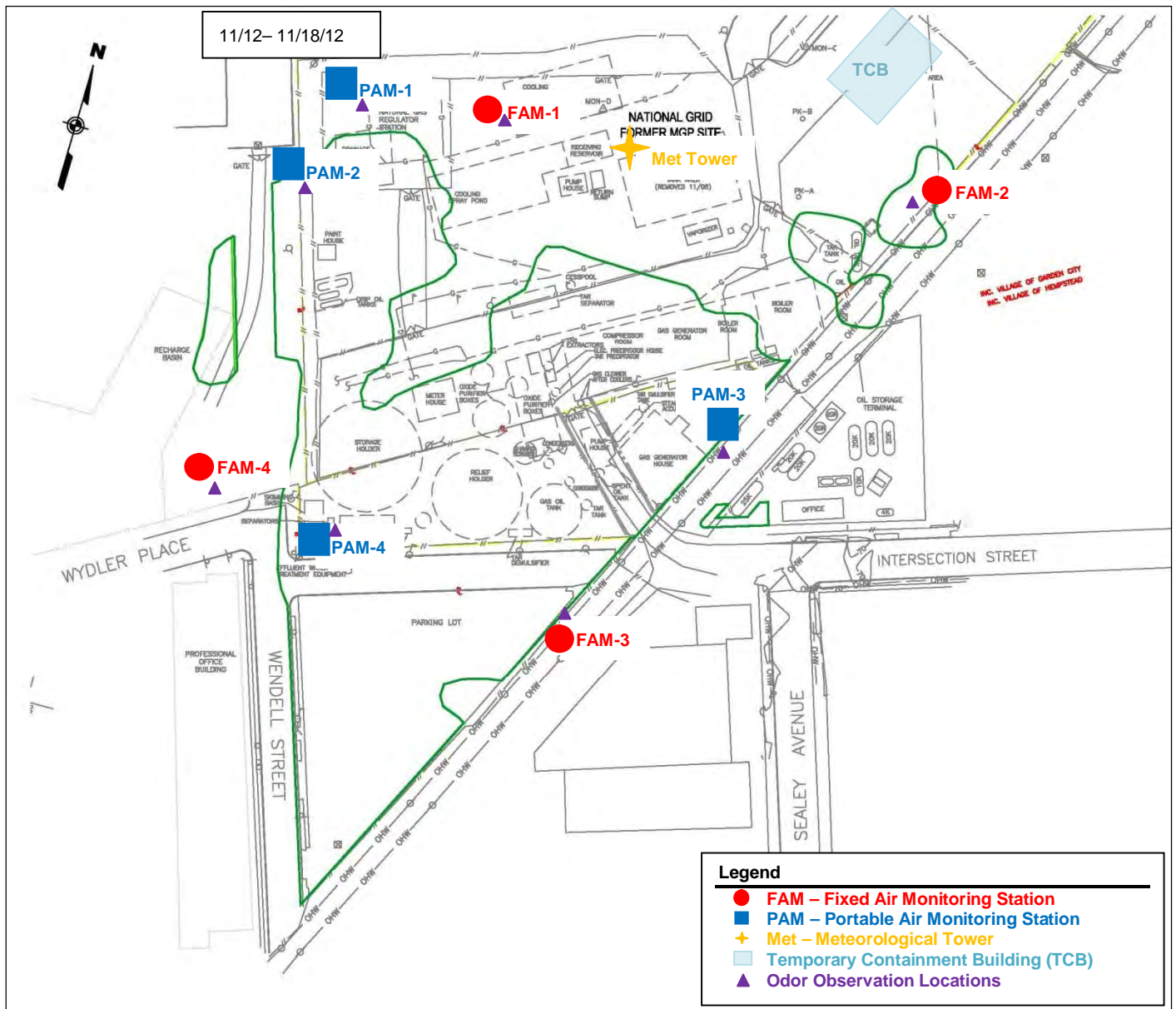
Table 5: Weekly Site Activities

	Site Activities
Mon 11/12/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed Site maintenance activities due to the aftermath of Hurricane Sandy (fence repair, general clean up and equipment testing); and •Routine air monitoring.
Tue 11/13/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 11/14/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Thu 11/15/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Fri 11/16/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Sat 11/17/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 11/18/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	November 5 through November 11, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Alert or Action Limits. Also, during this report period there were no hand-held measurements, Portable Air Monitoring measurements, or integrated samples collected due to the aftermath of Hurricane Sandy. Power was restored to the Fixed Air Monitoring units (FAM1, FAM2, and FAM 3) on Monday, November 5, 2012 (see Table 2 for specific details). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Alert or Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 11/05/12	33.8 ²	0.1 ²	23.0 ²	0.1 ²	34.0 ²	0.1 ²	14.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 11/06/12	37.1	0.1	14.5 ³	0.1 ³	18.9	0.1	16.8	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 11/07/12	27.0	0.1	X ³	X ³	13.8	0.1	16.6	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Thu 11/08/12	25.4	0.1	13.9 ³	0.1 ³	11.5	0.1	7.8	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 11/09/12	22.2	0.4	25.9	0.1	23.4	0.8	18.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 11/10/12	50.8	0.7	62.2	0.1	56.8	0.5	59.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/11/12	54.5	0.7	65.9	0.1	58.6	0.2	61.5	0.1	X	X	X	X	X	X	X	X	X	X

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM₁₀ = Respirable Particulate Matter (µg/m³)

TVOC = Total Volatile Organic Compounds (ppm)

Nap = Naphthalene

X = Monitoring not required per Site specific CAMP

ND = No Data

TBD = To Be Determined

* = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.

- Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable).
- FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured.
- PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM).

¹Site closed, no on site work performed due to Hurricane Sandy.

²No data, no power to FAMs 1, 2, and 3 until 11/5/12 @ ~12:00PM, batteries for FAM backup PAMs 1, 2, and 3 failed.

³FAM 2 lost power between 11/6 @ 12:11AM and 11/8/12 @ 12:45PM.

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 11/05/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Tue 11/06/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Wed 11/07/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Thu 11/08/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Fri 11/09/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sat 11/10/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sun 11/11/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

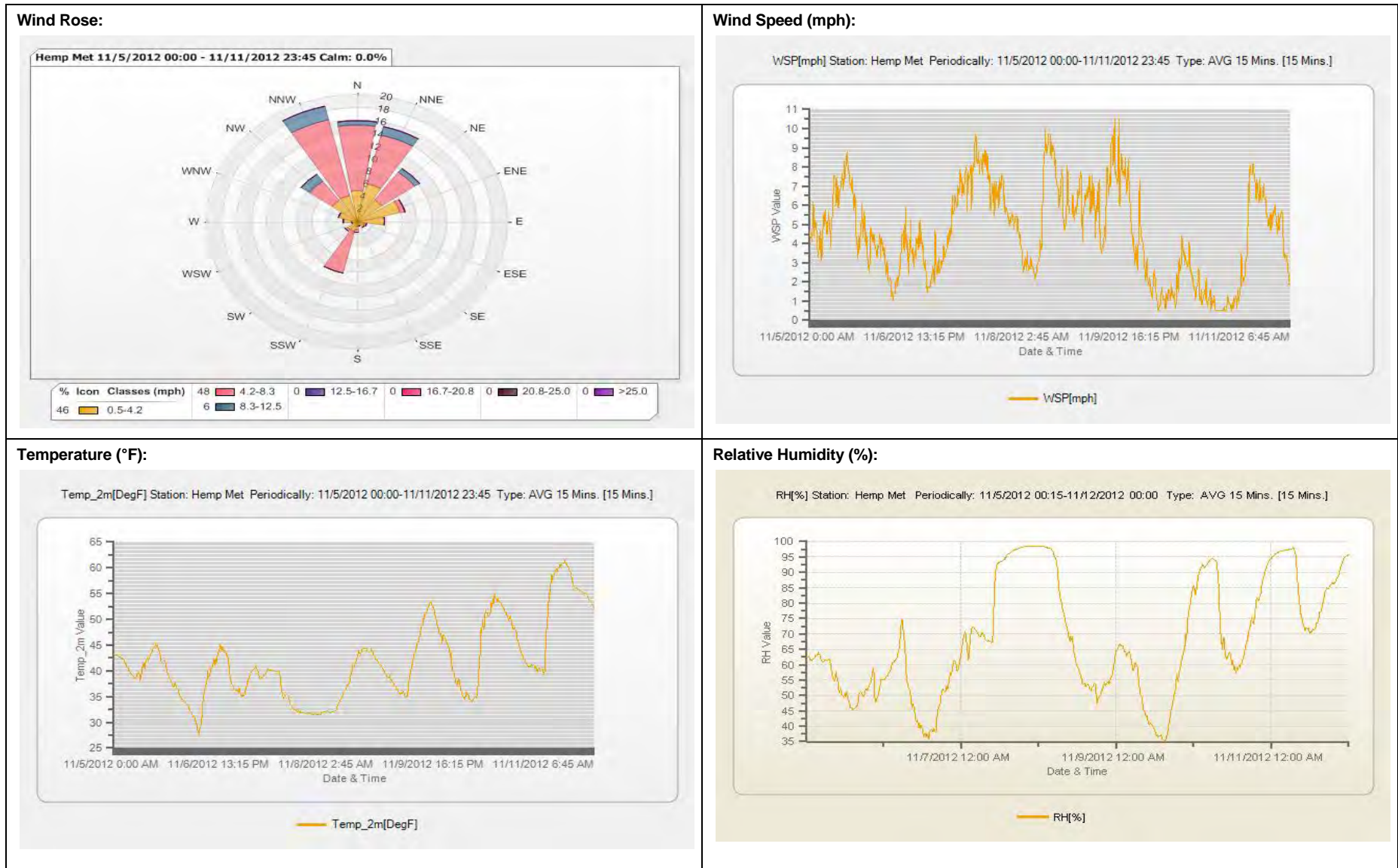
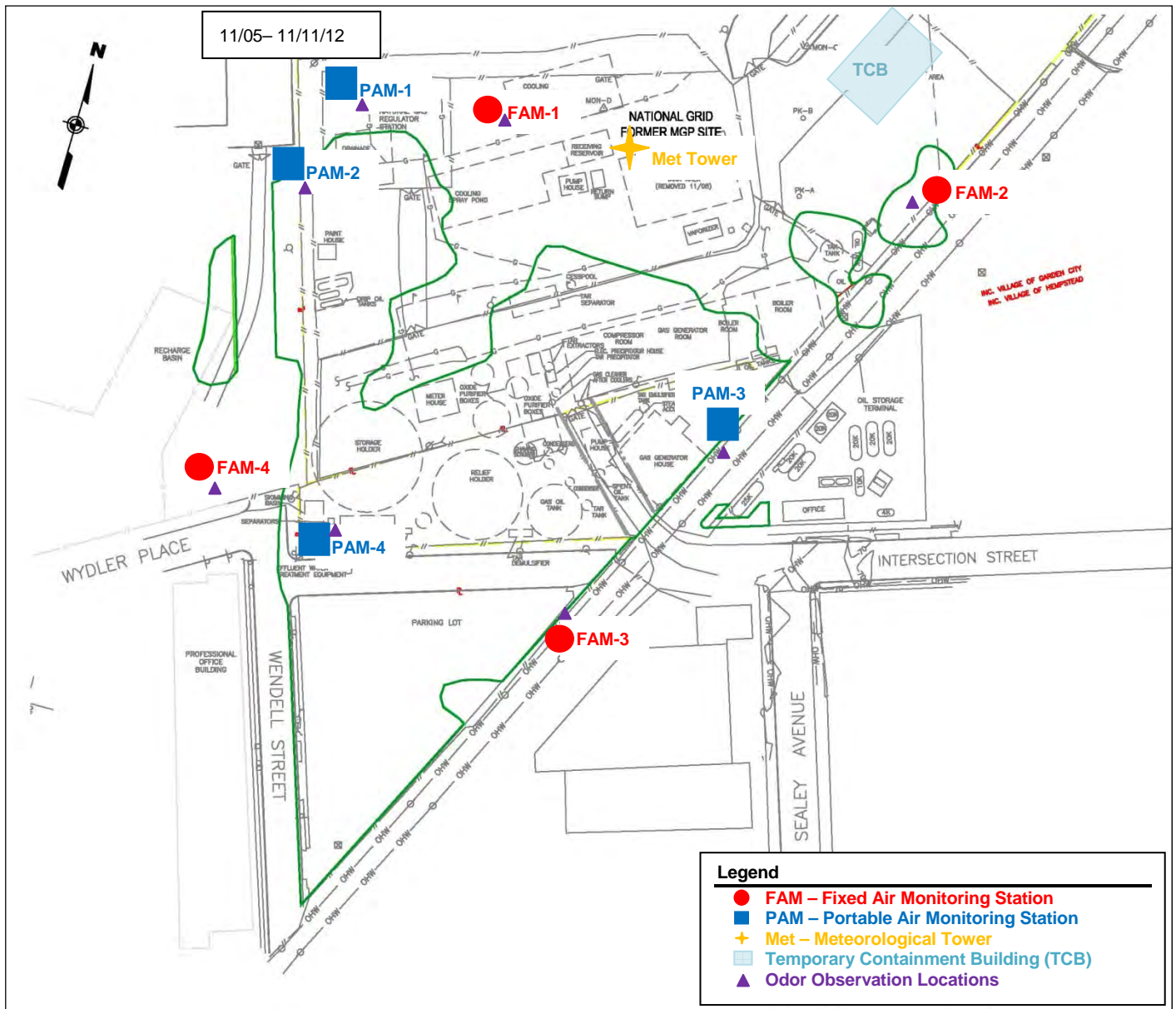


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 29 through November 4, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Alert or Action Limits after background subtraction. Also, with the storm and aftermath of Hurricane Sandy hand-held measurements and met data were not collected due to limited Site access and power loss. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Alert or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary; and
- **Figure 1:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/29/12	28.6	1.0	32.0	0.1	45.5	0.1	82.7 ¹	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 10/30/12	X ²	X ²	X ²	X ²	X ²	X ²	52.0	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 10/31/12	X ²	X ²	X ²	X ²	X ²	X ²	16.9 ²	0.1 ²	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Thu 11/01/12	44.1 ^{2,3}	0.2 ^{2,3}	28.5 ^{2,3}	0.1 ^{2,3}	31.2 ^{2,3}	0.2 ^{2,3}	14.1 ²	0.1 ²	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 11/02/12	19.2 ³	0.3 ³	33.7 ³	0.1 ³	X ^{3,4}	X ^{3,4}	9.2	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 11/03/12	27.5 ³	0.2 ³	25.7 ³	0.1 ³	X ^{3,4}	X ^{3,4}	4.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 11/04/12	X ^{3,4}	X ^{3,4}	X ^{3,4}	X ^{3,4}	X ^{3,4}	X ^{3,4}	7.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ Site closed, no on site work performed due to Hurricane Sandy. ² Power lost at most of the site on 10/29 to 11/1 due to Hurricane Sandy (FAM 4 without power for only part of 10/31 and 11/1). ³ PAM units operating on batteries in place of FAM units due to loss of power on site at FAM's 1, 2, and 3. ⁴ PAM unit battery power ran out.</p>																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon. 10/29/12	FAM 4	5:50PM	5:53PM	4	100	NA ¹	NA ¹	FAM 2	103.3	20.6	82.7	Operational	Elevated PM ₁₀ concentrations caused by heavy precipitation.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. <p>¹ There was no weather data available due to lost power caused by Hurricane Sandy, lowest PM₁₀ concentration on site used for background subtraction.</p>														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/29/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring
Tue 10/30/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring
Wed 10/31/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring
Thu 11/01/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Fri 11/02/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sat 11/03/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sun 11/04/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.

Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 22 through October 28, 2012

During the report period there were no TVOC concentrations greater than the Alert or Action Limits or PM₁₀ concentrations above the Action Limit after background subtraction. However, there was a period of PM₁₀ concentrations that remained above the Alert Limit after background subtraction on Tuesday, October 23, 2012 (see Table 4 for specific details). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Alert or Action Limits or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there was a period of PM₁₀ concentrations that remained above the Alert Limit after background subtraction on Tuesday, October 23, 2012 (see Table 4 for specific details). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

- ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3** and **4**.
- ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/22/12	17.8	1.0	63.5	0.1	16.5	0.1	18.7	0.1	53.5	0.1	43.7	0.1	32.6	0.8	54.0	0.1	X	X
Tue 10/23/12	28.2	0.5	108.4*	0.1	38.2	0.1	37.1	0.1	45.9	0.1	76.4	0.1	58.7	0.1	76.1	0.1	X	X
Wed 10/24/12	18.7	0.5	20.1	0.1	40.1	0.1	50.5	0.1	67.1	0.1	50.2	0.1	51.8	0.1	58.1	0.1	X	X
Thu 10/25/12	11.9	0.7	8.5	0.1	15.5	0.1	18.0	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 10/26/12	8.9	1.0	7.0	0.1	11.5	0.1	13.3	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 10/27/12	29.5	1.0	31.0	0.1	28.7	0.1	34.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/28/12	19.1	0.7	14.2	0.1	10.7	0.1	44.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ Site closed, no onsite work performed.</p>																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue. 10/23/12	FAM 2	2:19PM	2:22PM	4	100	N 4.4 mph	N 4.4 mph	PAM 4	115.0	6.6	108.4	Operational	Elevated PM ₁₀ concentrations caused by nearby truck traffic.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/22/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 10/23/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Wed 10/24/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 10/25/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 10/26/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 10/27/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/28/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

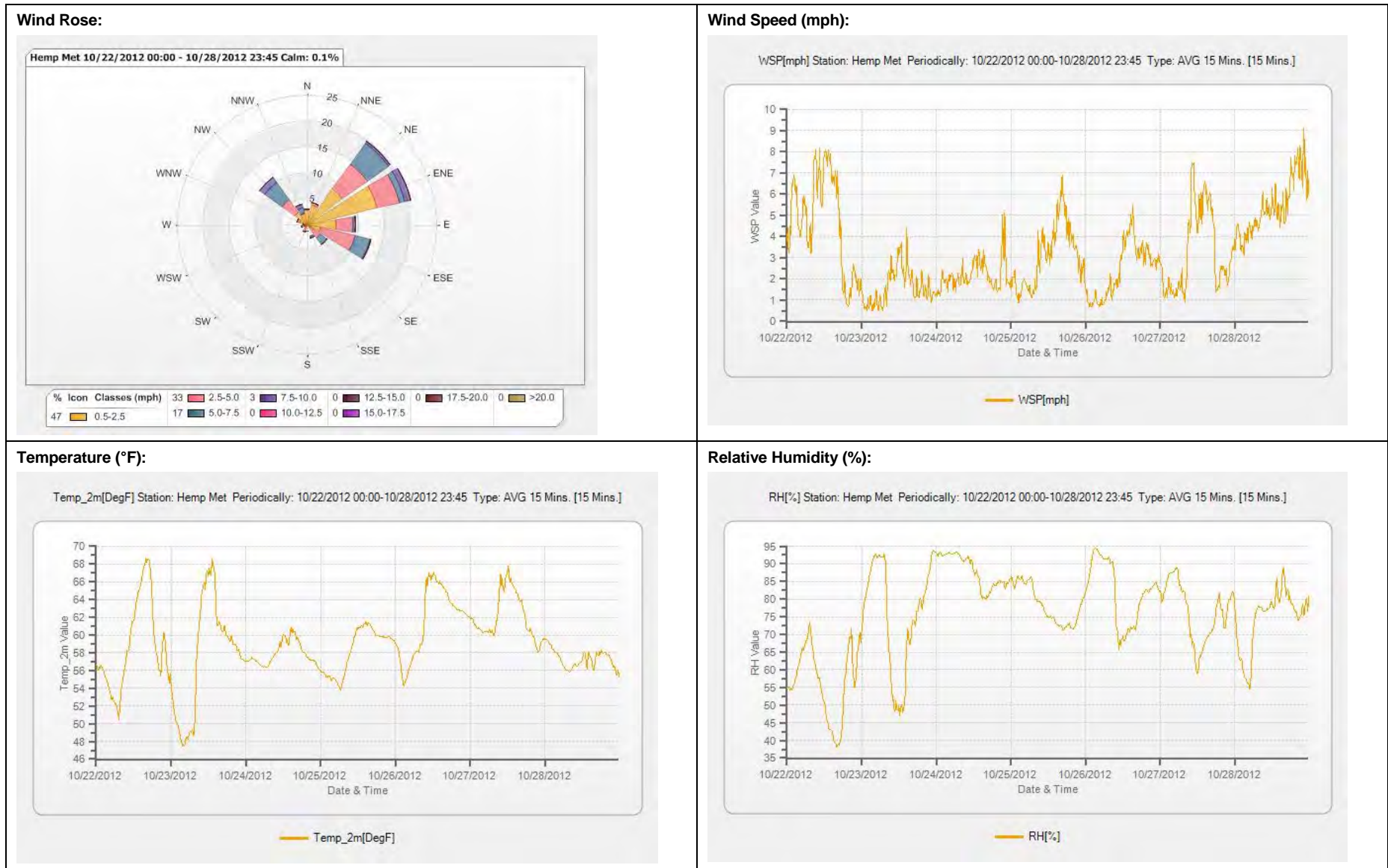
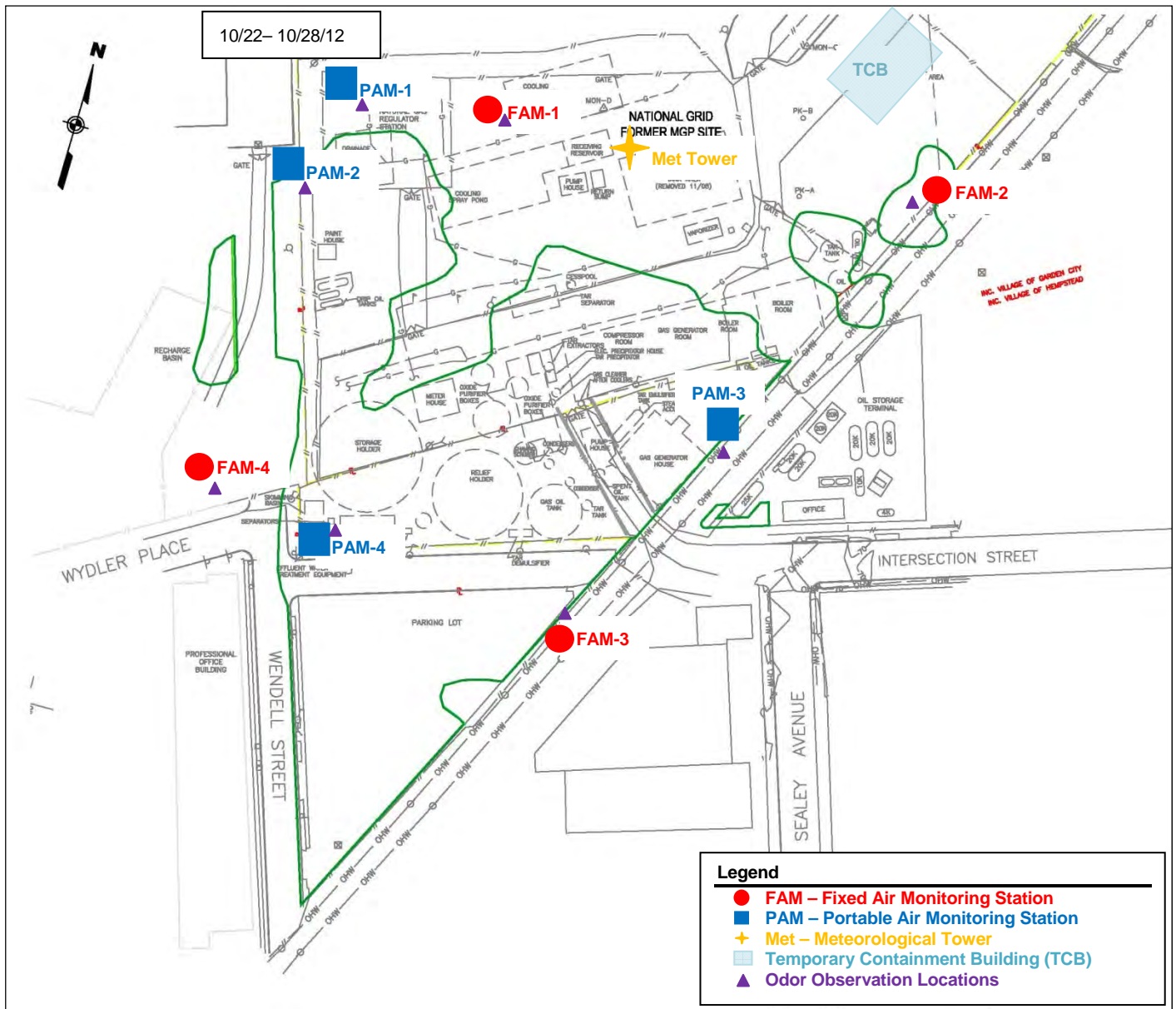


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 15 through October 21, 2012

During the report period there were no PM₁₀ or TVOC concentrations greater than the Alert or Action Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Alert or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/15/12	29.2	0.1	24.2	0.1	20.7	0.3	23.3	0.1	51.5	0.1	28.3	0.1	31.0	0.1	41.6	0.1	X	X
Tue 10/16/12	22.0	0.1	39.0	0.1	20.6	0.1	23.3	0.1	11.6	0.1	29.5	0.1	22.4	0.1	6.3	0.1	X	X
Wed 10/17/12	48.9	0.1	56.3	0.1	38.8	0.1	39.6	0.1	43.7	0.1	78.5	0.1	77.5	0.1	70.0	0.1	X	X
Thu 10/18/12	69.8	0.1	76.0	0.1	44.9	0.1	50.6	0.1	81.7	0.1	82.4*	0.1	83.1	0.1	63.8	0.1	X	X
Fri 10/19/12	18.6	1.0	30.1	0.1	25.6	0.1	28.7	0.1	64.0	0.1	36.0	0.1	53.5	0.1	33.3	0.1	X	X
Sat 10/20/12	23.3	1.0	48.2	0.1	40.9	0.1	45.2	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/21/12	15.8	0.1	21.6	0.1	14.0	0.1	15.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/15/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 10/16/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Wed 10/17/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Thu 10/18/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 10/19/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Sat 10/20/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/21/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 8 through October 14, 2012

During the report period there were no PM₁₀ or TVOC concentrations greater than the Alert or Action Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Alert or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

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Weekly Site Activities, Meteorological Observations, and Site Maps

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Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/8/12	26.5	0.1	31.0	0.1	19.2	0.1	19.4	0.1	38.5	0.1	65.4	0.1	77.6	0.1	56.7	0.1	X	X
Tue 10/9/12	12.2	0.1	22.9	0.1	11.9	0.1	24.5	0.1	18.4	0.1	62.6	0.1	15.2	0.1	24.2	0.1	X	X
Wed 10/10/12	23.2	0.1	30.2	0.1	20.3	0.1	21.9	0.1	17.1	0.1	60.8	0.1	20.7	0.1	19.2	0.1	X	X
Thu 10/11/12	24.2	0.1	42.7	0.1	11.1	0.1	11.6	0.1	11.7	0.1	29.3	0.1	17.9	0.1	7.1	0.1	X	X
Fri 10/12/12	30.5	0.1	52.9	0.1	24.2	0.1	24.0	0.1	43.8	0.1	64.0	0.1	73.6	0.1	14.4	0.1	X	X
Sat 10/13/12	22.3	0.1	18.5	0.1	10.2	0.1	9.1	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/14/12	20.7	0.1	21.3	0.1	14.4	0.3	18.8	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hours, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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Thu 10/11/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
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Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	October 1 through October 7, 2012

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Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 10/1/12	14.8	0.1	32.7	0.1	23.7	0.2	28.5	0.1	26.2	0.1	30.2	0.2	39.2	0.1	24.4	0.2	X	X
Tue 10/2/12	81.6*	0.1	73.4	0.1	40.9	0.3	44.1	0.1	39.8	0.1	71.0	0.1	30.6	0.1	27.4	0.1	X	X
Wed 10/3/12	97.0*	0.2	71.8	0.1	63.8	0.1	71.2	0.1	74.8	0.1	67.1	0.1	80.3	0.1	64.3	0.2	X	X
Thu 10/4/12	96.6	0.1	15.2*	0.1	88.9	0.1	93.7	0.1	68.7	0.1	74.9	0.1	78.4	0.1	75.9	0.1	X	X
Fri 10/5/12	47.0	0.1	82.9	0.1	56.0	0.1	52.8	0.1	79.4	0.1	89.6	0.2	62.9	0.1	83.9	0.1	X	X
Sat 10/6/12	73.0	0.1	61.7	0.1	58.7	0.1	57.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 10/7/12	21.8	0.1	29.5	0.1	23.5	0.1	23.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

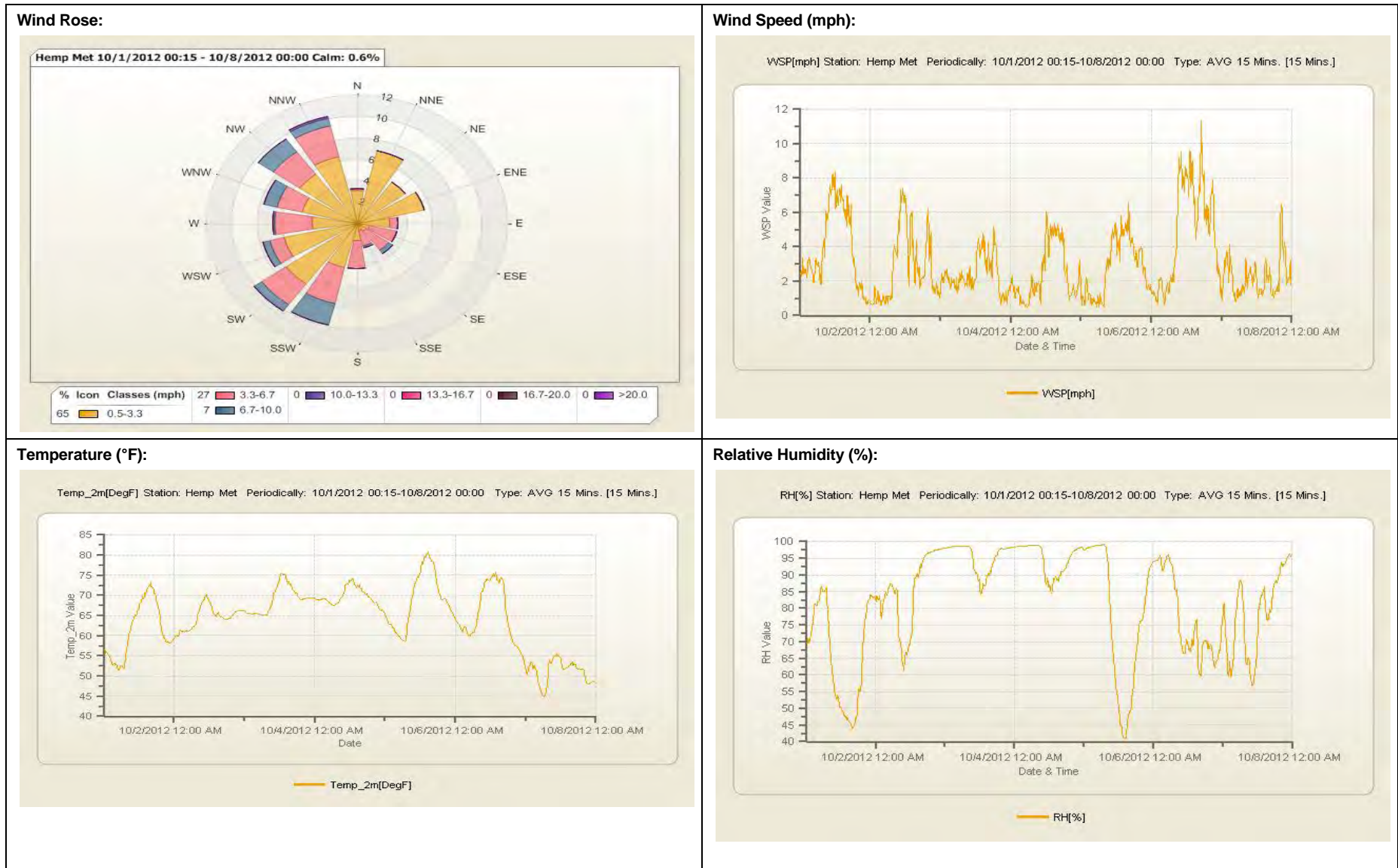
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 10/2/12	FAM-1	8:17AM 8:22AM	8:18AM 8:26AM	7	100	SSE 4.1 mph	SSE 3.9 mph	FAM-3	108.1	26.5	81.6	Operational	Elevated PM ₁₀ concentrations were caused by dust from the batch plant.
PM ₁₀	Wed 10/3/12	FAM-1	12:49PM	1:00PM	12	100	S 4.1 mph	SSW 4.5 mph	PAM-4	128.8	31.8	97.0	Operational	Elevated PM ₁₀ concentrations were caused by dust from the batch plant.
PM ₁₀	Thu 10/4/12	FAM-2	3:15AM	3:25AM	11	100	Variable	Variable	FAM-3	102.3	87.1	15.2	Operational	Elevated PM ₁₀ concentrations were caused by atmospheric conditions (high relative humidity).
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 10/1/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 10/2/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Wed 10/3/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; • Collected integrated VOC samples; and •Routine air monitoring.
Thu 10/4/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Fri 10/5/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Performed Batch Plant maintenance on BP#1(RH40); and •Routine air monitoring.
Sat 10/6/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 10/7/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 24 through September 30, 2012

During the report period there were no PM₁₀ or TVOC concentrations greater than the Alert or Action Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Alert or Action Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and $[C] \geq 2.5$ (DT)

Definitions:

- TVOC = Total Volatile Organic Compounds
- PID = Photoionization Detector
- GC = Gas Chromatograph
- PM₁₀ = Respirable Particulate Matter
- ppm = Parts per million volume
- µg/m³ = Micrograms per cubic meter
- [C] = Concentration of target collected from a discrete sample
- [C_{avg}] = 15-minute average concentration of target
- DT = Dräger Tubes
- OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval.
- NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.

Notes:

¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in **Table 3 and 4**.

² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/24/12	17.3	0.1	37.1	0.1	15.6	0.1	9.8	0.1	24.5	0.1	39.1	0.1	33.3	0.1	10.8	0.1	X	X
Tue 9/25/12	19.3	0.1	19.4	0.1	17.9	0.1	15.9	0.1	56.9	0.1	47.7	0.1	37.6	0.1	39.0	0.2	X	X
Wed 9/26/12	31.1	0.1	31.7	0.1	37.8	0.2	72.9	0.1	34.1	0.1	49.4	0.1	31.9	0.1	39.3	0.2	X	X
Thu 9/27/12	63.4	0.2	81.9	0.1	64.2	0.3	64.7	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 9/28/12	40.5	0.8	46.6	0.1	45.1	0.1	44.8	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 9/29/12	28.1	0.1	33.9	0.1	26.5	0.1	28.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/30/12	15.5	0.1	20.0	0.1	26.4	0.1	20.9	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). ¹Site closed (no site activities). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

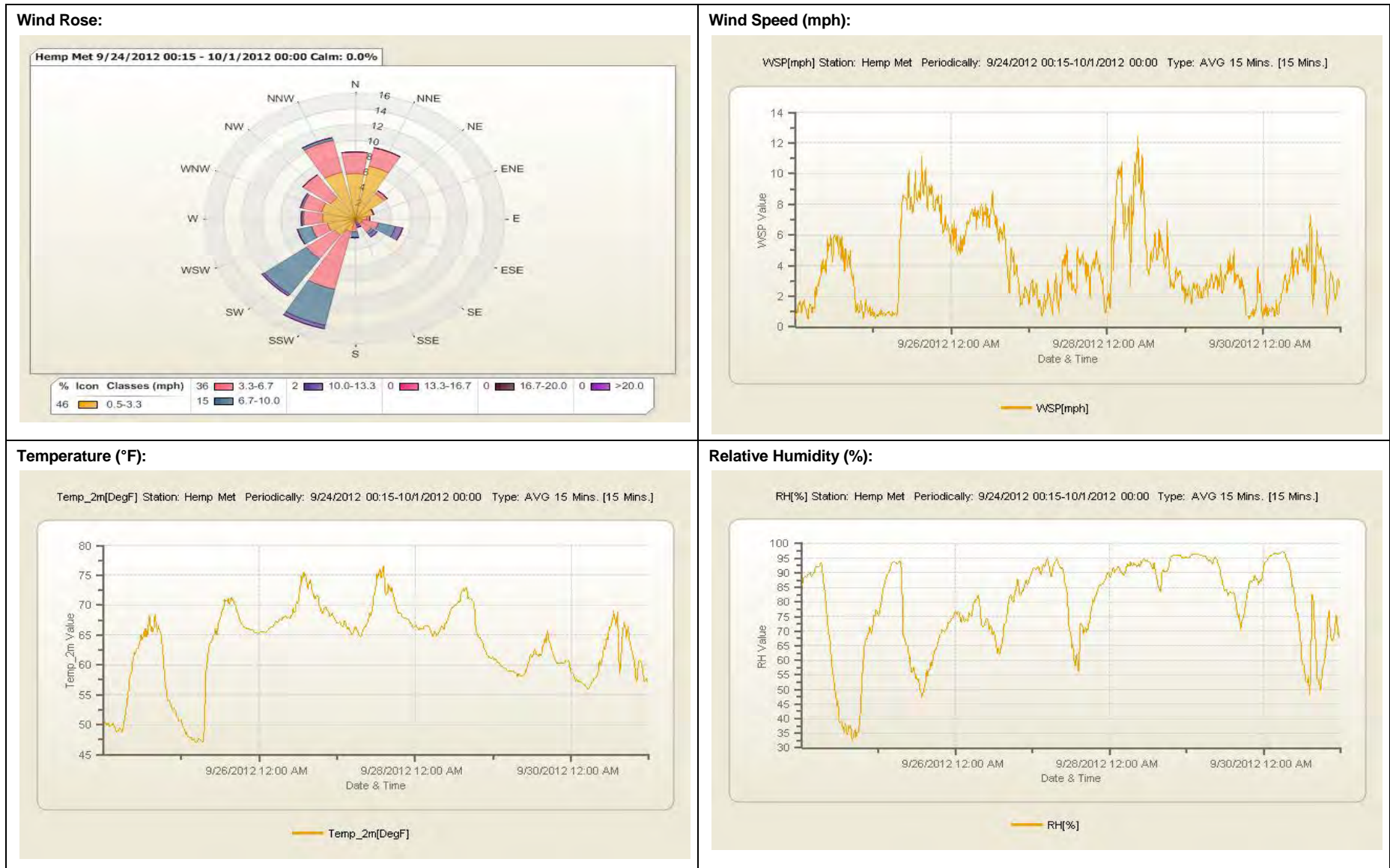
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/24/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 9/25/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Wed 9/26/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Thu 9/27/12	<ul style="list-style-type: none"> •Collected integrated VOC samples; •No Site activities; and •Routine air monitoring.
Fri 9/28/12	<ul style="list-style-type: none"> • No Site activities; and •Routine air monitoring.
Sat 9/29/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/30/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 17 through September 23, 2012

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. There was, however, one period of PM₁₀ concentrations that remained greater than the Response and Action Limits after background subtraction at PAM 1 on Friday, September 21 (see **Table 4** for specific details). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Action Limit after background subtraction. There was, however, one period of PM₁₀ concentrations that remained greater than the Response and Action Limits after background subtraction at PAM 1 on Friday, September 21 (see **Table 4** for specific details). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
Definitions: TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM ₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m ³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C _{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM ₁₀ .							
Notes: ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM ₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4 . ² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/17/12	96.0	0.1	32.6	0.1	30.1	0.1	16.2	0.1	34.8	0.1	84.7	0.1	66.3	0.1	48.6	0.2	X	X
Tue 9/18/12	69.9	0.1	70.8	0.1	64.7	0.1	29.1	0.1	47.9	0.2	51.2	0.1	28.4	0.1	28.4	0.2	X	X
Wed 9/19/12	25.6	0.1	81.0	0.1	21.7	0.1	9.0	0.1	10.6	0.1	39.9	0.1	20.7	0.1	16.6	0.1	X	X
Thu 9/20/12	98.9	0.1	49.8	0.1	16.7	0.1	22.3	0.1	57.6	0.1	21.4	0.1	3.2	0.1	14.1	0.1	X	X
Fri 9/21/12	59.9	0.1	19.7	0.1	15.3	0.1	16.7	0.1	984.5*	0.1	48.5	0.1	18.4	0.1	19.0	0.1	X	X
Sat 9/22/12	27.1	0.1	36.0	0.1	18.4	0.1	30.9	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/23/12	34.8	0.1	45.0	0.1	21.0	0.1	38.0	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri 9/21/12	PAM-1	10:05AM	10:42AM	38	150	E 5.3 mph	ESE 5.2 mph	PAM-3	986.0	1.5	984.5	Operational ¹	Elevated PM ₁₀ concentrations were caused by landscaping activities (weed-whacking and leaf-blowing) off-Site in the vicinity of PAM-1.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. <p>¹ Operational Condition because the elevated concentrations were caused by off Site activities.</p>														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri 9/21/12	PAM-1	10:04AM 10:43AM	- 10:45AM	4	100	E 5.3 mph	ESE 5.2 mph	PAM-3	146.3	1.7	144.6	Operational ¹	Elevated PM ₁₀ concentrations were caused by landscaping activities (weed-whacking and leaf-blowing) off-Site in the vicinity of PAM-1.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. <p>¹ Operational Condition because the elevated concentrations were caused by off Site activities.</p>														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/17/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Tue 9/18/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 9/19/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Thu 9/20/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; and •Routine air monitoring.
Fri 9/21/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Welded and repaired augers; •Changed oil in both drill rigs; and •Routine air monitoring.
Sat 9/22/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/23/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 10 through September 16, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limit after background subtraction. However, there was one period of PM₁₀ concentrations that remained greater than the Response Limit after background subtraction at FAM 1 on Sunday, September 16 (see **Table 4** for specific details). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits after background subtraction. However, there was one period of PM₁₀ concentrations that remained greater than the Response Limit after background subtraction at FAM 1 on Sunday, September 16 (see **Table 4** for specific details). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/10/12	87.8	0.1	38.8	0.1	17.9	0.1	8.6	0.1	46.7	0.1	31.5	0.1	25.6	0.1	19.7	0.1	X	X
Tue 9/11/12	62.8	0.1	31.9	0.1	13.0	0.1	11.2	0.1	18.2	0.1	39.8	0.1	21.6	0.1	13.1	0.1	X	X
Wed 9/12/12	55.2	0.1	39.8	0.1	26.4	0.1	21.9	0.1	42.4	0.1	60.2	0.1	96.6	0.1	84.9	0.1	X	X
Thu 9/13/12	57.4	0.1	34.8	0.1	27.7	0.1	27.2	0.1	51.0	0.1	74.8	0.1	69.6	0.1	85.7	0.1	X	X
Fri 9/14/12	42.0	0.1	18.7	0.1	13.7	0.1	10.4	0.1	27.9	0.1	54.0	0.2	70.9	0.1	52.4	0.1	X	X
Sat 9/15/12	95.2	0.1	15.7	0.1	14.8	0.1	13.1	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/16/12	102.3	0.1	19.6	0.1	14.2	0.1	12.2	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

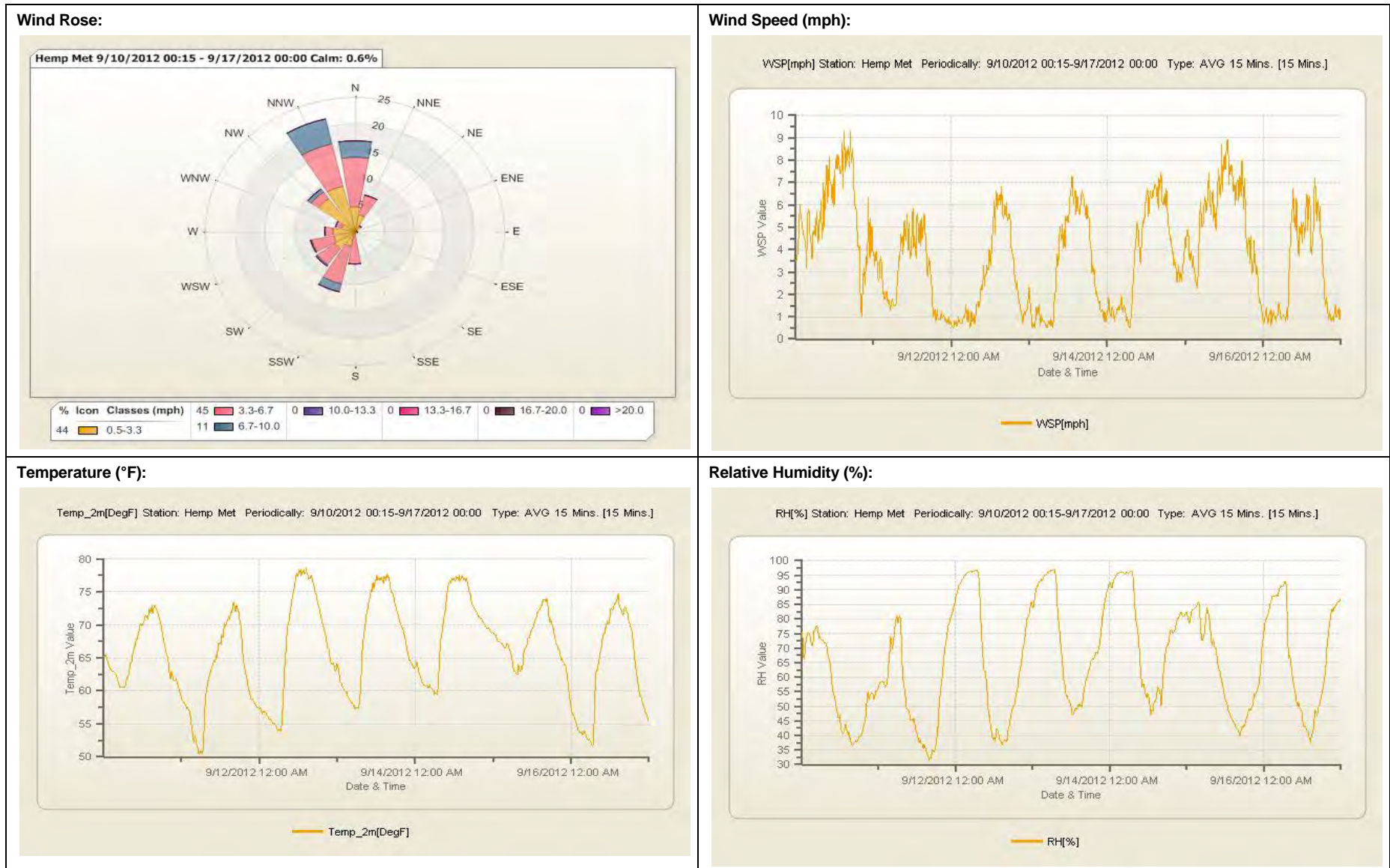
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sun. 9/16/12	FAM-1	1:27PM	4:49PM	203	100	W 6.5 mph	SSW 5.9 mph	FAM-4	108.8	6.5	102.3	Response	Elevated PM ₁₀ concentrations were caused by an unknown source, no site activity at the time.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/10/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); and •Routine air monitoring.
Tue 9/11/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); and •Routine air monitoring.
Wed 9/12/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Performed welding / repairs on Augers; and •Routine air monitoring.
Thu 9/13/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued welding / repairs on Augers; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 9/14/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued welding / repairs on Augers; and •Routine air monitoring.
Sat 9/15/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/16/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	September 3 through September 9, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. There was no Portable Air Monitoring (PAM) or hand-held observations performed on Monday, September 3 or Tuesday September 4, 2012 due to the site closure for the Labor Day holiday. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <ul style="list-style-type: none"> TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample $[C_{avg}]$ = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀. <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 9/3/12	2.4	0.4	9.1	0.1	19.2	0.1	19.8	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Tue 9/4/12	30.4	1.0	37.4	0.1	36.7	0.1	38.3	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Wed 9/5/12	61.2	0.2	51.8	0.1	94.0	0.1	45.5	0.1	53.0	0.1	49.6	0.1	46.6	0.1	54.5	0.7	X	X
Thu 9/6/12	79.2	0.1	78.2	0.1	34.1	0.1	71.0	0.1	22.3	0.1	45.1	0.8	24.3	0.4	33.6	0.6	X	X
Fri 9/7/12	73.0	0.1	87.9	0.1	55.1	0.2	67.6	0.1	90.6	0.2	89.7	0.2	84.4	0.5	98.6	0.1	X	X
Sat 9/8/12	29.5	0.2	29.3	0.1	42.7	0.1	33.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/9/12	68.5	0.1	38.8	0.1	36.6	0.1	14.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). ¹Site closed due to Labor Day holiday (no site activities). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

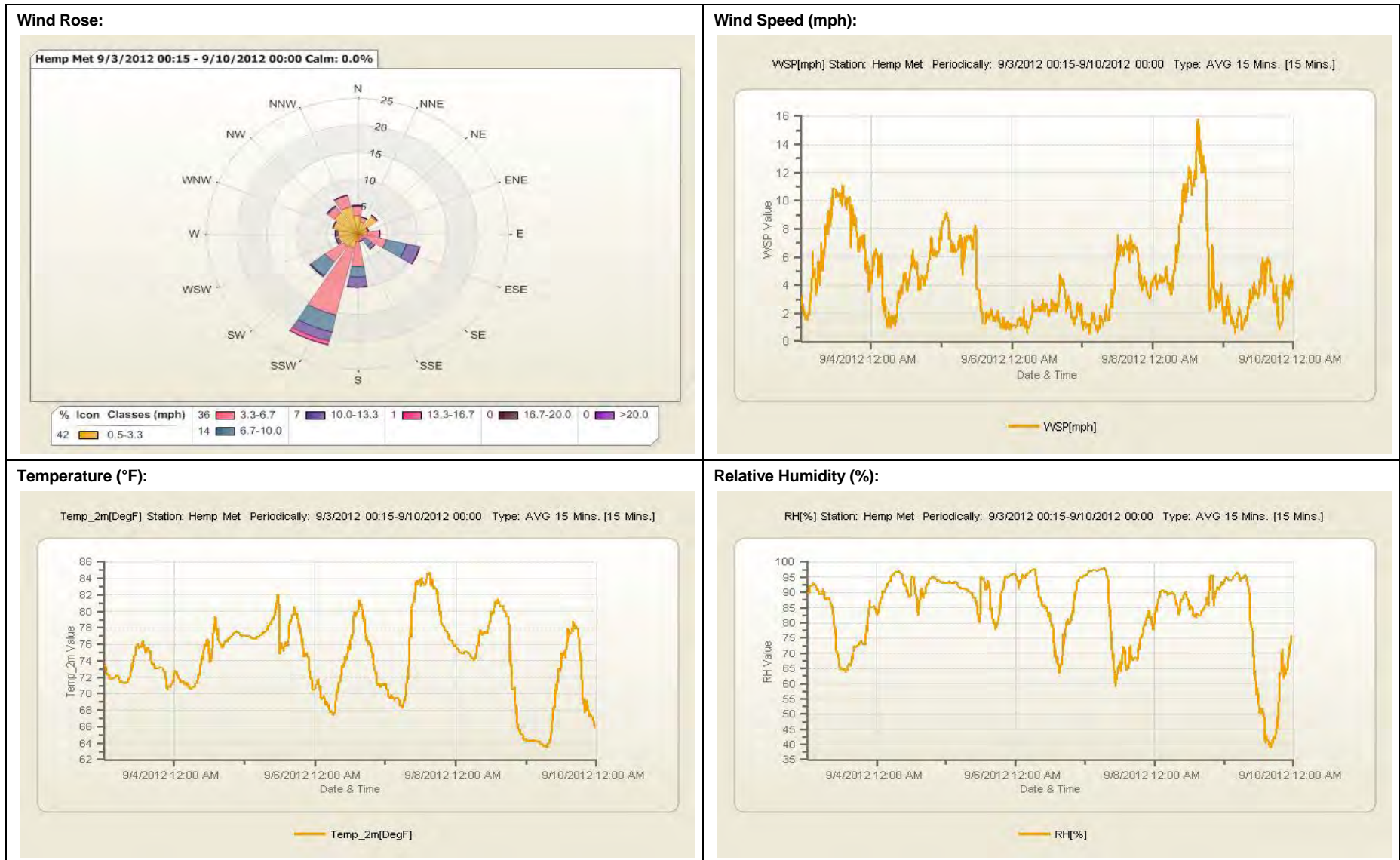
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 9/3/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring
Tue 9/4/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring
Wed 9/5/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); and •Routine air monitoring.
Thu 9/6/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); and •Routine air monitoring.
Fri 9/7/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Collected integrated VOC samples; and •Routine air monitoring.
Sat 9/8/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/9/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 27 through September 2, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. There was no Portable Air Monitoring (PAM) or hand-held observations performed on Thursday, August 27 or Friday August 28, 2012 due to the site closure for the Labor Day holiday. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/27/12	80.9	0.8	31.0	0.1	26.6	0.1	30.4	0.1	46.0	0.1	65.4	0.1	39.1	0.1	46.2	0.1	X	X
Tue 8/28/12	36.7	0.3	54.2	0.1	31.6	0.1	31.2	0.1	56.9	0.1	41.1	0.1	38.4	0.1	42.7	0.1	X	X
Wed 8/29/12	35.6	0.1	56.6	0.1	25.2	0.1	21.2	0.1	22.8	0.1	23.9	0.1	54.2	0.1	21.2	0.1	X	X
Thu 8/30/12	56.4	0.2	41.8	0.1	25.5	0.1	28.4	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Fri 8/31/12	66.7	0.1	71.1	0.1	49.7	0.1	47.5	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X
Sat 9/1/12	72.9	0.3	45.9	0.1	86.3	0.1	44.7	0.1	X	X	X	X	X	X	X	X	X	X
Sun 9/2/12	20.1	0.4	25.5	0.1	32.2	0.1	31.5	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). ¹Site closed due to Labor Day holiday (no site activities). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

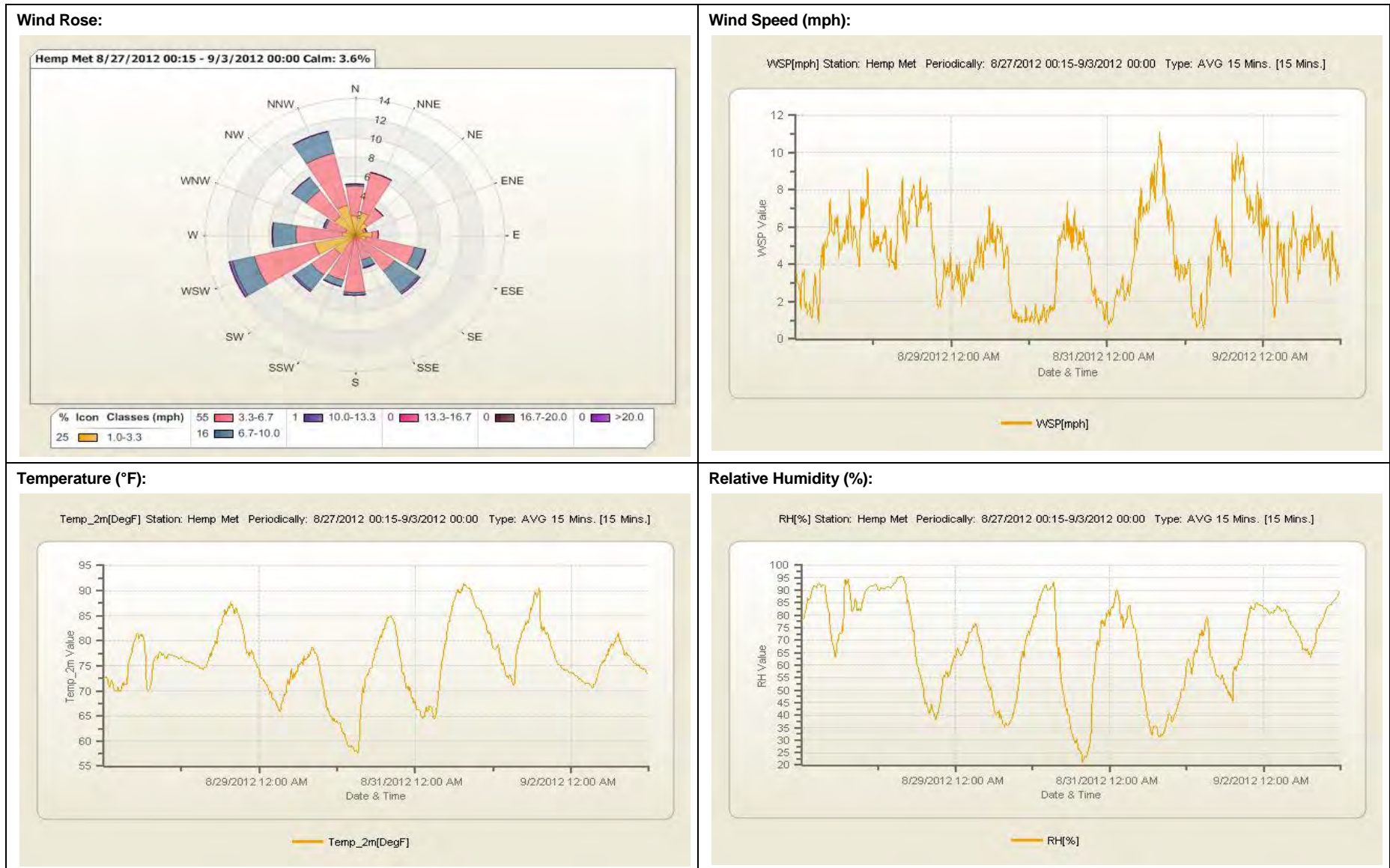
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/27/12	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Performed DSM production columns installation (SR100); •Continued repairs of swivel and cutter at site SR100; •Pre-dug (potholed)/foamed; and •Routine air monitoring.
Tue 8/28/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued repairs of swivel and cutter at site SR100; • Continued pre-dig (potholing)/foaming; and •Routine air monitoring.
Wed 8/29/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Collected integrated VOC samples; and •Routine air monitoring.
Thu 8/30/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 8/31/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 9/1/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 9/2/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 20 through August 26, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – µg/m ² ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/20/12	40.9	0.1	35.8	0.1	34.8	0.1	24.6	0.1	35.4	0.1	34.2	0.1	51.8	0.1	57.7	0.1	X	X
Tue 8/21/12	24.2	0.3	30.8	0.1	33.8	0.1	27.0	0.1	28.5	0.1	31.2	0.3	31.2	0.1	28.1	0.1	X	X
Wed 8/22/12	54.0	0.3	67.6	0.1	58.1	0.2	65.0	0.1	90.0	0.1	56.9	0.1	65.5	0.1	68.9	0.1	X	X
Thu 8/23/12	68.6	0.4	68.0	0.1	97.7	0.1	57.0	0.1	62.8	0.1	75.4	0.1	69.3	0.1	93.6	0.1	X	X
Fri 8/24/12	66.5*	0.5	68.2	0.1	69.0	0.1	63.2	0.1	78.3	0.1	87.5	0.1	88.0	0.1	86.0	0.1	X	X
Sat 8/25/12	39.5	0.4	66.5	0.1	65.9	0.2	60.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/26/12	12.4	0.5	19.2	0.1	21.2	0.1	17.4	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

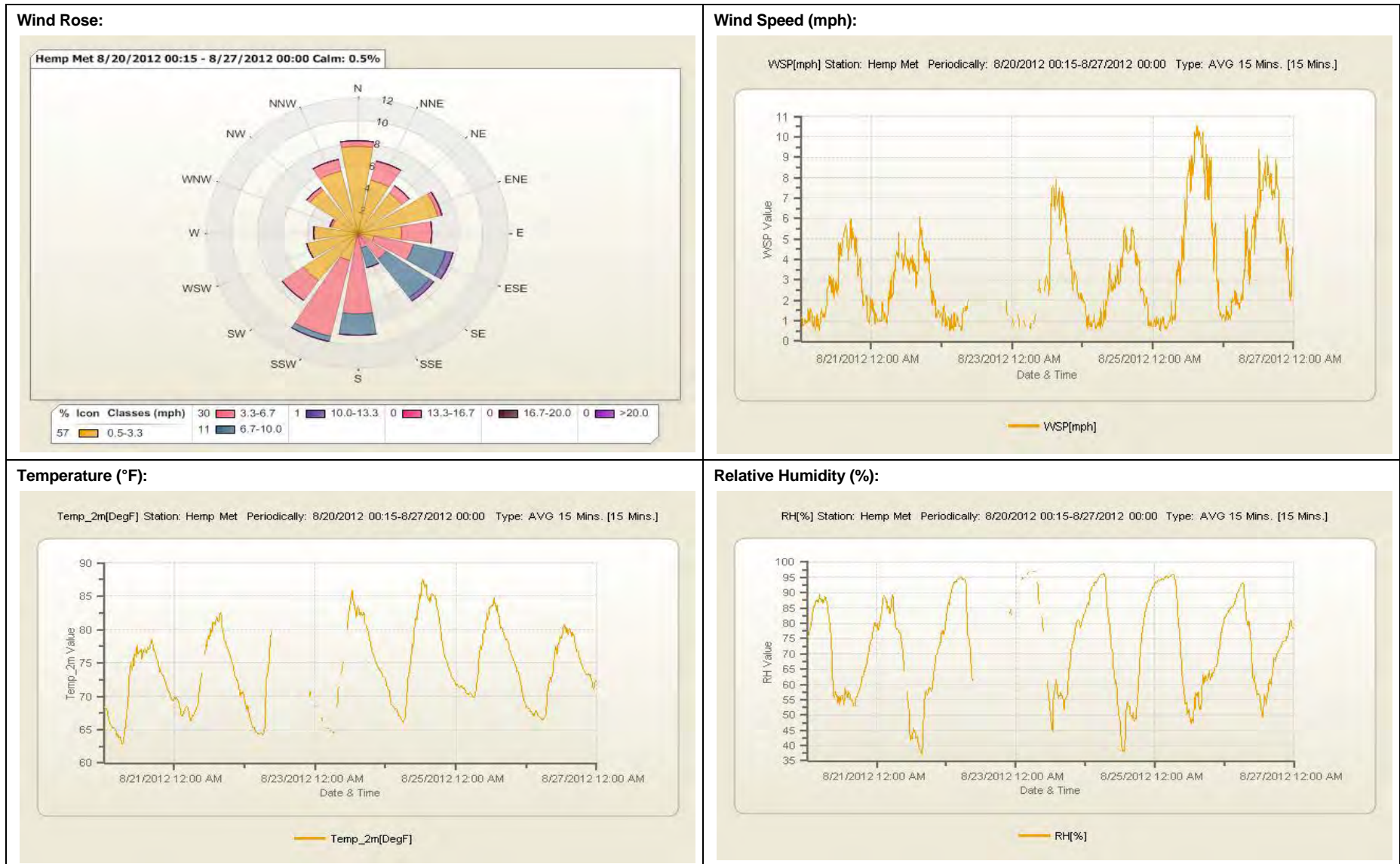
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Thu. 8/23/12	PAM-3	8:20AM	8:23AM	4	100	SW 2.5 mph	SW 2.5 mph	FAM-3	123.3	54.0	69.3	Response	Elevated PM ₁₀ concentration was caused by truck traffic. Concentrations dropped immediately after the event.
PM ₁₀	Fri. 8/24/12	FAM-1	3:13PM	3:16PM	4	100	S 4.4 mph	S 4.4 mph	PAM-4	106.0	39.5	66.5	Response	Elevated PM ₁₀ concentration was caused by residual dust from bags of Bентinite being dumped into batch plant.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/20/12	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Performed site-batch plant maintenance; •Pre-dug (potholed)/foamed; and •Routine air monitoring.
Tue 8/21/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued site-batch plant maintenance; •Continued pre-dig (potholing)/foaming; and •Routine air monitoring.
Wed 8/22/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Performed repairs of swivel and cutter at site SR100 •Continued pre-dig (potholing)/foaming; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 8/23/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Continued DSM production Columns installation (RH40); •Continued repairs of swivel and cutter at site SR100 •Continued pre-dig (potholing)/foaming; and •Routine air monitoring.
Fri 8/24/12	<ul style="list-style-type: none"> •Continued DSM production Columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued repairs of swivel and cutter at site SR100; •Continued pre-dig (potholing)/foaming; and •Routine air monitoring.
Sat 8/25/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/26/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 13 through August 19, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

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- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

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- **Figure 2:** Daily/weekly Site map.

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Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/13/12	34.6	0.1	55.1	0.1	31.2	0.1	28.0	0.1	27.7	0.1	32.8	0.1	36.8	0.1	24.9	0.1	X	X
Tue 8/14/12	71.9	0.1	66.7	0.1	47.6	0.1	70.2	0.1	61.0	0.1	58.5	0.1	56.2	0.1	64.0	0.1	X	X
Wed 8/15/12	45.9	0.1	68.9	0.1	58.0	0.1	62.2	0.1	87.6	0.1	86.3	0.1	84.9	0.1	82.1	0.1	X	X
Thu 8/16/12	45.0	0.1	78.2	0.1	51.2	0.1	46.7	0.1	80.8	0.1	82.0	0.1	42.9	0.1	36.8	0.1	X	X
Fri 8/17/12	79.9	0.1	77.5	0.1	65.3	0.1	64.8	0.1	82.9	0.1	88.4	0.1	73.8	0.1	56.2	0.1	X	X
Sat 8/18/12	43.4	0.1	52.9	0.1	44.0	0.1	43.2	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/19/12	38.6	0.1	30.1	0.1	20.7	0.1	19.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue. 8/14/12	FAM-1	9:30AM	9:42AM	13	100	Variable	SW 2.1 mph	FAM-4	114.8	42.9	71.9	Response	Elevated PM ₁₀ concentrations were caused by site activity near the drill rigs.
PM ₁₀	Thu. 8/16/12	PAM-2	7:59AM	-	1	100	NNW 4.4 mph	-	FAM-4	104.1	22.1	82.0	Response	Elevated PM ₁₀ concentration was caused by an unknown reason. Concentrations dropped immediately after elevated concentration.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/13/12	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Performed DSM production columns installation (SR100); •Performed site maintenance and landscaping; and •Routine air monitoring.
Tue 8/14/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Performed site-batch plant maintenance; and •Routine air monitoring.
Wed 8/15/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Continued DSM production columns installation (RH40); •Continued site-batch plant maintenance; and •Routine air monitoring.
Thu 8/16/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Continued DSM production Columns installation (RH40); •Continued site-batch plant maintenance; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 8/17/12	<ul style="list-style-type: none"> •Continued DSM production Columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued site-batch plant maintenance; and •Routine air monitoring.
Sat 8/18/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/19/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

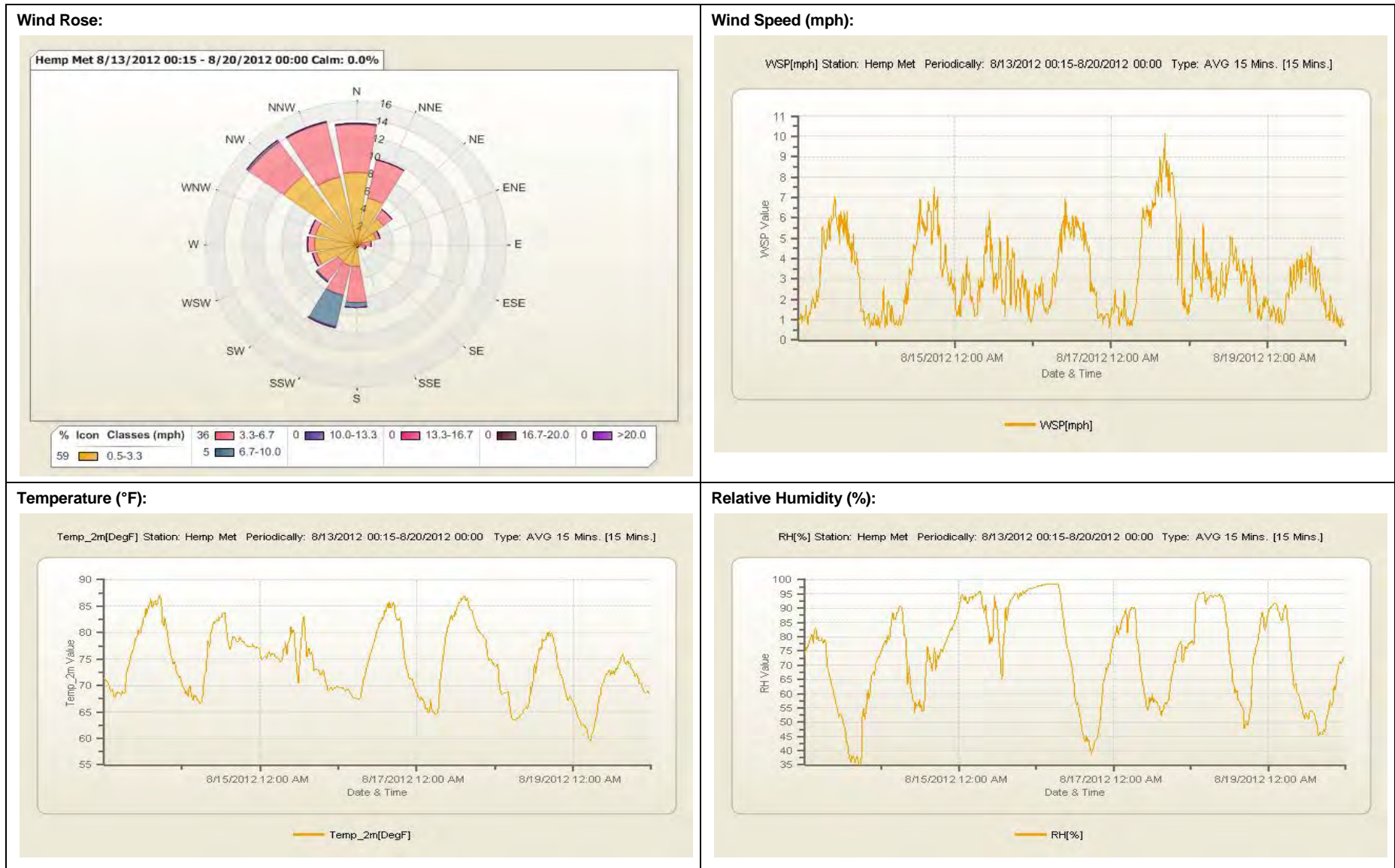
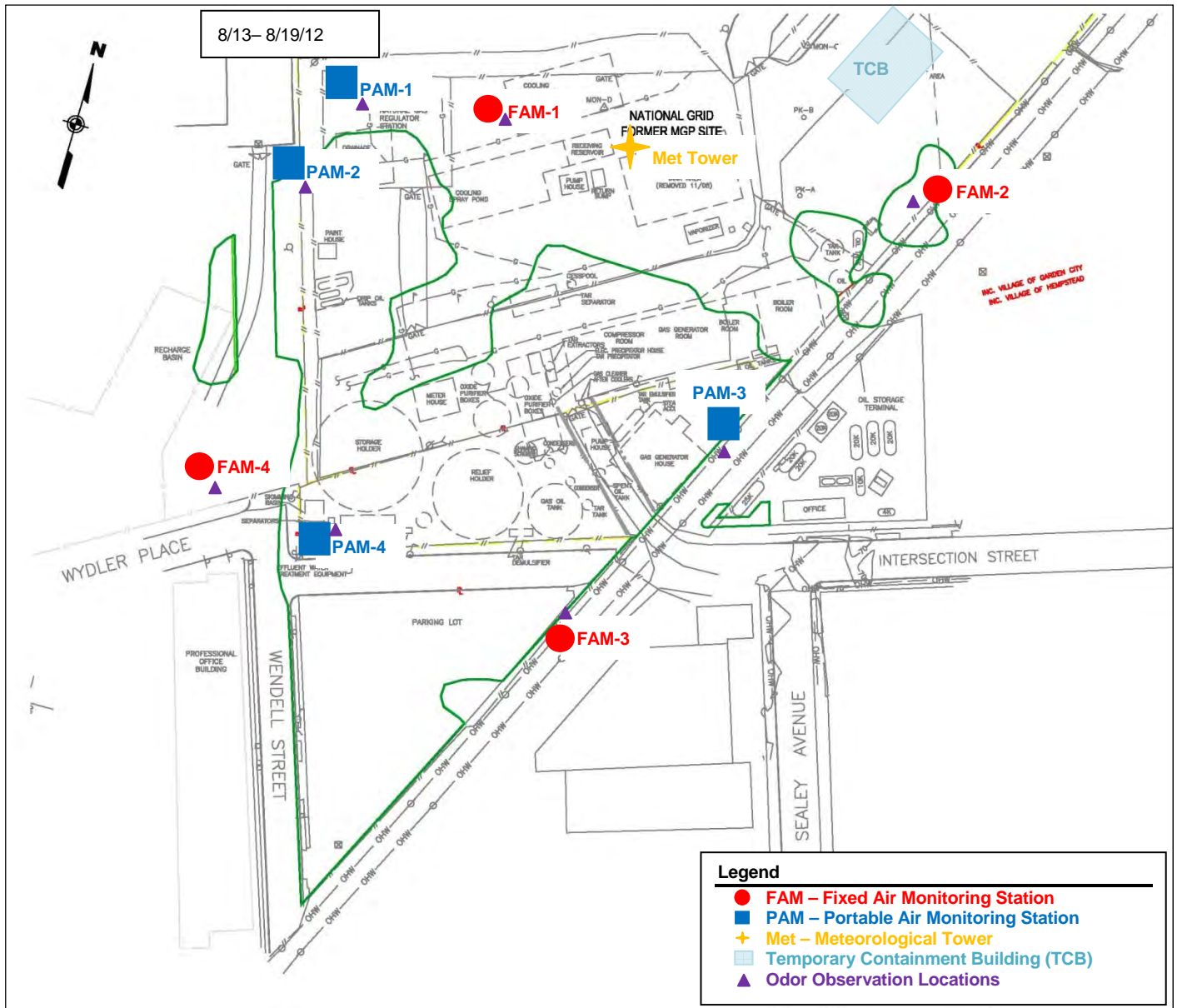


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	August 6 through August 12, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 8/6/12	31.9	0.1	29.6	0.1	31.5	0.1	31.0	0.1	72.4	0.1	39.0	0.1	32.8	0.1	34.1	0.1	X	X
Tue 8/7/12	30.5	0.1	18.6	0.1	19.6	0.1	14.3	0.1	17.0	0.1	24.2	0.1	19.2	0.1	34.5	0.1	X	X
Wed 8/8/12	69.8	0.1	46.8	0.1	38.7	0.1	38.1	0.1	67.5	0.1	60.7	0.1	72.5	0.1	64.1	0.1	X	X
Thu 8/9/12	69.4	0.1	57.8	0.1	51.7	0.1	54.2	0.1	45.8	0.1	67.2	0.1	61.6	0.1	31.7	0.1	X	X
Fri 8/10/12	42.4	0.1	42.1	0.1	48.0	0.1	50.0	0.1	35.2	0.1	24.0	0.1	17.7	0.1	23.2	0.1	X	X
Sat 8/11/12	24.2	0.1	42.5	0.1	35.8	0.1	35.5	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/12/12	33.6	0.1	46.5	0.1	31.5	0.1	30.0	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 8/6/12	<ul style="list-style-type: none"> •Performed DSM production columns installation (RH40); •Performed DSM production columns installation (SR100); • Performed site maintenance and landscaping; and •Routine air monitoring.
Tue 8/7/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued site maintenance and landscaping; and •Routine air monitoring.
Wed 8/8/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Continued DSM production columns installation (RH40); •Continued site maintenance and landscaping; and •Routine air monitoring.
Thu 8/9/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Continued DSM Production Columns installation (RH40); •Continued site maintenance and landscaping; and •Routine air monitoring.
Fri 8/10/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued site maintenance and landscaping; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 8/11/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
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Figure 1: Weekly Meteorological Summaries

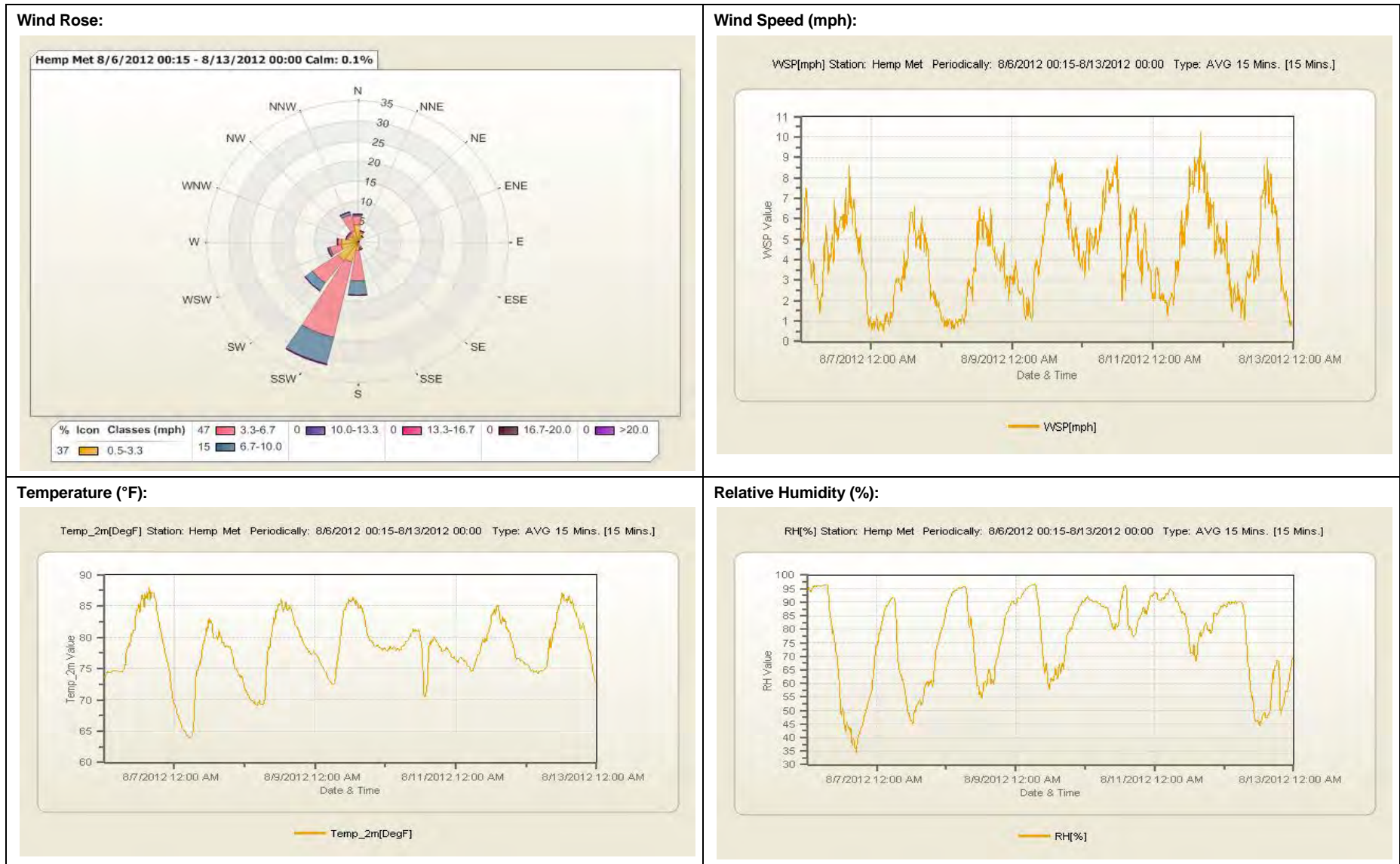
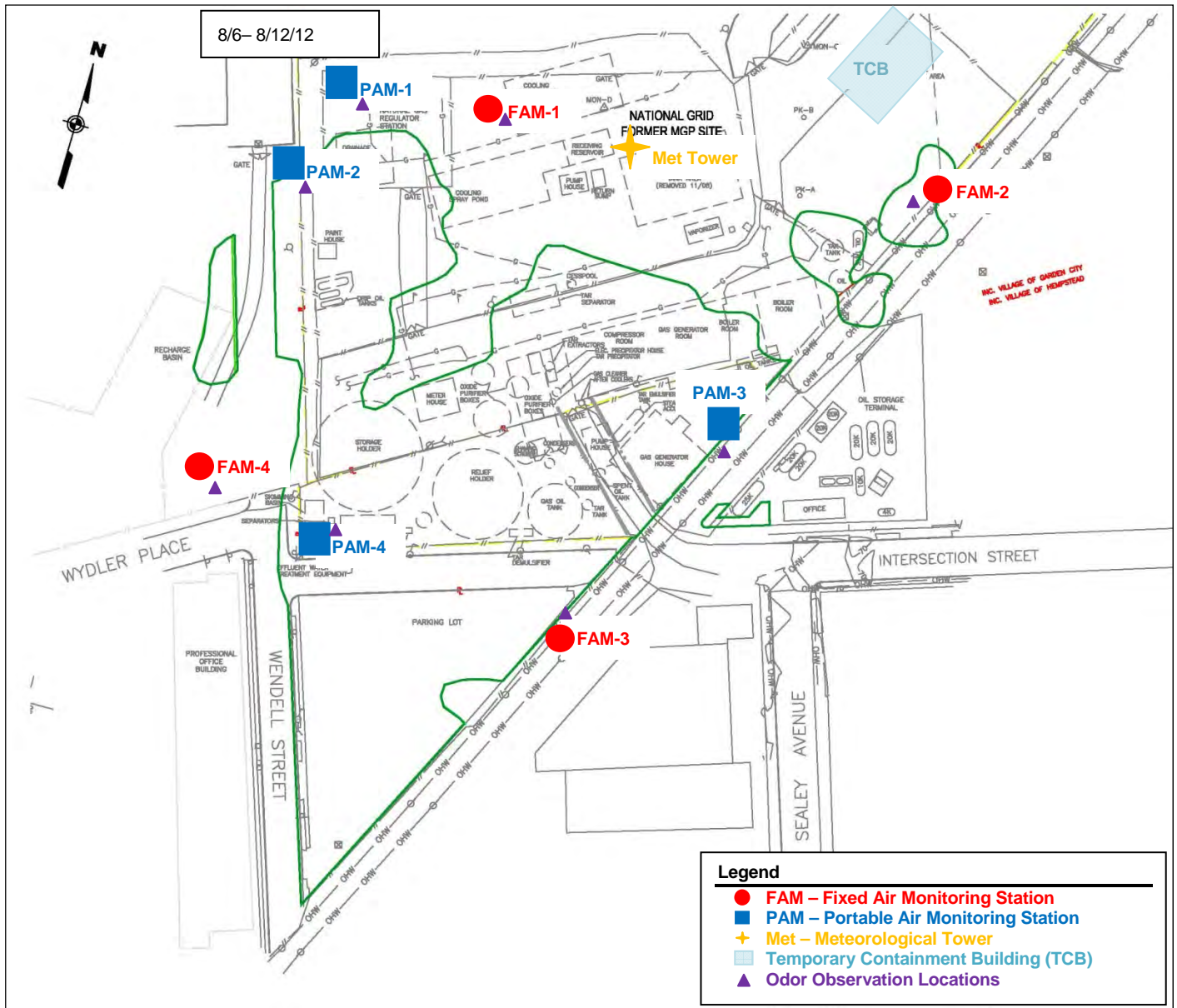


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 30 through August 5, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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Weekly Site Activities, Meteorological Observations, and Site Maps

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Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/30/12	97.0	0.1	41.8	0.1	33.0	0.1	25.3	0.1	35.9	0.1	41.5	0.1	50.3	0.1	29.8	0.1	X	X
Tue 7/31/12	81.6	0.1	18.4	0.1	19.6	0.1	61.8	0.1	39.4	0.1	38.1	0.1	31.5	0.1	33.3	0.1	X	X
Wed 8/1/12	97.0	0.1	23.0	0.1	30.3	0.1	17.6	0.1	31.0	0.1	52.8	0.1	32.8	0.1	25.1	0.1	X	X
Thu 8/2/12	63.6	0.1	73.8	0.1	54.9	0.1	51.3	0.1	83.3	0.1	58.5	0.1	79.9	0.1	58.6	0.1	X	X
Fri 8/3/12	82.4*	0.1	80.7	0.1	74.9	0.1	72.3	0.1	72.6	0.1	73.8	0.1	75.3	0.1	58.6	0.1	X	X
Sat 8/4/12	33.0	0.1	44.9	0.1	45.7	0.1	46.7	0.1	X	X	X	X	X	X	X	X	X	X
Sun 8/5/12	14.6	0.1	24.2	0.1	30.2	0.1	31.6	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri. 8/3/12	FAM-1	12:37PM	12:50PM	14	100	S 6.7 mph	S 6.7 mph	PAM-4	108.8	26.4	82.4	Response	Elevated PM ₁₀ concentrations were caused by excavation and DSM activities directly downwind of FAM-1.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/30/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (20 trucks); •Performed DSM production columns installation (RH40); •Performed DSM production columns installation (SR100); •Excavated and stock piled soil and debris; and •Routine air monitoring.
Tue 7/31/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (17 trucks); •Continued DSM production columns installation (RH40); •Continued DSM production columns installation (SR100); •Continued excavation and stock piling soil and debris; and •Routine air monitoring.
Wed 8/1/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (17 trucks); •Continued DSM production columns installation (SR100); •Continued excavation and stock piling soil and debris; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 8/2/12	<ul style="list-style-type: none"> •Continued DSM production columns installation (SR100); •Performed site maintenance and landscaping; •Decontaminated excavators; and •Routine air monitoring.
Fri 8/3/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued site maintenance and landscaping; •Continued decontamination of excavators; and •Routine air monitoring.
Sat 8/4/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 8/5/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

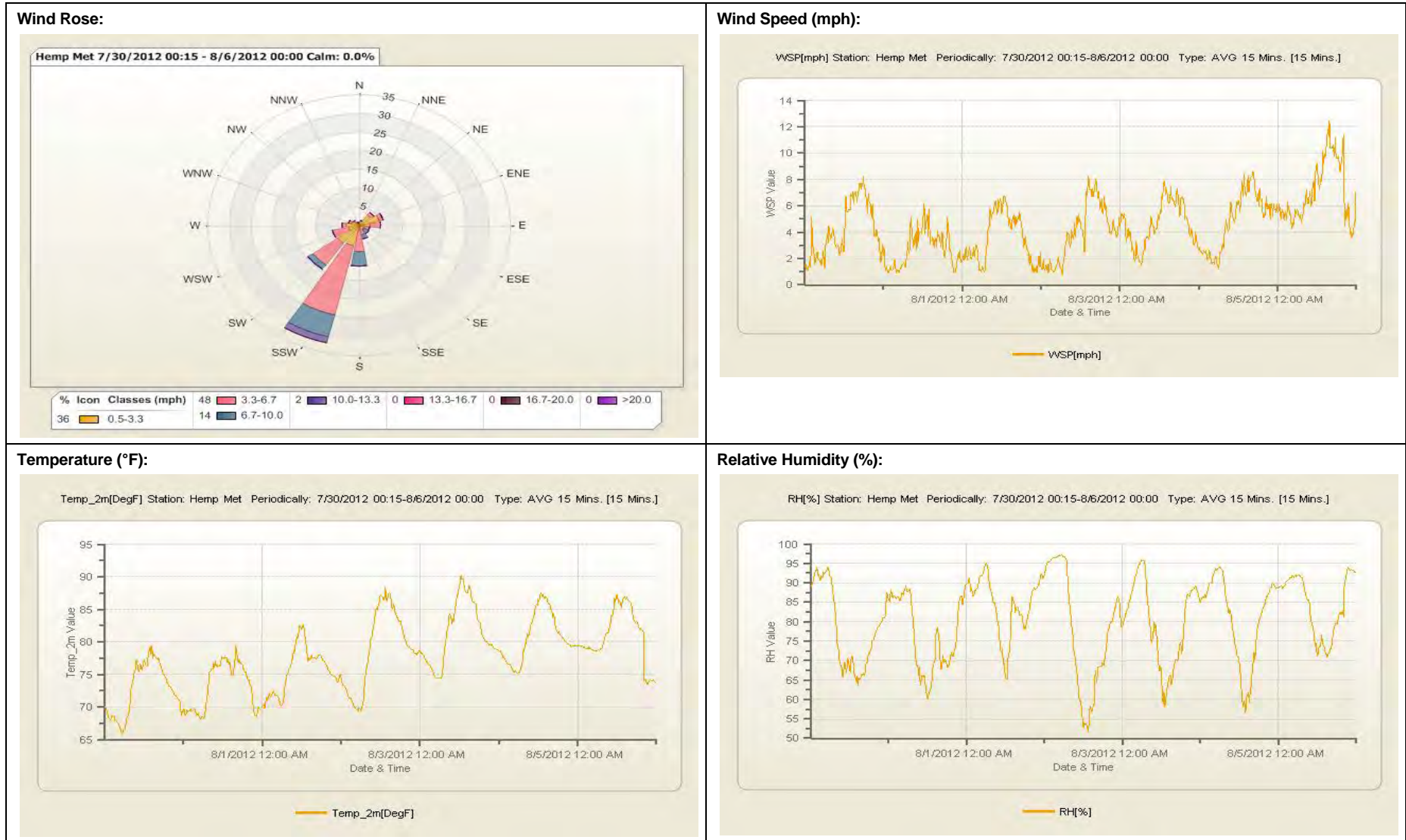
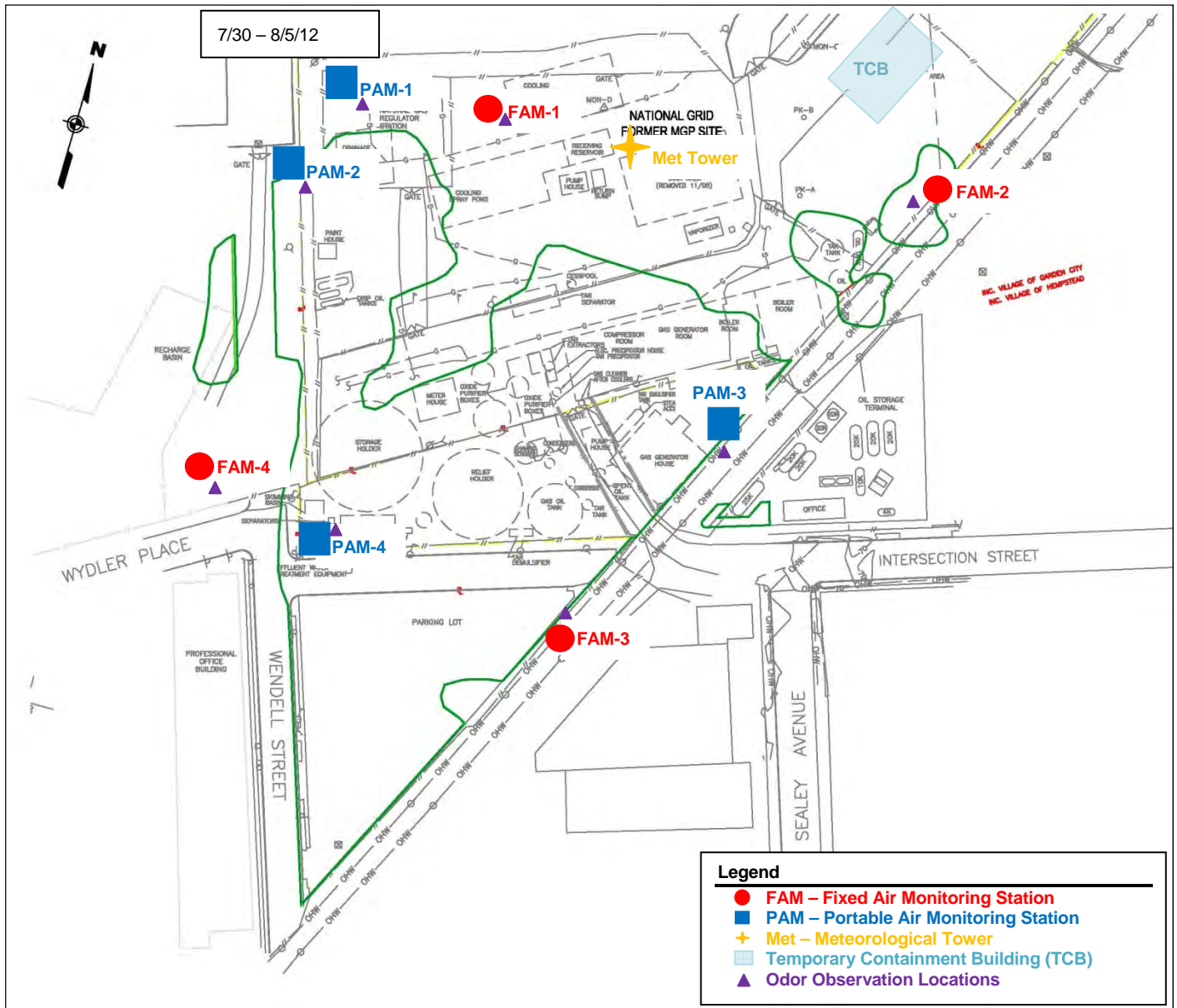


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 23 through July 29, 2012

During the report period there were no TVOC concentrations greater than the Action and Response Limits after background subtraction. There were, however, periods of PM₁₀ concentrations greater than the Action and Response Limits after background subtraction (see **Table 3** and **Table 4**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Action and Response Limits after background subtraction. There were, however, periods of PM₁₀ concentrations greater than the Action and Response Limits after background subtraction (see **Table 3** and **Table 4**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <ul style="list-style-type: none"> TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample $[C_{avg}]$ = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀. <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/23/12	66.1	0.1	65.8	0.1	61.0	0.1	67.1	0.1	29.3	0.1	75.2	0.1	29.8	0.1	41.8	0.1	X	X
Tue 7/24/12	68.9	0.1	66.7	0.1	57.8	0.1	66.6	0.1	91.7	0.1	73.4*	0.1	87.4*	0.1	56.1	0.1	X	X
Wed 7/25/12	23.1	0.1	33.0	0.1	36.4	0.2	21.4	0.1	12.9	0.1	12.0	0.1	51.4	0.1	17.4	0.1	X	X
Thu 7/26/12	65.2	0.1	61.2	0.1	69.8	0.1	65.2	0.1	60.8	0.1	38.5	0.1	53.3	0.1	38.1	0.1	X	X
Fri 7/27/12	393.2*	0.1	44.6	0.1	22.1	0.1	26.7	0.1	55.5	0.1	33.6	0.1	70.5	0.1	23.1	0.1	X	X
Sat 7/28/12	41.6	0.1	35.8	0.1	34.7	0.5	42.0	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/29/12	54.4	0.1	22.4	0.1	20.2	0.1	23.1	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri. 7/27/12	FAM-1	1:55PM	2:11PM	17	150	NNW 6.4 mph	NW 5.4 mph	PAM-1	416.2	23.0	393.2	Action	Elevated PM ₁₀ concentrations were caused by a worker smoking near FAM-1.
PM ₁₀	Fri. 7/27/12	FAM-1	4:21PM 5:14PM	5:03PM 5:18PM	48	150	NW 3.5 mph	WSW 4.8 mph	FAM-3	270.5	9.8	260.7	Action	Elevated PM ₁₀ concentrations were caused by an unknown source. Work had concluded for the day.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Fri. 7/27/12	FAM-1	2:12PM	-	1	100	NW 5.4 mph	-	PAM-1	143.7	22.1	121.6	Response	Elevated PM ₁₀ concentrations were caused by a worker smoking near FAM-1.
PM ₁₀	Fri. 7/27/12	FAM-1	4:16PM 5:04PM 5:19PM	4:20PM 5:13PM 5:28PM	25	100	NW 3.5 mph	WSW 5.7 mph	FAM-3	149.3	12.7	136.6	Response	Elevated PM ₁₀ concentrations were caused by an unknown source. Work had concluded for the day.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

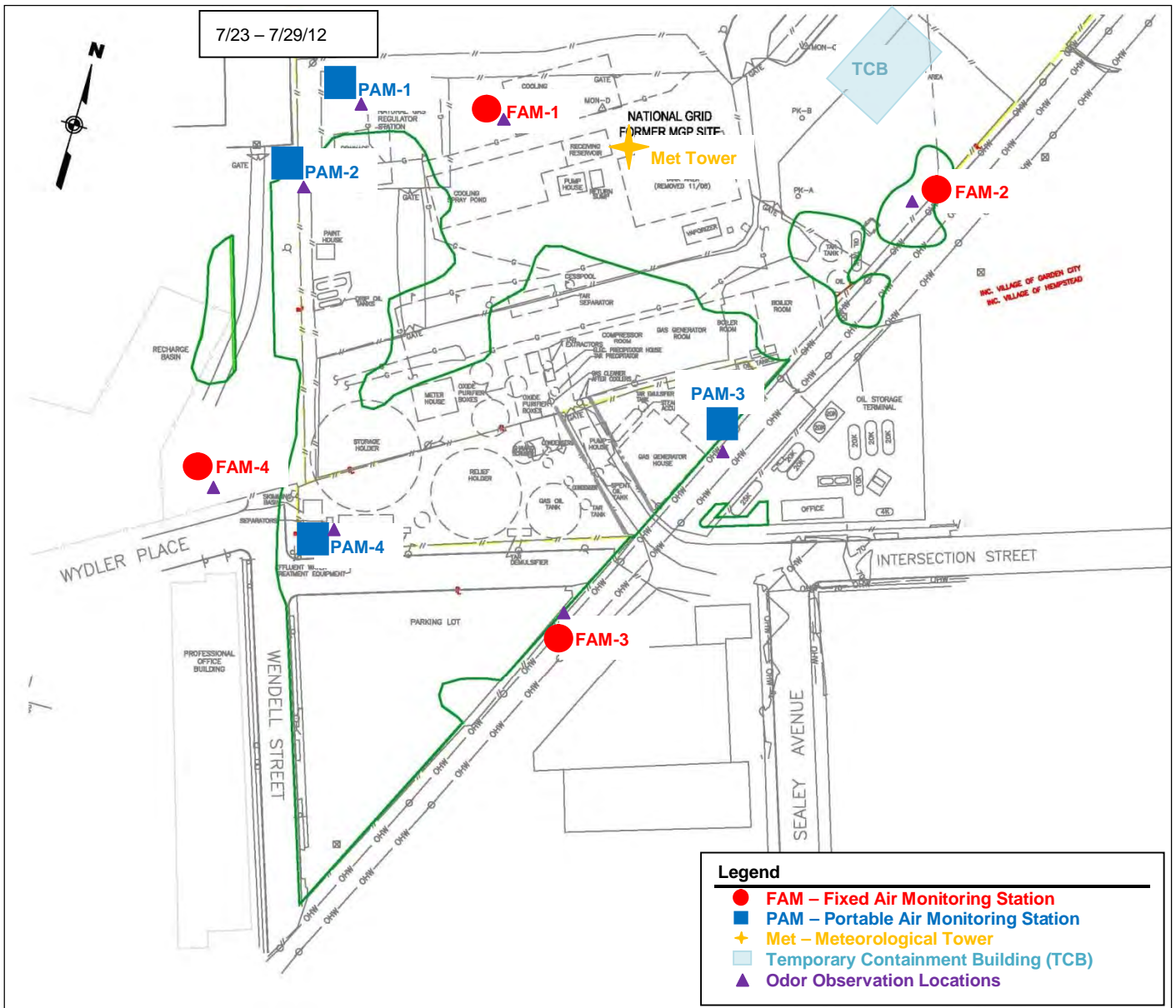
Table 5: Weekly Site Activities

	Site Activities
Mon 7/23/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (16 trucks); •Excavated and stock piled soil and debris; •Welded and repaired the 8-foot auger; and •Routine air monitoring.
Tue 7/24/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (27 trucks); •Continued excavation and stock piling soil and debris; •Continued welding and repairing the 8-foot auger; and •Routine air monitoring.
Wed 7/25/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (30 trucks); •Continued excavation and stock piling soil and debris; •Continued welding and repairing the 8-foot auger; and •Routine air monitoring.
Thu 7/26/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (30 trucks); •Continued excavation and stock piling soil and debris; •Continued welding and repairing the 8-foot auger; and •Routine air monitoring.
Fri 7/27/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (28 trucks); •Continued DSM Production Columns installation (SR100); •Continued excavation, and stock piling soil and debris; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 7/28/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/29/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 16 through July 22, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits after background subtraction. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/16/12	49.3 ¹	0.1	58.4	0.1	56.1	0.1	61.6	0.1	50.7	0.1	47.2	0.1	45.3	0.1	54.1	0.1	X	X
Tue 7/17/12	79.5	0.1	63.6	0.1	57.2	0.1	60.0	0.1	49.2	0.1	79.5	0.1	43.9	0.1	60.9	0.1	X	X
Wed 7/18/12	57.1 ¹	0.1	45.4 ¹	0.1	69.9 ¹	0.2	96.1	0.1	98.2	0.1	33.0 ¹	0.1	29.5 ¹	0.1	88.5	0.1	X	X
Thu 7/19/12	71.1	0.1	76.2	0.1	71.2	0.1	77.3	0.1	45.8	0.1	55.9	0.1	37.1	0.1	46.8	0.1	X	X
Fri 7/20/12	25.5	0.1	28.6	0.1	23.3	0.1	27.9	0.1	30.4	0.1	36.3	0.1	36.5	0.1	68.4	0.1	X	X
Sat 7/21/12	18.3	0.1	17.4	0.1	36.0	0.5	14.5	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/22/12	18.8	0.1	43.9	0.1	18.7	0.1	13.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ PM₁₀ concentrations were found to be invalid between 12:00AM and 7:16AM on 7/16/12 because of an instrument malfunction (negative baseline drift).</p>																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/16/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (10 trucks); •Performed DSM Production Columns installation (RH40); •Excavated and stock piled soil and debris; and •Routine air monitoring.
Tue 7/17/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (12 trucks); •Performed DSM Production Columns installation (SR100); •Continued excavation and stock piling soil and debris; and •Routine air monitoring.
Wed 7/18/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (12 trucks); •Continued DSM Production Columns installation (SR100); •Continued excavation and stock piling soil and debris; and •Routine air monitoring.
Thu 7/19/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (12 trucks); •Continued DSM Production Columns installation (SR100); •Continued excavation and stock piling soil and debris; •Excavated various pipes in the non-remediation area; • Collected integrated VOC samples; and • Routine air monitoring.
Fri 7/20/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (12 trucks); •Continued DSM Production Columns installation (SR100); •Continued excavation, and stock piling soil and debris ;and •Routine air monitoring.
Sat 7/21/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/22/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

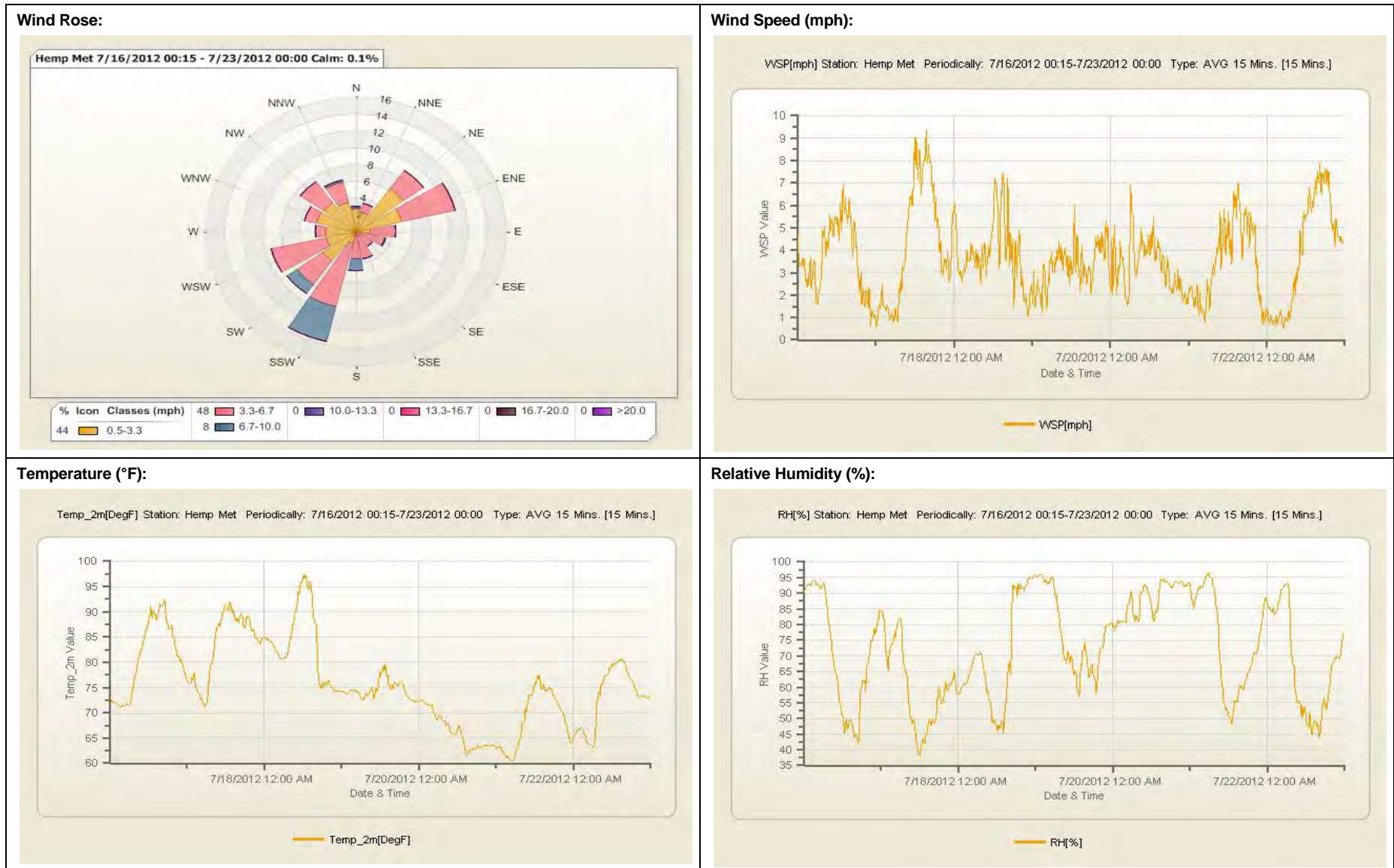
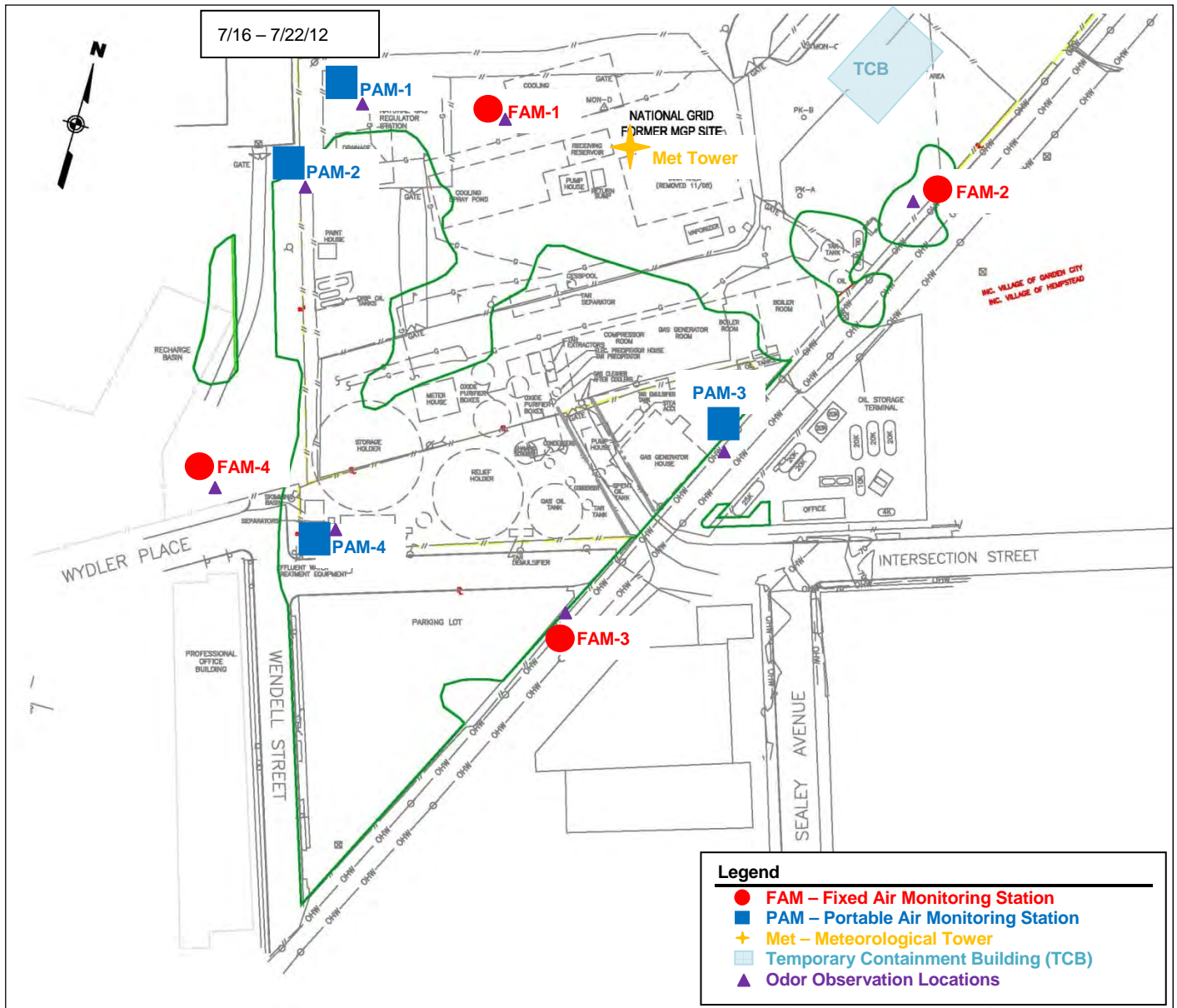


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 9 through July 15, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and Figure 3:** Daily/weekly Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/9/12	45.8 ¹	0.1	29.0	0.1	47.1	0.1	32.6	0.1	23.0	0.1	23.3	0.1	27.8	0.1	64.0	0.1	X	X
Tue 7/10/12	63.1	0.1	28.7	0.1	50.9	0.1	45.2	0.1	22.2	0.1	44.6	0.1	30.9	0.1	52.4	0.1	X	X
Wed 7/11/12	44.4	0.1	28.5 ²	0.1 ²	12.4	0.1	19.8	0.1	19.8	0.1	68.2	0.1	39.3	0.1	37.2	0.1	X	X
Thu 7/12/12	49.2	0.1	20.2 ²	0.4 ²	34.7	0.1	19.4	0.1	23.0	0.1	50.4	0.1	26.0	0.1	27.6	0.1	X	X
Fri 7/13/12	50.3	0.1	57.9	0.1	26.0	0.1	29.9	0.1	29.3	0.1	76.6	0.1	36.0	0.1	19.9	0.1	X	X
Sat 7/14/12	24.0	0.1	44.4	0.1	40.4	0.1	42.1	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/15/12	18.0 ¹	0.1	43.6	0.1	40.1	0.1	41.3	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ PM₁₀ concentrations were found to be invalid between 12:00AM and 7:45AM on 7/9/12 and 6:29AM and 11:59PM on 7/15/12 because of an instrument malfunction (negative baseline drift). ² FAM 2 data not collected between 5:32PM on 7/11/12 and 3:27PM on 7/12/12 due to power loss during FAM2/Temporary Containment Building (TCB) move.</p>																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/9/12	<ul style="list-style-type: none"> •Performed DSM Production Columns installation (RH40); •Excavated and stock piled soil and debris in TCB; and •Routine air monitoring.
Tue 7/10/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued excavation and stock piling soil and debris in TCB; and •Routine air monitoring.
Wed 7/11/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued excavation and stock piling soil and debris in TCB; and •Routine air monitoring.
Thu 7/12/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued excavation and stock piling soil and debris in TCB; and • Routine air monitoring.
Fri 7/13/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued excavation, and stock piling soil and debris in TCB; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 7/14/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/15/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

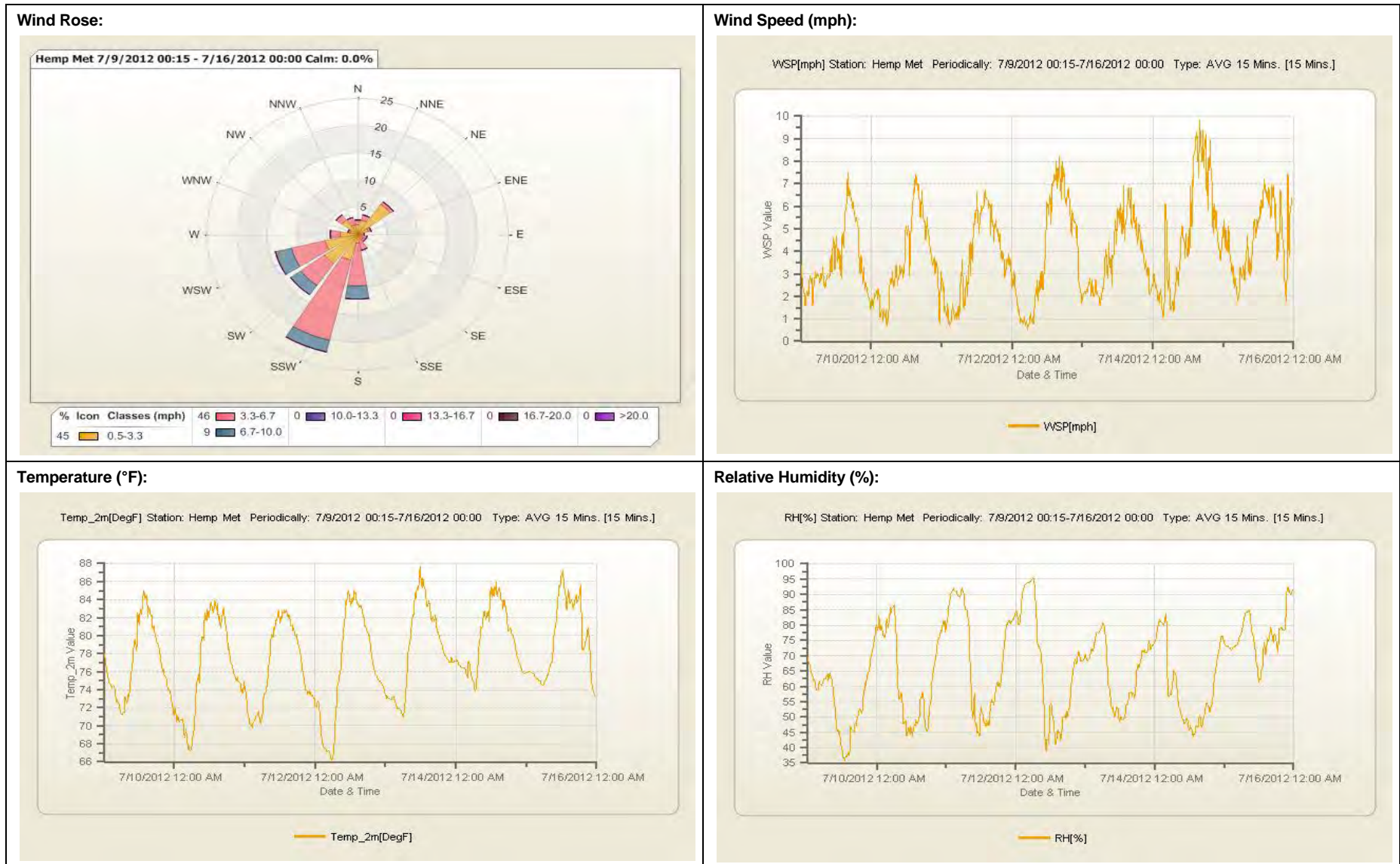


Figure 2: Site Map

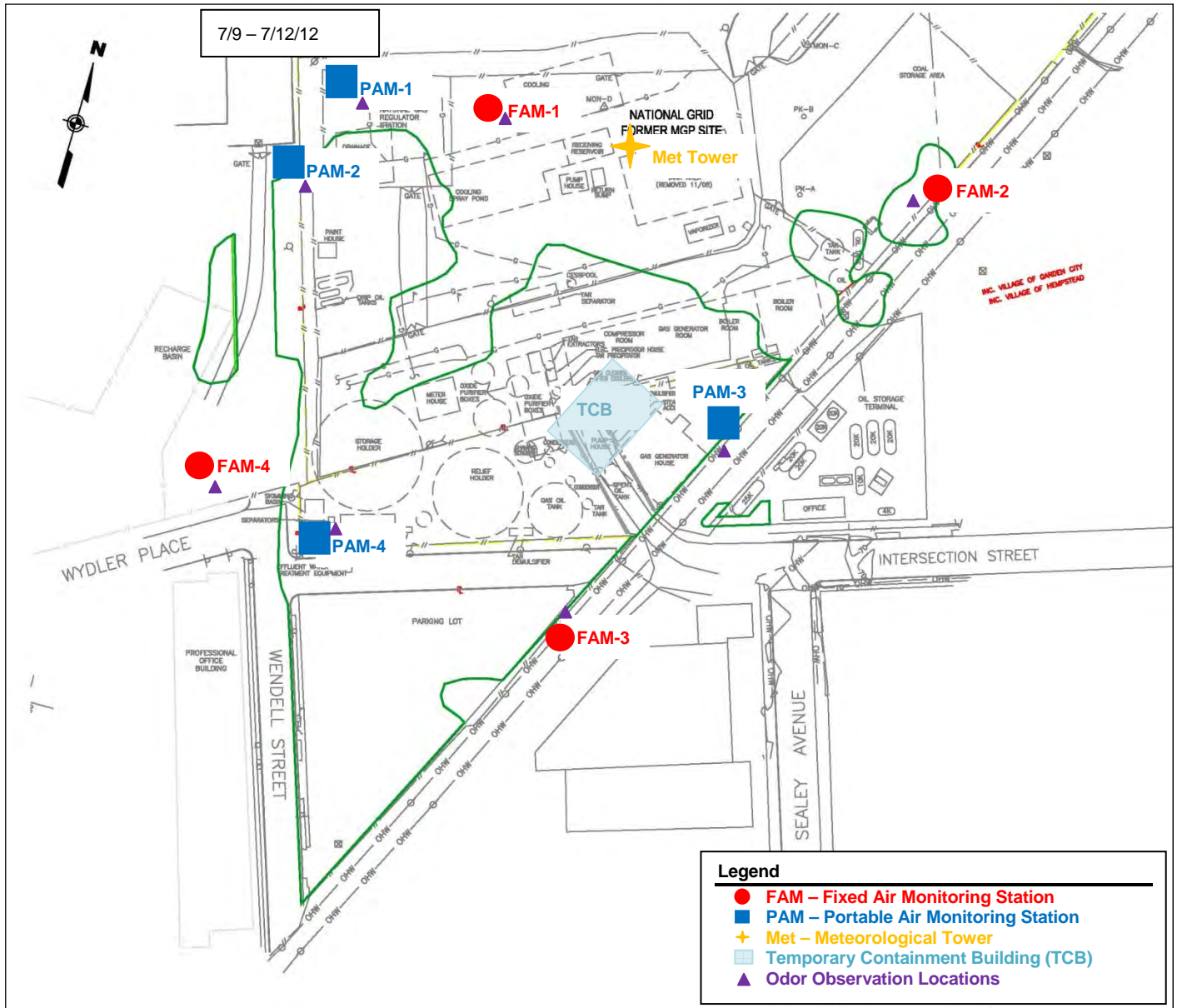
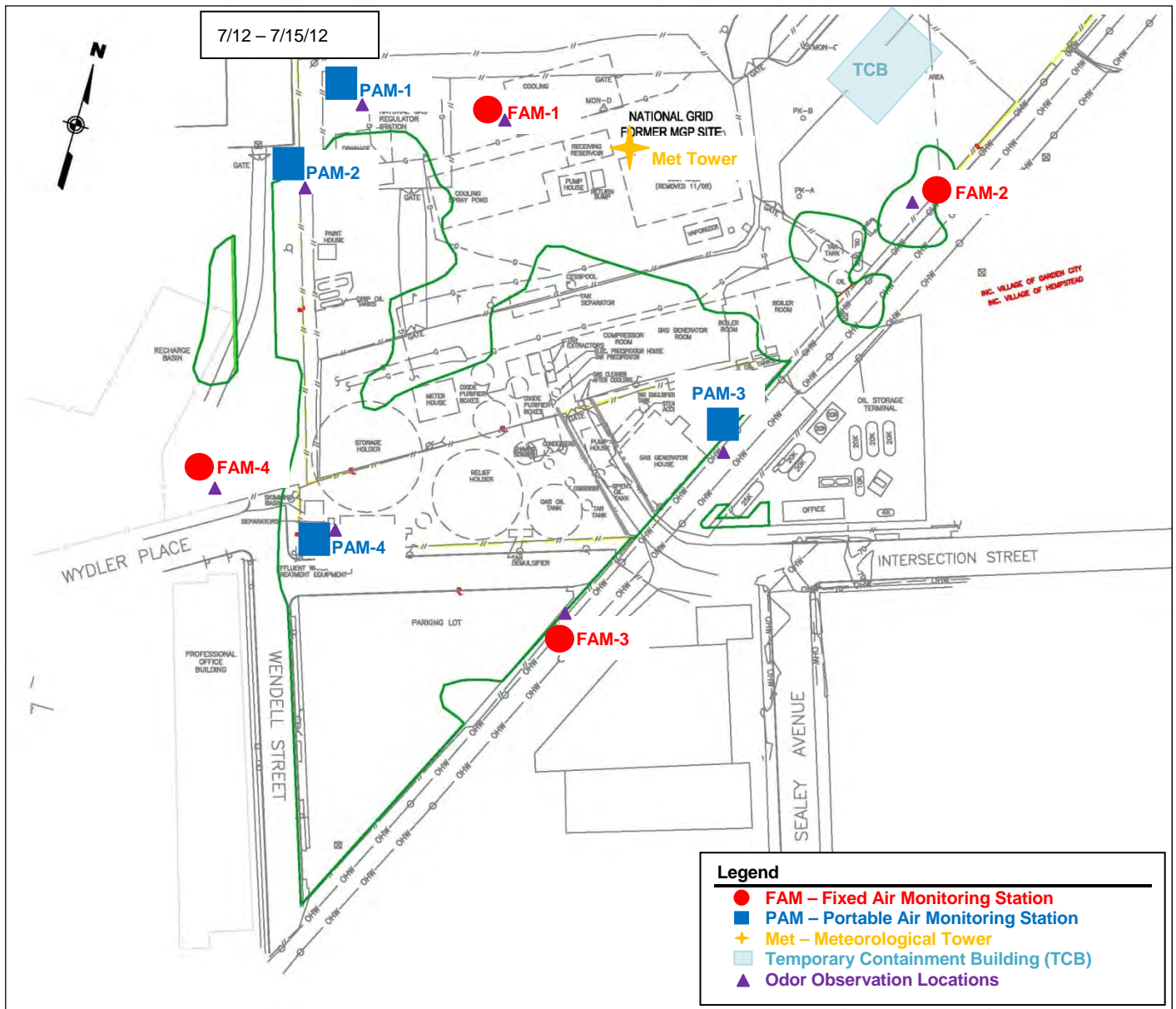


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	July 2 through July 8, 2012

During the report period there were no TVOC concentrations greater than the Action and Response Limits or PM₁₀ greater than the Action Limit after background subtraction (see **Table 3**). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Action and Response Limits or PM₁₀ above the Action Limit after background subtraction (see **Table 3**). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$[C_{avg}] > 3.7$ and $[C_{avg}] \leq 5.0$	$[C_{avg}] > 5.0$ and $[C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – $\mu\text{g}/\text{m}^3$	NA	100	150	$[C_{avg}] \leq 100$	NA	$[C_{avg}] > 100$ and $[C_{avg}] \leq 150$	$[C_{avg}] > 150$
Odor (naphthalene) – $\mu\text{g}/\text{m}^2$ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$[C_{avg}] > 0.6$ and $[C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$[C_{avg}] > 1.0$ and $[C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume $\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4.</p> <p>² HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																		
Mon 7/2/12	18.9	0.1	36.6	0.1	48.8	0.1	35.5	0.1	28.9	0.1	43.6	0.1	99.0 [*]	0.1	53.2	0.1	X	X
Tue 7/3/12	38.3	0.1	48.0	0.1	42.6	0.1	46.0	0.1	35.0	0.1	34.1	0.1	55.6	0.1	132.9 [*]	0.1	X	X
Wed 7/4/12	0.0 [*]	0.1	39.5 [*]	0.1	52.1 [*]	0.1	68.3 [*]	0.1	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X ²	X	X
Thu 7/5/12	0.0 [*]	0.1	51.3 [*]	0.1	68.3 [*]	0.1	93.0 [*]	0.1	62.8	0.1	40.1	0.1	97.4	0.1	85.9	0.1	X	X
Fri 7/6/12	90.7 [*]	0.1	46.5	0.1	37.2	0.1	39.9	0.1	35.2	0.1	35.0	0.1	39.0	0.1	28.5	0.1	X	X
Sat 7/7/12	ND ¹	0.1	59.2	0.1	56.3	0.1	58.8	0.1	X	X	X	X	X	X	X	X	X	X
Sun 7/8/12	ND ¹	0.1	45.8	0.1	49.6	0.1	52.0	0.1	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ PM₁₀ concentrations were found to be invalid between 11:00PM on 7/6/12 through 11:59PM on 7/8/12 because of an instrument malfunction (negative baseline drift). ² No Portable units operating due to Fourth of July holiday (no site activities).</p>																		

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue. 7/3/12	PAM-4	1:52PM	1:57PM	6	150	WSW 5.7 mph	SSW 4.1 mph	PAM-2	156.9	24.0	132.9	Response	Elevated PM ₁₀ concentrations were caused by drill rig activity and pad movement. Watering was implemented and levels quickly dropped below the Action Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 7/2/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the Temporary Containment Building (TCB) (20 trucks); •Continued Batch Plant maintenance; •Continued pot hole repairs, excavation, and stock piling soil and debris in TCB; and •Routine air monitoring.
Tue 7/3/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (20 trucks); •Performed Deep Soil Mixing (DSM) Production Columns installation (RH40); •Continued excavation and stock piling soil and debris in TCB; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 7/4/12	<ul style="list-style-type: none"> •No Site activities (July 4th holiday); and •Routine air monitoring.
Thu 7/5/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued excavation and stock piling soil and debris in TCB; and • Routine air monitoring.
Fri 7/6/12	<ul style="list-style-type: none"> •Continued DSM Production Columns installation (RH40); •Continued excavation, and stock piling soil and debris in TCB; and •Routine air monitoring.
Sat 7/7/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 7/8/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

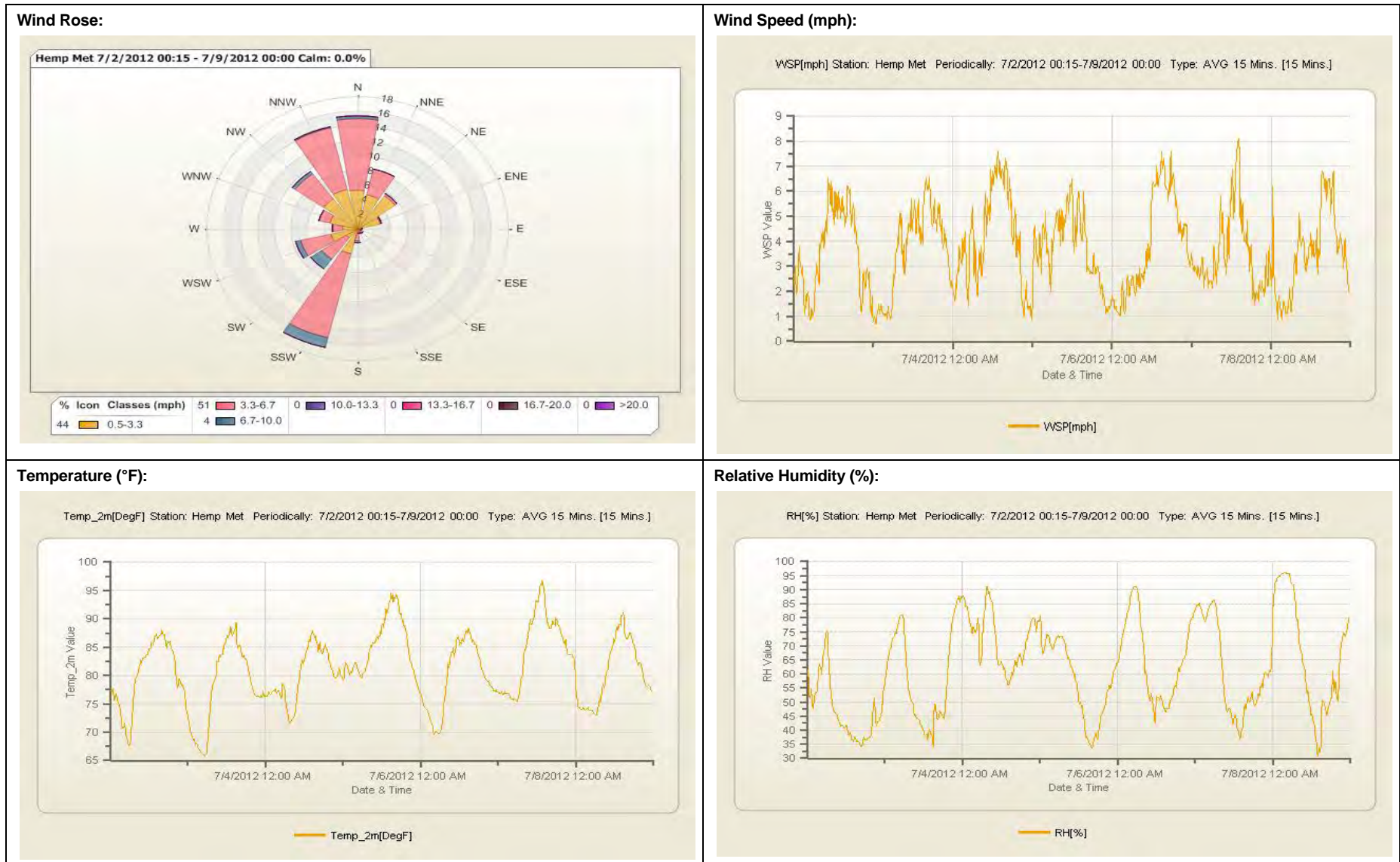
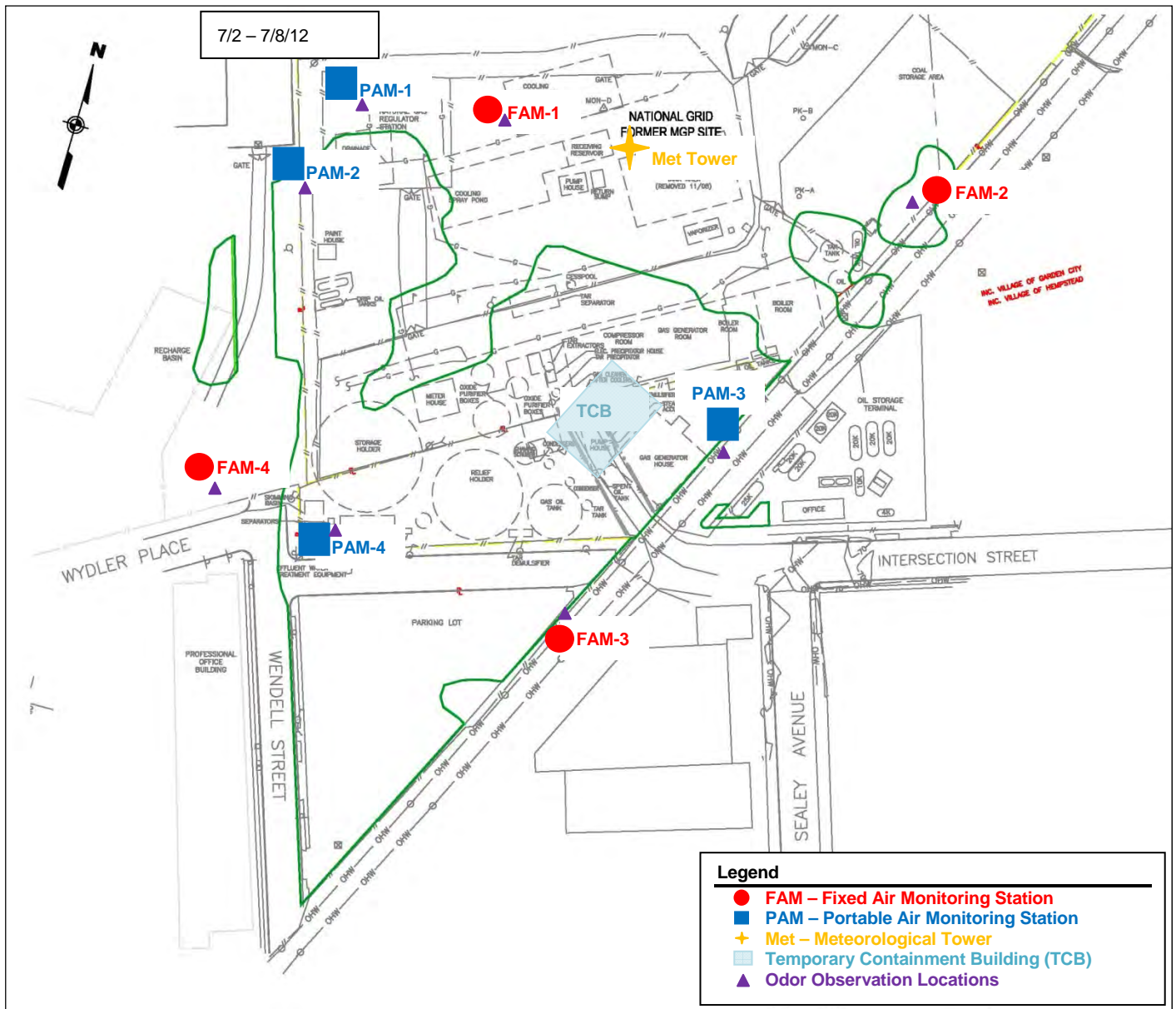


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 18 through June 24, 2012

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were, however, periods of PM₁₀ concentrations greater than the Response Limit (See table 3). This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. There were, however, periods of PM₁₀ concentrations greater than the Response Limit (See table 3). The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 6/18/12	41.4	0.1	27.3	0.1	17.2	0.1	16.1	0.1	29.9	0.1	21.8	0.1	29.9	0.1	66.2	0.1	X	<3	X
Tue 6/19/12	24.3	0.1	48.0	0.1	21.0	0.1	20.9	0.1	17.5	0.1	32.6	0.1	23.3	0.1	14.4	0.1	X	<3	X
Wed 6/20/12	94.6	0.1	94.1	0.1	81.1	0.1	54.5*	0.1	91.8	0.1	73.4	0.1	77.9	0.1	68.0	0.1	X	<3	X
Thu 6/21/12	83.3	0.1	97.6	0.1	93.8	0.1	18.5*	0.1	72.7	0.1	57.3	0.1	105.7*	0.1	50.6	0.1	X	<3	X
Fri 6/22/12	14.6*	0.1	94.2*	0.1	75.6*	0.1	26.0*	0.1	10.7*	0.1	93.7	0.1	44.7*	0.1	91.8	0.1	X	<3	X
Sat 6/23/12	74.8	0.1	91.6	0.1	79.0	0.1	79.2	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 6/24/12	17.3	0.1	21.4	0.1	17.0	0.1	16.8	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 6/21/12	PAM-3	11:26AM 11:30AM	-- 11:36AM	8	150	N 6.9 mph	N 6.9 mph	FAM-1	156.1	50.4	105.7	Response	Elevated PM ₁₀ concentrations were caused by atmospheric conditions (high humidity) as well as excavation and truck load-outs during the day.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/18/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the Temporary Containment Building (TCB) (20 trucks); •Continued to trouble shoot the Rotary Head on RH40; •Shipped Rotary to Hammer and Steel for repairs; and •Routine air monitoring.
Tue 6/19/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (27 trucks); •Performed Batch Plant maintenance; and •Routine air monitoring.
Wed 6/20/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (28 trucks); •Continued Batch Plant maintenance and performed Tigg maintenance; and •Routine air monitoring.
Thu 6/21/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (28 trucks); •Continued Batch Plant maintenance; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 6/22/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (22 trucks); •Continued Batch Plant maintenance; and •Routine air monitoring.
Sat 6/23/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/24/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

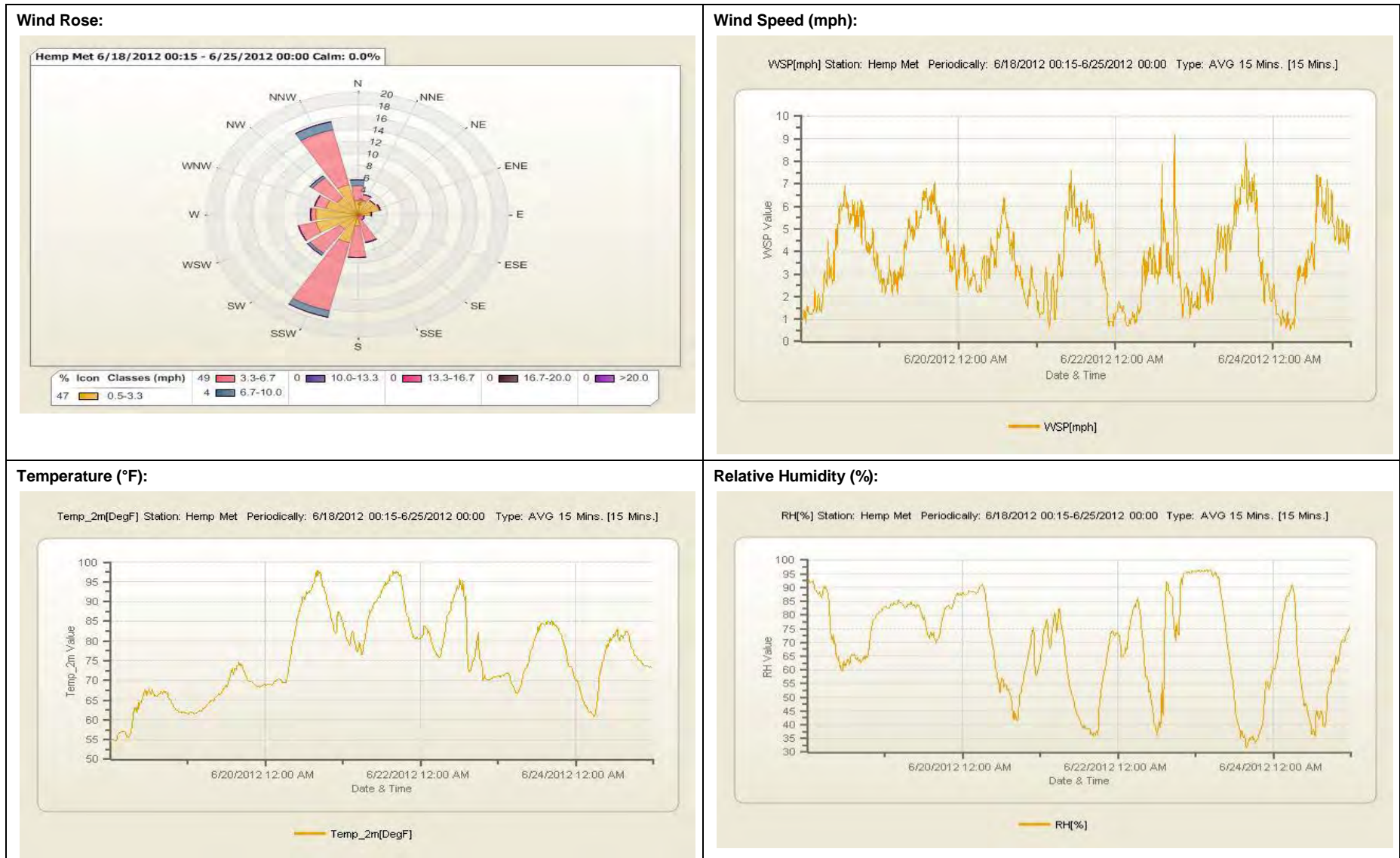
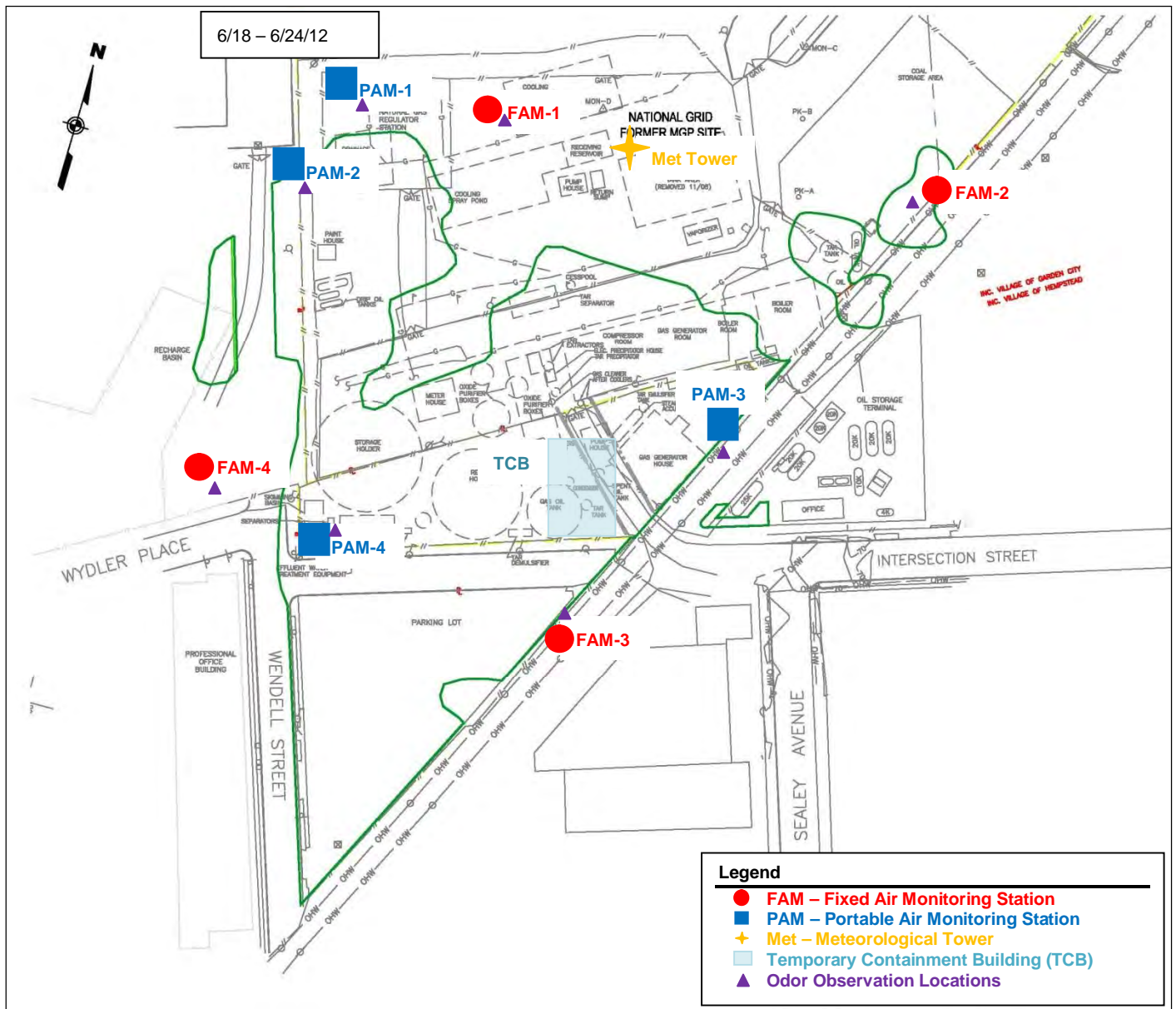


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 11 through June 17, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 and 3:** Daily/weekly Site maps.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <ul style="list-style-type: none"> TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀. <p>Notes:</p> <ul style="list-style-type: none"> ¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected. 							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 6/11/12	30.6	0.1	37.6	0.1	29.9	0.1	29.3	0.1	31.6	0.1	29.3	0.1	25.1	0.1	20.8	0.1	X	<3	X
Tue 6/12/12	19.3	0.1	27.4	0.1	13.4	0.1	13.2	0.1	20.8	0.1	13.8	0.1	17.0	0.1	17.4	0.1	X	<3	X
Wed 6/13/12	16.0	0.1	19.1	0.1	17.6	0.1	16.2	0.1	38.7	0.1	31.2	0.1	51.6	0.1	30.4	0.1	X	<3	X
Thu 6/14/12	37.1	0.1	69.8	0.1	27.2	0.1	25.1	0.1	24.0	0.1	31.8	0.1	26.5	0.1	33.2	0.1	X	<3	X
Fri 6/15/12	15.9	0.1	54.0	0.1	68.1	0.1	17.8	0.1	23.8	0.1	28.8	0.1	39.9	0.1	24.9	0.1	X	<3	X
Sat 6/16/12	18.6	0.1	63.0	0.1	39.1	0.1	17.4	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 6/17/12	19.5	0.1	23.6	0.1	20.0	0.1	27.1	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/11/12	<ul style="list-style-type: none"> •Performed maintenance on the Batch Plant and RH40. •Continued preparing Temporary Containment Building (TCB) and surrounding area for relocation; and •Routine air monitoring.
Tue 6/12/12	<ul style="list-style-type: none"> •Continued maintenance on the Batch Plant and RH40; •Moved TCB to new location; and •Routine air monitoring.
Wed 6/13/12	<ul style="list-style-type: none"> •Installed repaired Rotary Head and RH40 and tested; •Continued TCB setup at new location; and •Routine air monitoring.
Thu 6/14/12	<ul style="list-style-type: none"> •Trouble shot Rotary Head on RH40; •Completed TCB setup at new location including generator, TIGGS, and Truck Lining Station; and •Routine air monitoring.
Fri 6/15/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (21 trucks); •Trouble shot Rotary Head on RH40; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 6/16/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/17/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

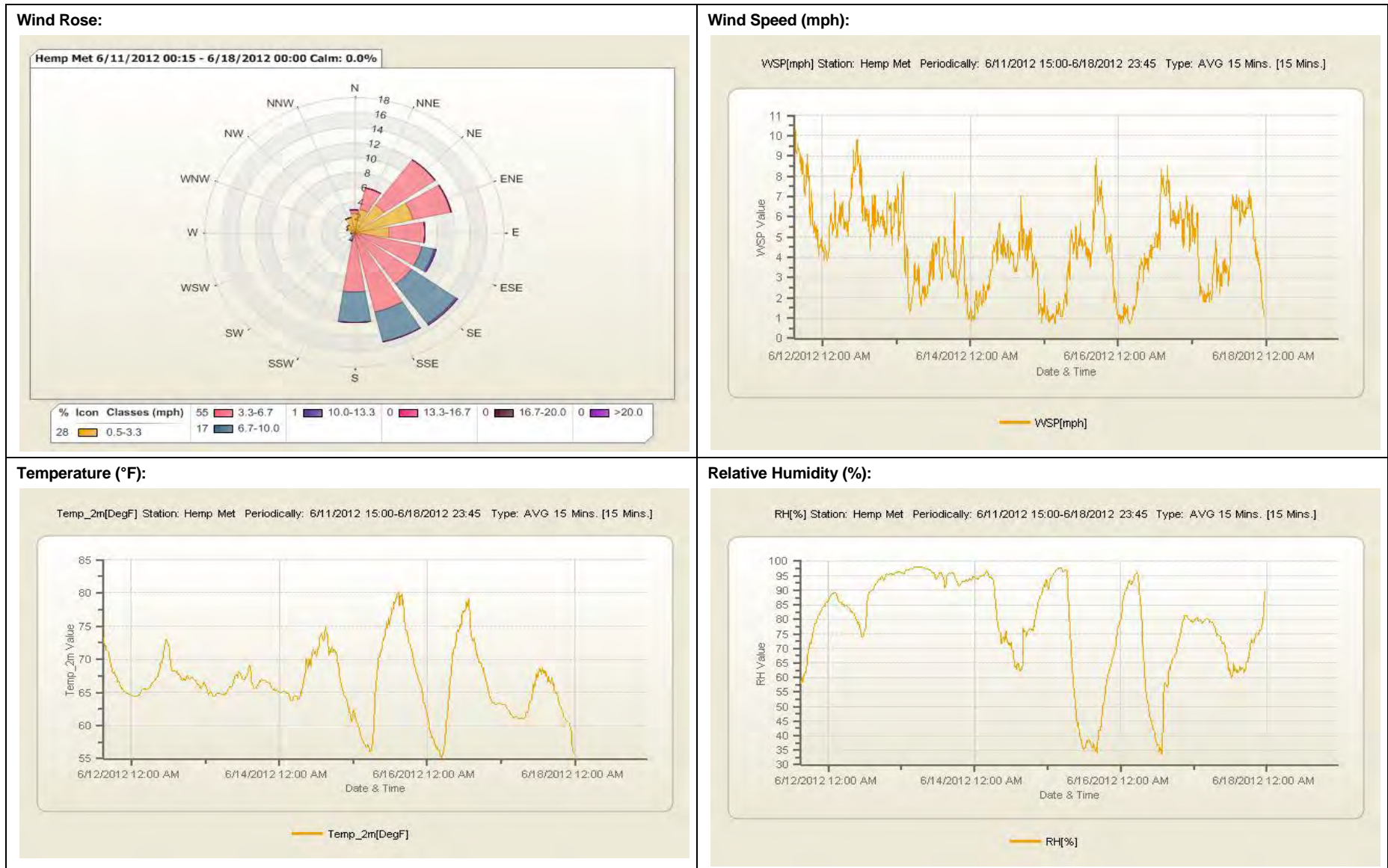
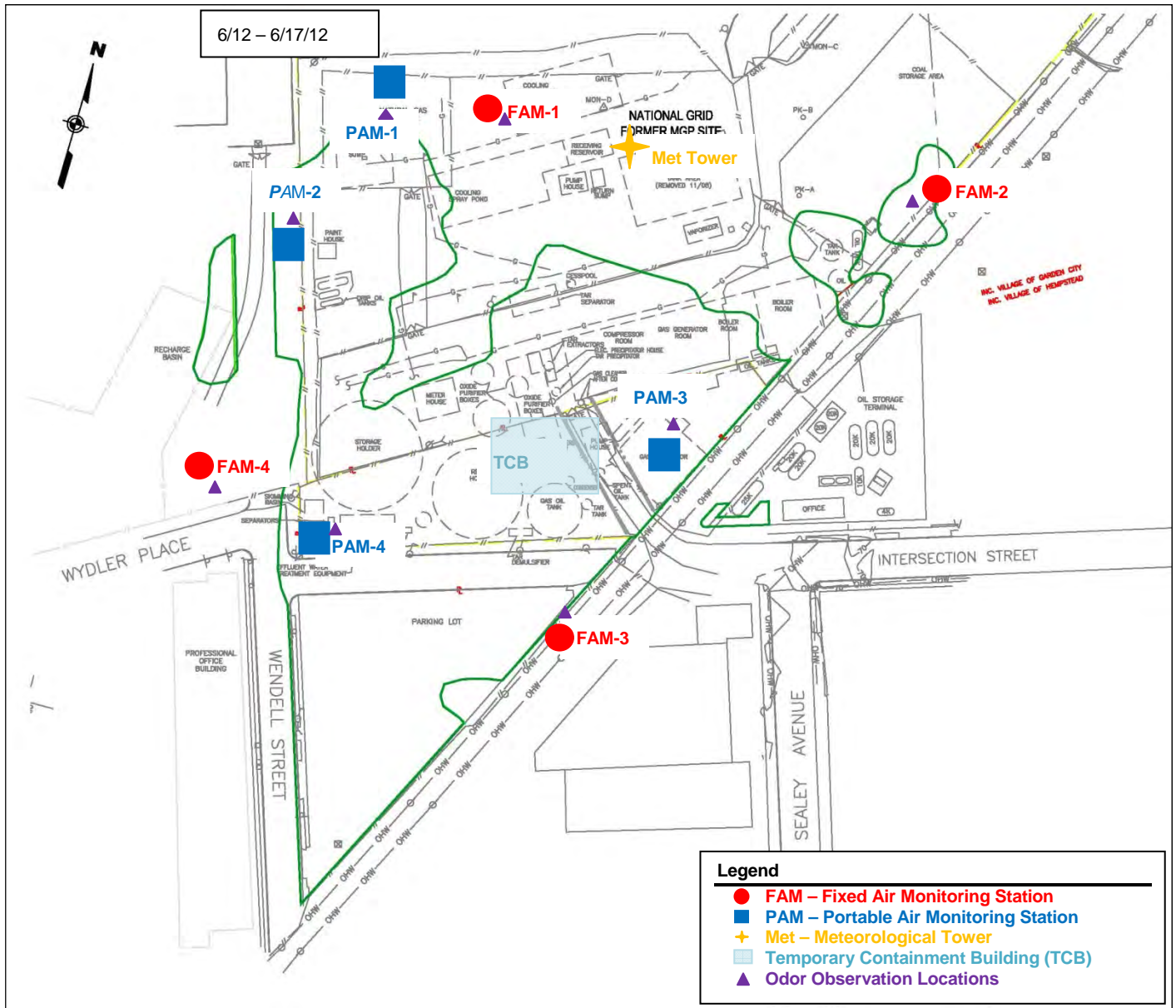


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	June 4 through June 10, 2012

During the report period there were no TVOC concentrations greater than the Action and Response Limits. However, there was a period of PM₁₀ concentrations greater than the Response Limit. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Action and Response Limits. However, there was a period of PM₁₀ concentrations above the Response Limit on Thursday, June 7, 2012. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 6/4/12	10.8	0.1	39.7	0.1	12.7	0.1	9.9	0.1	10.3	0.1	10.8	0.1	8.4	0.1	13.4	0.1	X	<3	X
Tue 6/5/12	9.9	0.1	10.9	0.1	12.4	0.1	9.6	0.1	16.2	0.1	13.7	0.1	11.6	0.1	8.7	0.1	X	<3	X
Wed 6/6/12	23.6	0.1	43.9	0.1	24.0	0.1	22.6	0.1	61.9	0.1	25.3	0.1	49.9	0.1	26.6	0.1	X	<3	X
Thu 6/7/12	24.8	0.1	40.9	0.1	26.5	0.1	111.3*	0.1	54.9	0.1	26.1	0.1	38.1	0.1	35.9	0.1	X	<3	X
Fri 6/8/12	28.5	0.1	42.2	0.1	30.1	0.1	29.1	0.1	25.3	0.1	18.8	0.1	31.9	0.1	17.8	0.1	X	<3	X
Sat 6/9/12	45.2	0.1	46.5	0.1	45.8	0.1	44.4	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 6/10/12	56.0	0.1	68.9	0.1	62.8	0.1	59.6	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Thu. 6/7/12	FAM-4	1:06PM 1:26PM 1:29PM	1:16PM - 1:38PM	22	100	NW 4.2 mph	NNW 4.6 mph	FAM-3	122.9	11.6	111.3	Response	Elevated PM ₁₀ concentrations were caused by off-site landscaping on adjacent property.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 6/4/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (10 trucks); •Continued Excavation and stockpiling material in TCB; and •Routine air monitoring.
Tue 6/5/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (10 trucks); •Continued Excavation and stockpiling material in TCB; •Removed Temporary Containment Area and Silt Fence; and •Routine air monitoring.
Wed 6/6/12	<ul style="list-style-type: none"> •Continued Excavation and stockpiling material in TCB; •Re-graded SE side of Site for drainage; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 6/7/12	<ul style="list-style-type: none"> •Continued Excavation and stockpiling material in TCB; and •Routine air monitoring.
Fri 6/8/12	<ul style="list-style-type: none"> •Continued Excavation and stockpiling material in TCB; •Began preparing TCB and surrounding area for TCB relocation; and •Routine air monitoring.
Sat 6/9/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/10/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

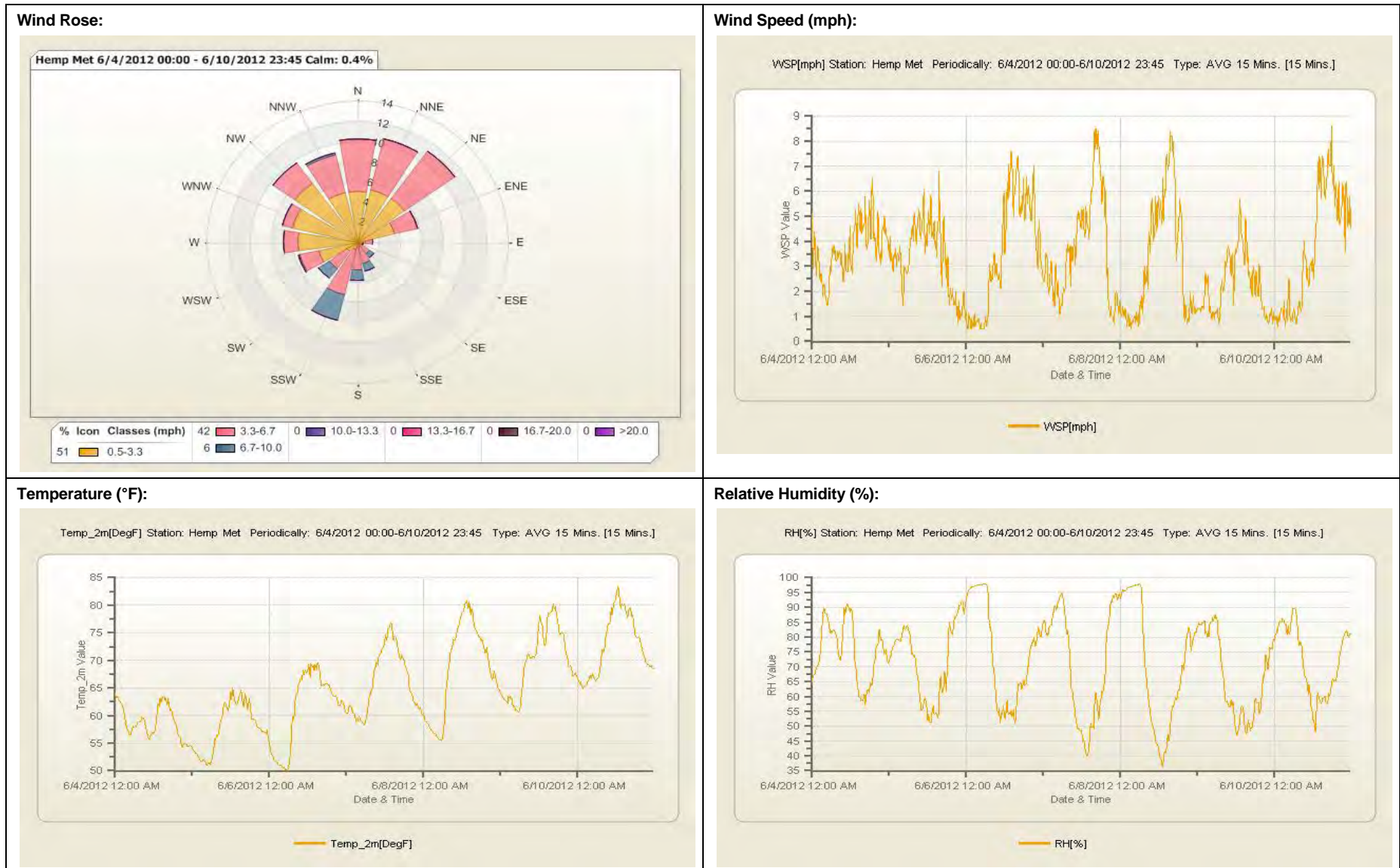
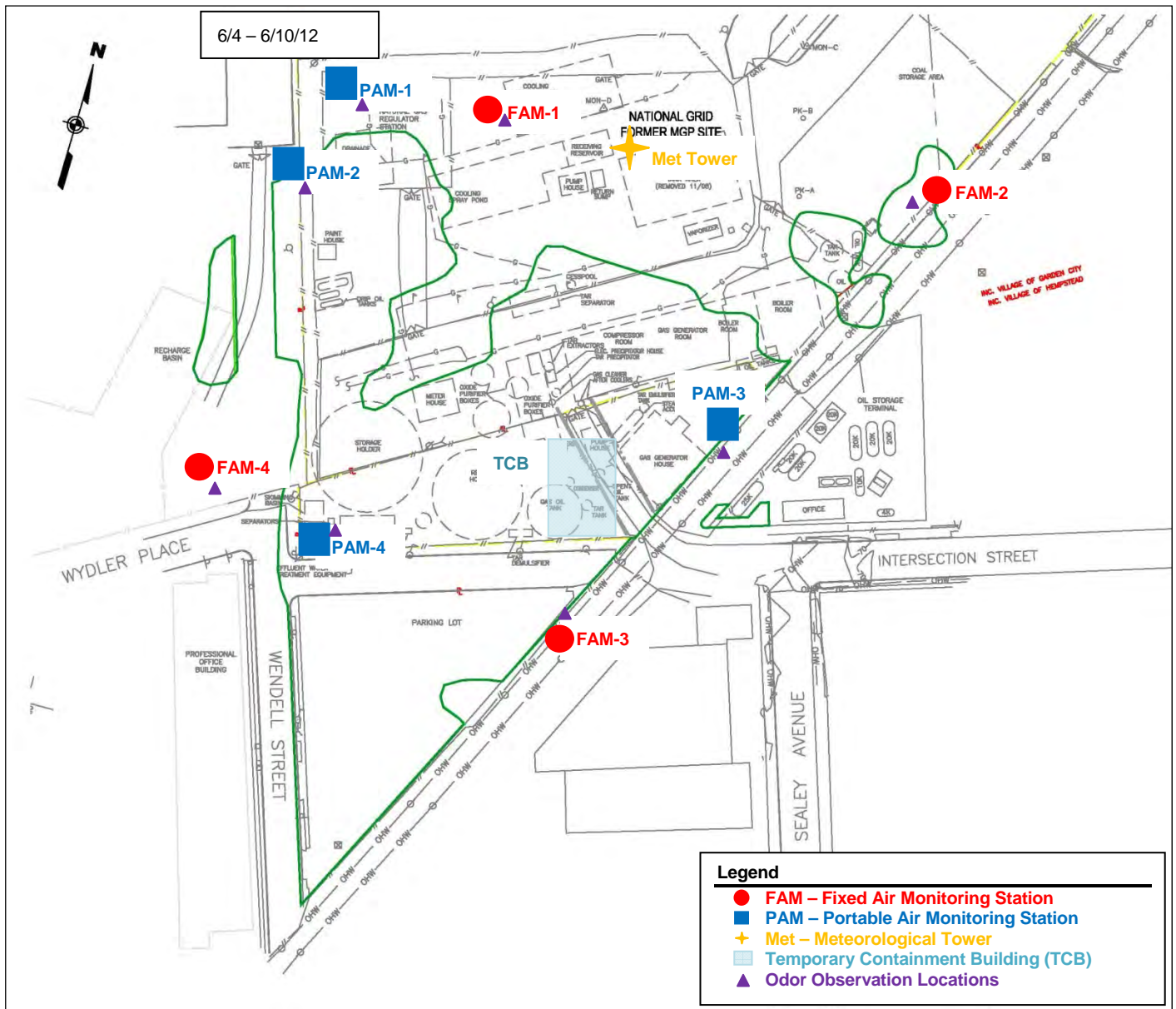


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 28 through June 3, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure:2** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 5/28/12	49.8	0.1	78.2	0.1	61.8 ²	0.1 ²	43.0	0.1	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X	X ⁴	X
Tue 5/29/12	76.7	0.4	79.7 ¹	0.1	77.5 ^{1,2}	0.1 ^{2,3}	48.4	0.1	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X ⁴	X	X ⁴	X
Wed 5/30/12	41.3	0.1	77.8	0.1	53.7	0.2 ³	52.0	0.1	56.5	0.2	42.5	0.1	23.9	0.1	29.8	0.1	X	<3	X
Thu 5/31/12	50.0	0.1	89.9	0.1	63.6	0.2	51.7	0.1	24.8	0.1	17.7	0.1	41.1	0.1	69.1	0.1	X	<3	X
Fri 6/1/12	21.0	0.1	57.4	0.1	28.0	0.1	42.0	0.1	24.2	0.1	64.2	0.1	18.0	0.1	77.3	0.1	X	<3	X
Sat 6/2/12	28.2	0.1	98.2*	0.1	32.2	0.1	33.7	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 6/3/12	16.4	0.1	44.9	0.1	19.1	0.1	15.9	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>¹ FAM 2 and FAM 3 PM₁₀ 5/29/12 4:30AM – 1:12PM and 1:29PM respectively, data was invalid due to condensation in sample lines. ² FAM 3 Data telemetry problem, data logger not collecting until 1:05PM on Monday, May 28, 2012 and 5/29/12 2 6:59AM – 3:15PM. ³ FAM 3 TVOC 5/29/12 @ 2:54PM – 5/30/12 @ 6:58AM data was invalid due to instrument malfunction cause by moisture. ⁴ No observations due to site holiday.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 5/28/12	<ul style="list-style-type: none"> •No Site activity due to Site holiday; and •Routine air monitoring.
Tue 5/29/12	<ul style="list-style-type: none"> •No Site activity due to Site holiday; and •Routine air monitoring.
Wed 5/30/12	<ul style="list-style-type: none"> •Continued Excavation and stockpiling material in Temporary Containment Building (TCB); and •Routine air monitoring.
Thu 5/31/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (18 trucks); •Continued Excavation and stockpiling material in TCB; •Excavated columns for visual inspection (#4,3022 and 2093); •Collected integrated VOC samples; and •Routine air monitoring.
Fri 6/1/12	<ul style="list-style-type: none"> •Continued disposal and load out of soil and debris from the TCB (20 trucks); •Continued Excavation and stockpiling material in TCB; and •Routine air monitoring.
Sat 6/2/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 6/3/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

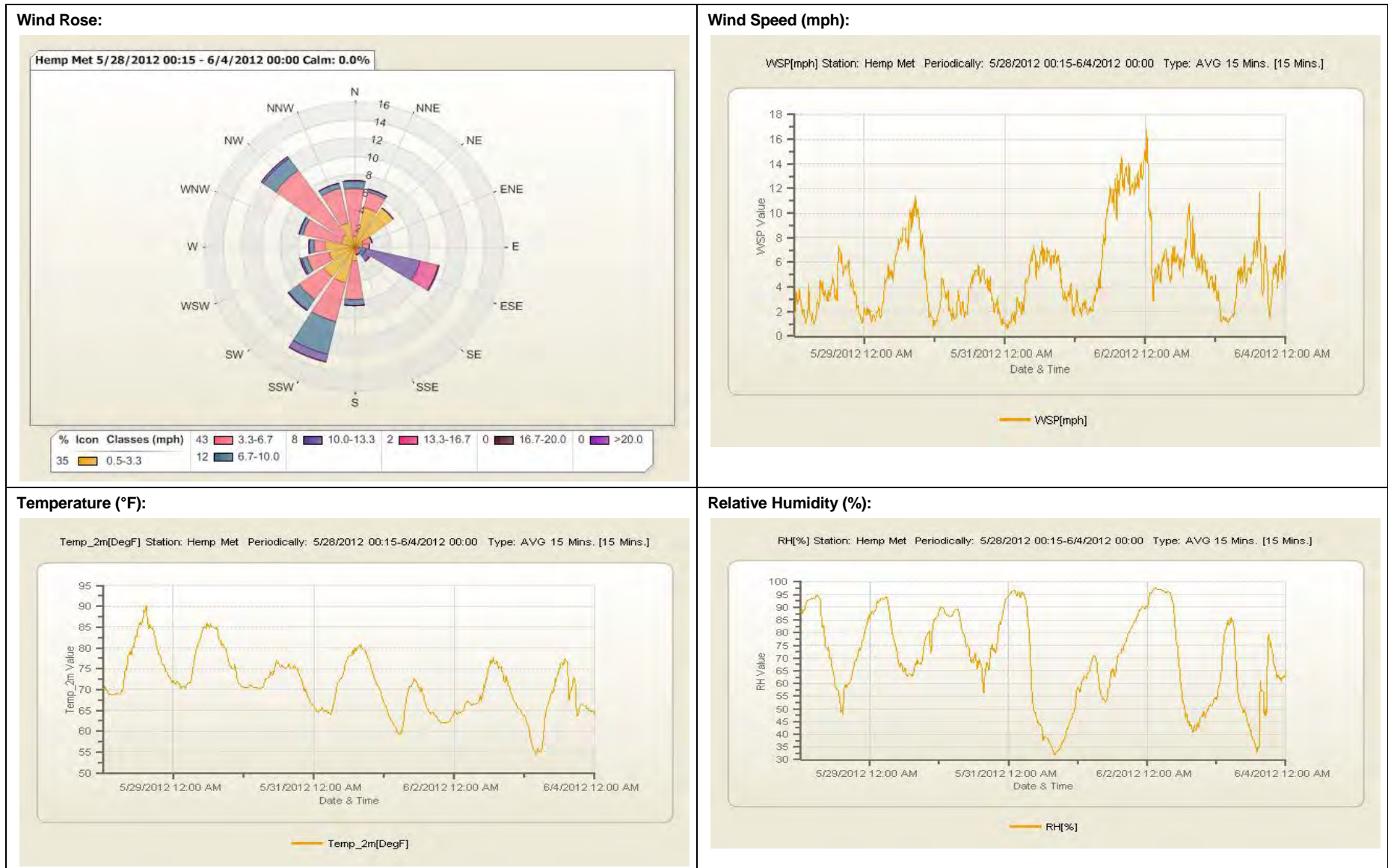
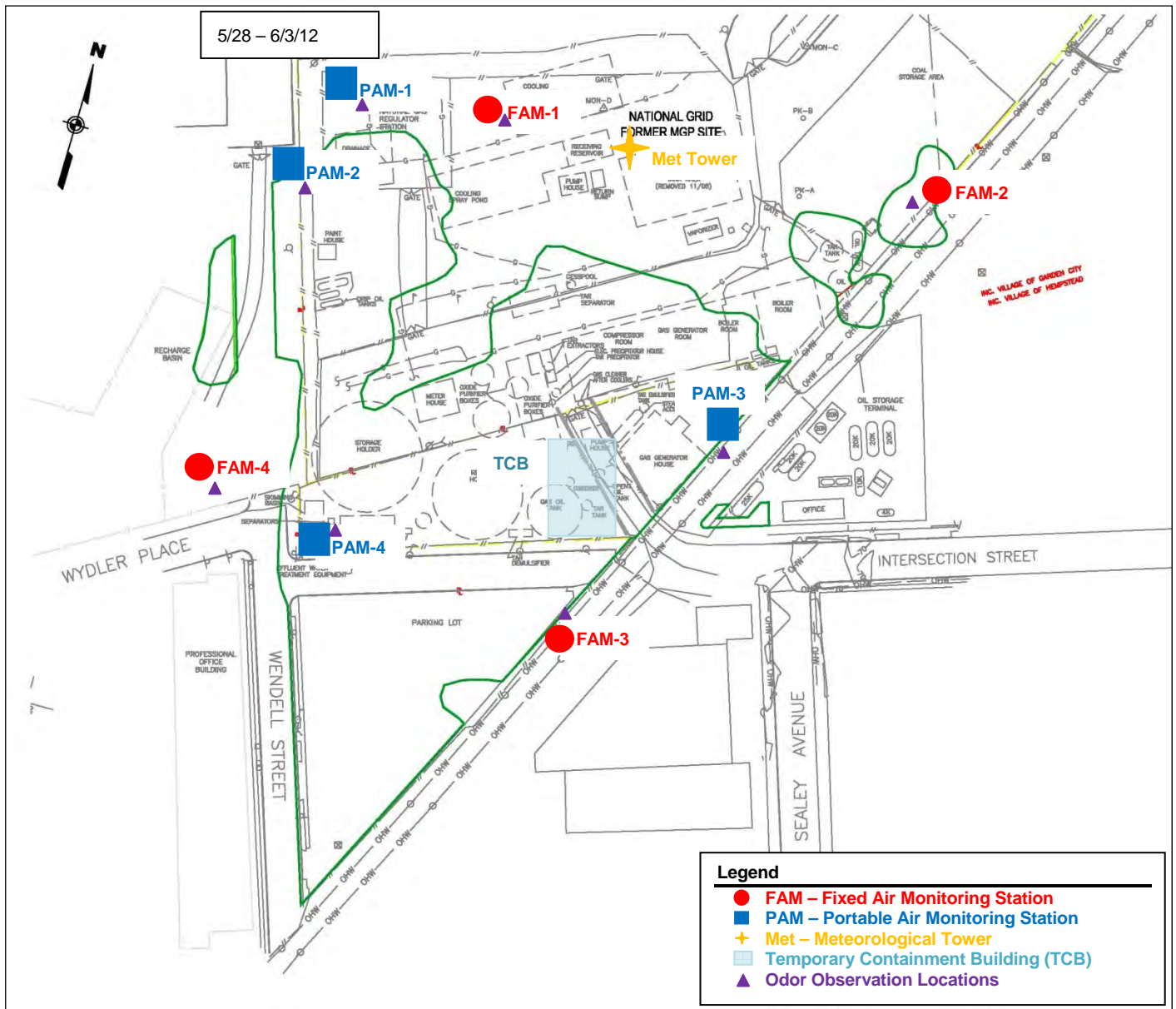


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 21 through May 27, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action and Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries;
- **Figure 2 and Figure 3:** Daily/weekly Site maps

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 5/21/12	17.9	0.1	41.6	0.1	21.1	0.1	31.2	0.1	38.9	0.1	32.4	0.1	30.2	0.1	59.6	0.1	X	ND ¹	X
Tue 5/22/12	20.8	0.1	21.0	0.1	19.0	0.1	18.4	0.1	36.3	0.1	35.8	0.3	17.9	0.1	32.6	0.4	X	<3	X
Wed 5/23/12	53.7	0.1	75.1	0.1	60.0	0.1	43.6	0.1	70.3	0.1	44.8	0.1	50.9	0.1	50.9	0.1	X	<3	X
Thu 5/24/12	42.8	0.1	88.1	0.1	51.0	0.1	37.6	0.1	77.8	0.1	64.9	0.1	53.0	0.1	55.5	0.1	X	<3	X
Fri 5/25/12	39.6	0.1	85.8	0.1	45.6 ²	0.6 ²	32.7	0.1	59.1	0.1	43.8	0.1	35.5	0.1	48.0	0.1	X	<3	X
Sat 5/26/12	50.2	0.1	69.1	0.1	ND ²	ND ²	40.2	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 5/27/12	59.5	0.1	88.0	0.1	ND ²	ND ²	52.0	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site specific CAMP ND = No Data TBD = To Be Determined * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations. ¹No observations due to weather conditions. ²Data telemetry problem, data logger not collecting data after 2:37PM on Friday, May 25, 2012.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after being corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in the following tables if applicable). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute, 24-hour s, and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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Table 5: Weekly Site Activities

	Site Activities
Mon 5/21/12	<ul style="list-style-type: none"> •No Site activity due to adverse weather conditions (heavy rain); and •Routine air monitoring.
Tue 5/22/12	<ul style="list-style-type: none"> •Continued DSM production (RH40); •Welded stabilizer on inner grout pipe of Kelly bar (SR100); •Excavated and stockpiled material in TCB and brought to final grade for the next tent move; and •Routine air monitoring.
Wed 5/23/12	<ul style="list-style-type: none"> •Continued Welding stabilizer on inner grout pipe of Kelly bar (SR100); •Continued Excavation and stockpiling material in TCB and brining area to final grade for the next tent move; •Continued TCB preparation for tent move; and •Routine air monitoring.
Thu 5/24/12	<ul style="list-style-type: none"> •Corrected noise issue and started drilling 60' test column (reached ~42'); •Continued Excavation and stockpiling material in TCB and brining area to final grade for the next tent move; •Moved TCB 50' north; •Collected integrated VOC samples; •Changed TIGG filters; and •Routine air monitoring.
Fri 5/25/12	<ul style="list-style-type: none"> •Performed general Site cleanup for long holiday weekend; •Tied down / reassembled TCB in preparation for excavation; and •Routine air monitoring.
Sat 5/26/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/27/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

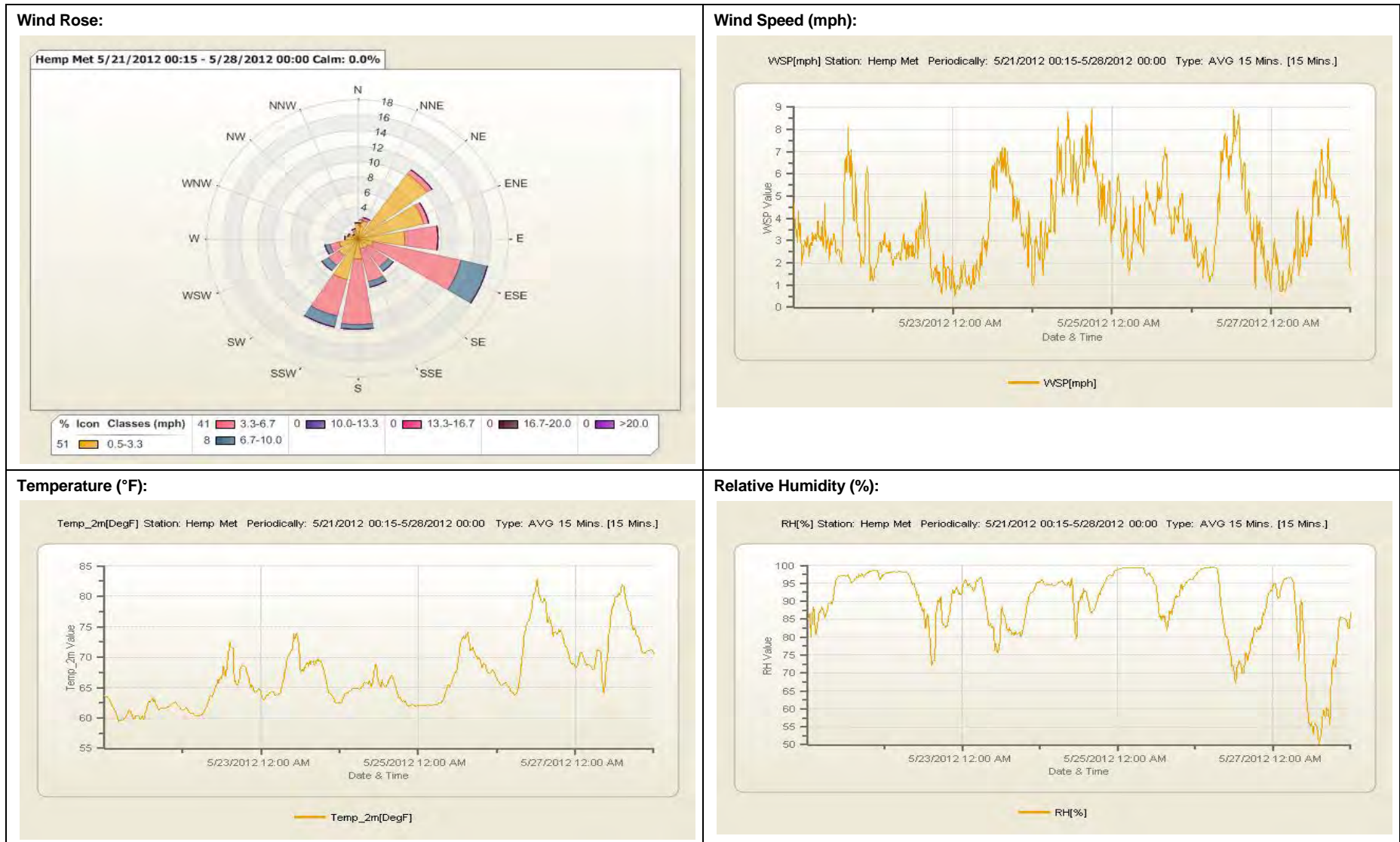
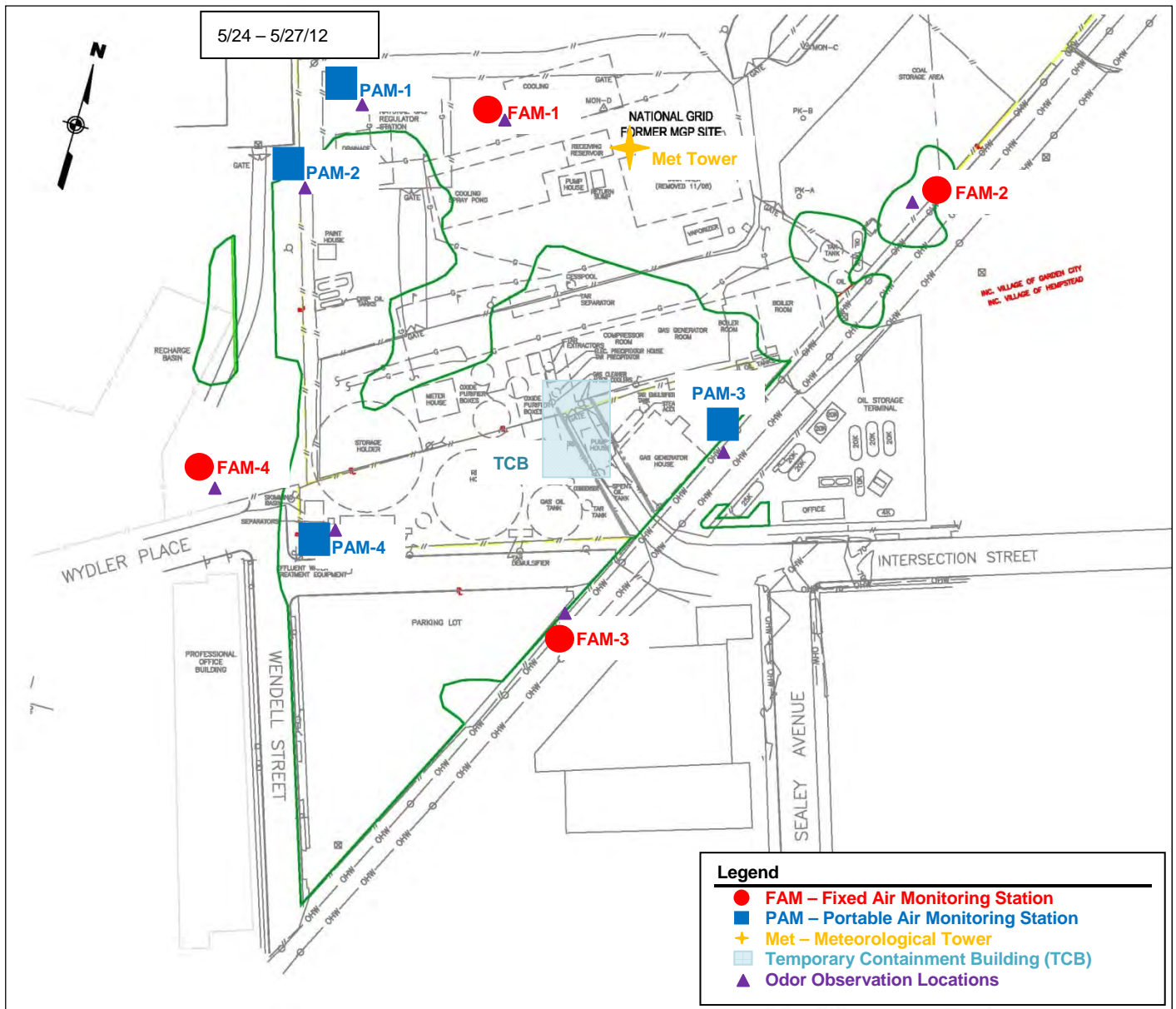


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 14 through May 20, 2012

During the report period there were no TVOC concentrations greater than the Action Limit. However, there was a period of PM₁₀ concentrations greater than the Response and Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Response and Action Limits. However, there was a period of PM₁₀ concentrations above the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
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Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries;
- **Figure 2:** Daily/weekly Site map;

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 5/14/12	41.7	0.1	64.5	0.1	23.4	0.1	22.8	0.1	45.6	0.1	45.2	0.1	31.9	0.1	23.8	0.1	X	<3	X
Tue 5/15/12	51.9	0.1	63.8	0.1	38.0	0.1	34.3	0.1	55.9	0.1	87.5*	0.7	38.1	0.7	47.6	3.9	X	<3	X
Wed 5/16/12	66.1	0.1	71.0	0.1	44.2	0.1	52.2	0.1	77.9	0.3	77.4	1.7	48.6	0.1	64.3	0.1	X	<3	X
Thu 5/17/12	25.6	0.2	58.4	0.1	31.5	0.1	28.5	0.1	18.3	0.1	22.0	0.1	36.0	0.1	21.6	0.1	X	<3	X
Fri 5/18/12	56.8	0.1	22.0	0.1	13.3	0.1	19.9	0.1	83.6	0.2	58.2	0.1	15.2	0.1	36.1	0.1	X	<3	X
Sat 5/19/12	10.4	0.1	21.7	0.1	293.4*	0.1	13.4	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 5/20/12	9.9	0.1	19.8	0.1	11.0	0.1	12.7	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sat 5/19/12	FAM-3	8:52AM	9:06AM	15	150	NE 4.9 mph	-	FAM-2	301.6	8.2	293.4	Action	Elevated PM ₁₀ concentrations were caused by off-site asphalt patch work and sealing in the POB parking lot adjacent to the fence line in the vicinity of FAM-3.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Sat 5/19/12	FAM-3	8:51AM 9:07AM	- -	2	100	NNE 4.9 mph	-	FAM-2	143.3	8.3	135.0	Response	Elevated PM ₁₀ concentrations were caused by off-site asphalt patch work and sealing in the POB parking lot adjacent to the fence line in the vicinity of FAM-3.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

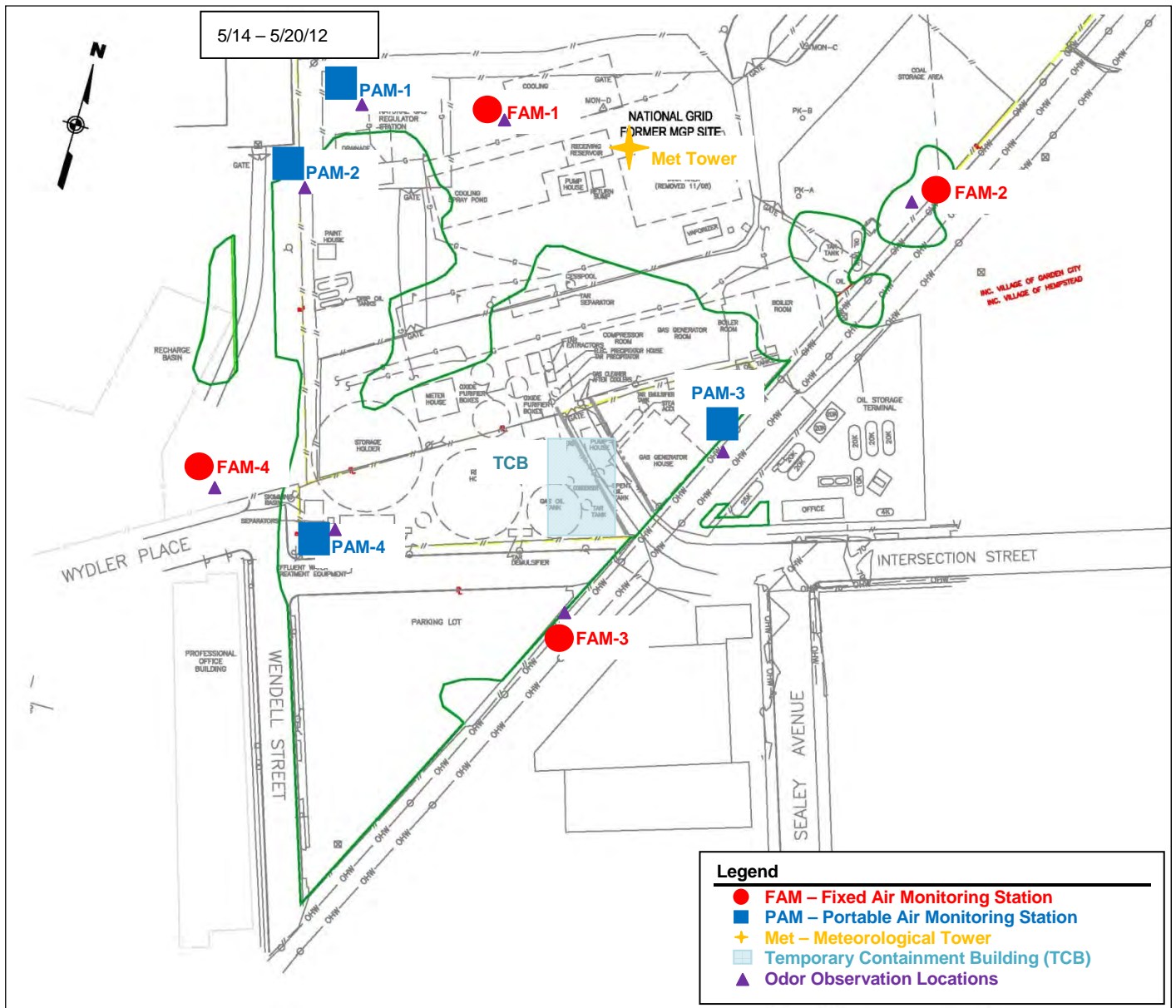
Table 5: Weekly Site Activities

	Site Activities
Mon 5/14/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (24 trucks); •Continued DSM production; •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Tue 5/15/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (10 trucks); •Continued DSM production; •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Wed 5/16/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (19 trucks); •Continued DSM production; •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Thu 5/17/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (21 trucks); •Continued DSM production; •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Fri 5/18/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (20 trucks); •Continued DSM production; •Excavated and stockpiled soil and debris for load out; •Cleaned up outside of the west fence line, •Collected integrated VOC samples; and •Routine air monitoring.
Sat 5/19/12	<ul style="list-style-type: none"> •Asphalt repairs were performed in off-site POB parking lot adjacent to fence line; •No Site activities; and •Routine air monitoring.
Sun 5/20/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	May 7 through May 13, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limit. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

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	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 5/7/12	30.3	0.1	44.9	0.1	19.6	0.1	22.1	0.1	33.9	0.1	45.6	0.1	29.2	0.1	26.7	0.1	X	<3	X
Tue 5/8/12	35.1	0.1	27.9	0.1	15.6	0.1	18.2	0.1	30.0	0.1	85.9	0.1	19.4	0.1	13.8	0.1	X	<3	X
Wed 5/9/12	68.8	0.2	71.2	0.1	45.4	0.1	42.1	0.1	76.4	0.1	54.6	0.1	57.2	0.1	38.1	0.1	X	<3	X
Thu 5/10/12	17.3	0.1	60.3	0.1	21.0	0.2	22.6	0.1	60.8	0.1	76.5	0.1	36.4	0.1	65.6	0.1	X	<3	X
Fri 5/11/12	8.9	0.1	47.1	0.1	12.7	0.3	10.3	0.1	12.7	0.2	52.4	0.1	49.0	0.1	20.1	0.1	X	<3	X
Sat 5/12/12	18.2	0.1	49.2	0.1	20.4	0.1	24.2	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 5/13/12	22.8	0.1	55.4	0.1	25.0	0.1	34.6	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 5/7/12	<ul style="list-style-type: none"> •Continued deep soil mixing (DSM) production; •Completed TCP tie down and setup of tigg units and generator; and •Routine air monitoring.
Tue 5/8/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the Temporary Containment Building (TCB) (8 trucks); •Continued DSM production; •Replaced seal and welded Kelly Bar (SR100); •Completed TCP tie down and set up tigg units and generator; •Excavated and stockpiled soil and debris for load out; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 5/9/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (16 trucks); •Continued DSM production; •Continued replacing seal and welding Kelly Bar (SR100); •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Thu 5/10/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (16 trucks); •Continued DSM production; •Continued replacing seal and welding Kelly Bar (SR100); •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Fri 5/11/12	<ul style="list-style-type: none"> •Performed disposal and load out of soil and debris from the TCB (10 trucks); •Continued DSM production; •Continued replacing seal and welding Kelly Bar (SR100); •Excavated and stockpiled soil and debris for load out; and •Routine air monitoring.
Sat 5/12/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/13/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

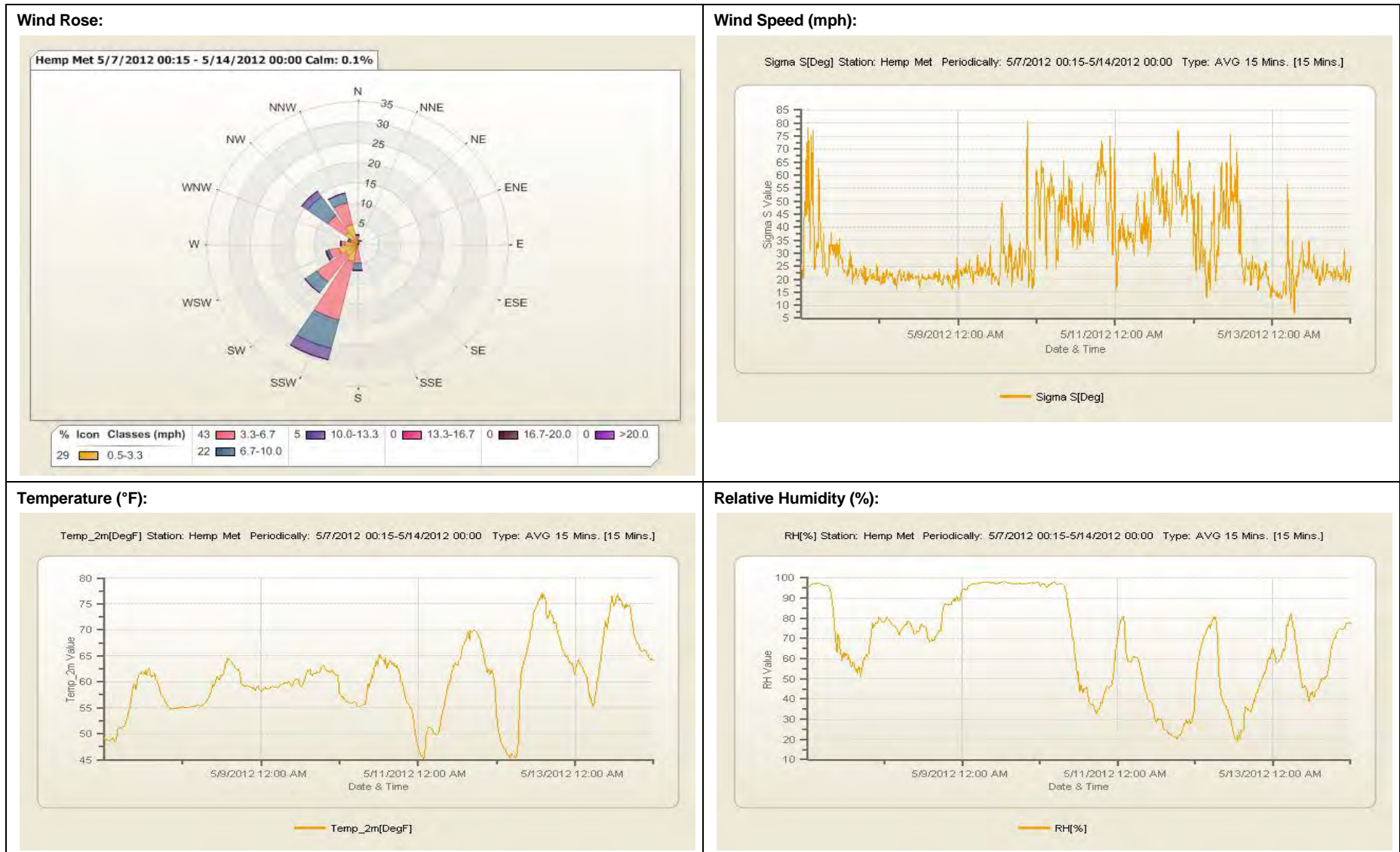
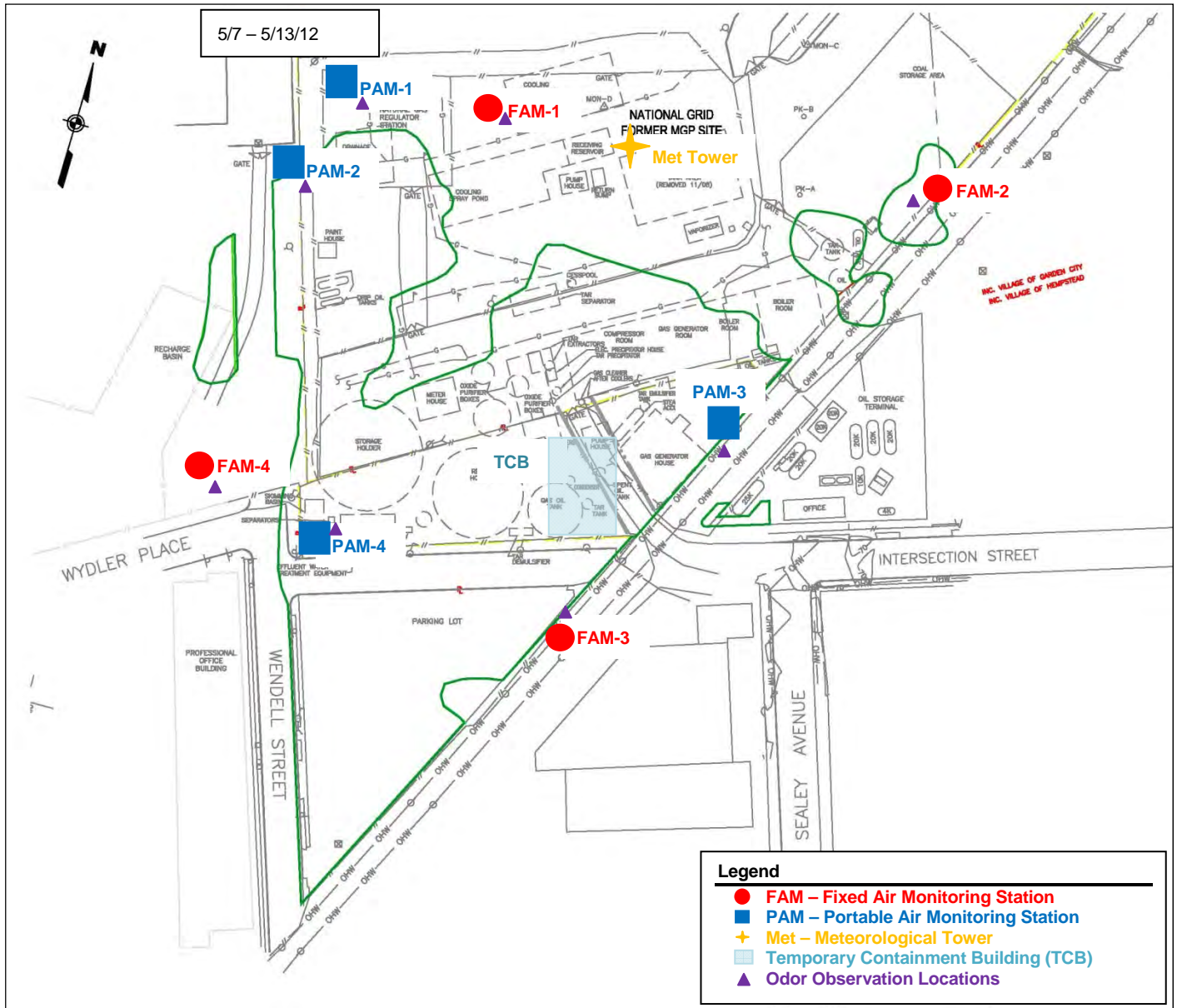


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 30 through May 6, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limit. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ and TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries;
- **Figure 2:** Daily/weekly Site map;
- **Figure 3:** Daily/weekly Site map; and
- **Figure 4:** Daily/weekly Site map.

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] > 440$ $[C_{avg}] > 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 4/30/12	44.3	0.1	16.3	0.1	9.6	0.1	19.9	0.1	38.5	0.1	91.1	0.1	29.3	0.1	70.2	0.1	X	≤3	X
Tue 5/1/12	56.3	0.1	76.6*	0.1	63.9	0.1	58.2	0.1	90.5	0.1	99.3	0.1	77.1	0.1	99.4	0.1	X	≤3	X
Wed 5/2/12	19.7	0.1	28.2	0.1	16.2	0.1	29.4	0.1	50.4	0.1	38.6	0.1	33.4	0.1	32.1	0.1	X	≤3	X
Thu 5/3/12	15.2	0.1	31.2	0.1	17.7	0.1	19.1	0.1	27.1	0.1	18.0	0.1	26.5	0.1	23.6	0.1	X	≤3	X
Fri 5/4/12	40.6	0.1	74.0	0.1	47.4	0.1	44.1	0.1	63.4	0.1	44.5	0.1	36.3	0.1	36.3	0.1	X	≤3	X
Sat 5/5/12	25.5	0.1	61.7	0.1	31.8	0.1	29.0	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 5/6/12	23.0	0.1	56.2	0.1	25.4	0.1	28.6	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/30/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the Temporary Containment Building (TCB) (8 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued deep soil mixing (DSM) production; •Changed out Tigg filters; and •Routine air monitoring.
Tue 5/1/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Started to bring floor of TCB to final grade in preparation for TCB move; •Re-routed south entrance gate and parking area for the new TCB location, •Continued DSM production; •Attempted DSM-60' test column (unsuccessful), and •Routine air monitoring.
Wed 5/2/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued bringing floor of TCB to final grade in preparation for TCB move; •Continued preparation for TCB move; •Continued DSM production; •Continued attempt of DSM-60' test column (unsuccessful), Cutter got stuck about 40' deep, and •Routine air monitoring.
Thu 5/3/12	<ul style="list-style-type: none"> •Continued bringing floor of TCB to final grade in preparation for TCB move; •Continued preparation for TCB move; •Moved Tiggs and generator; •Performed site cleanup and fence repairs; and •Routine air monitoring.
Fri 5/4/12	<ul style="list-style-type: none"> •Moved TCB to new location; •Torch cut SR100 Kelly Bar; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 5/5/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 5/6/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

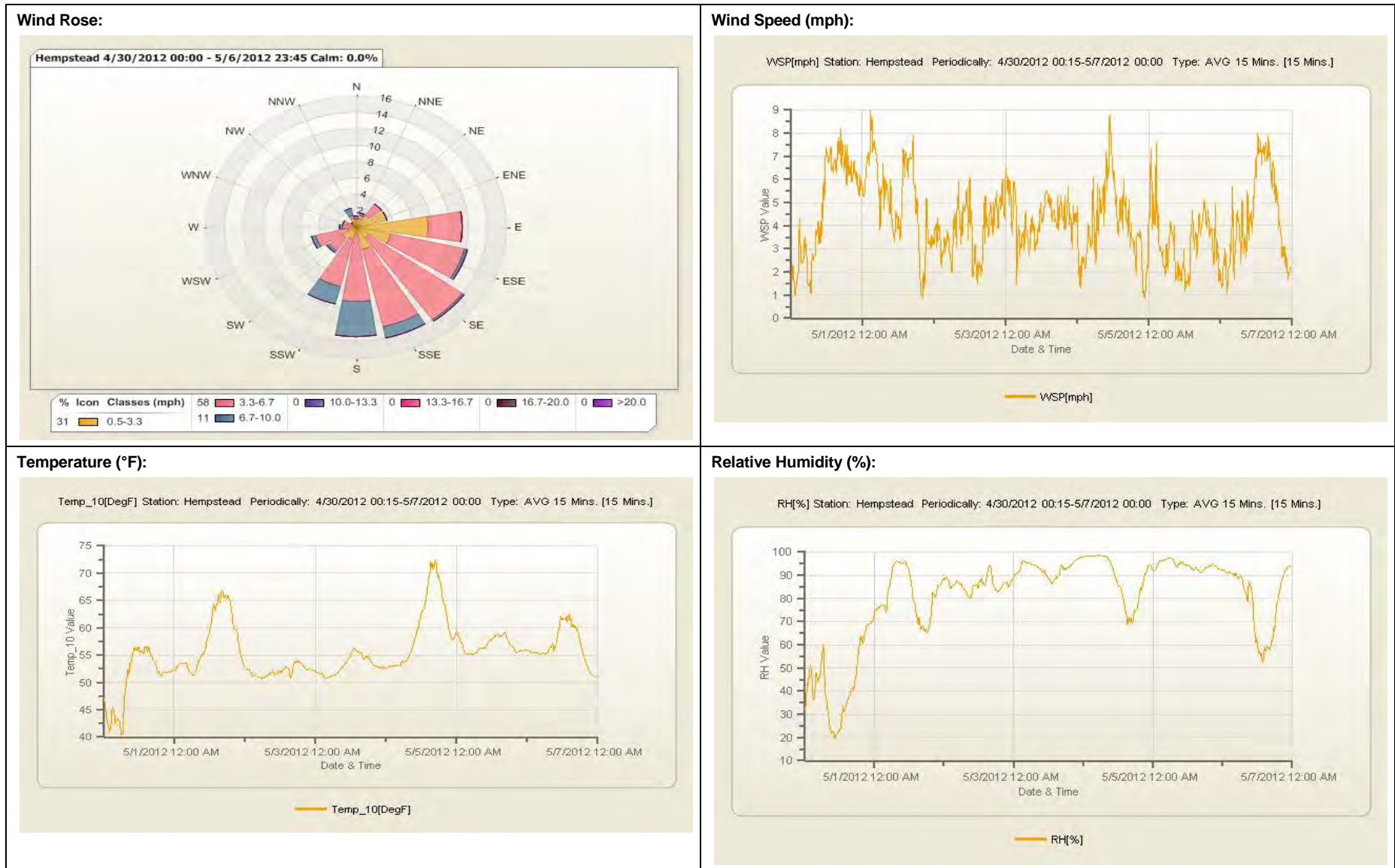


Figure 2: Site Map

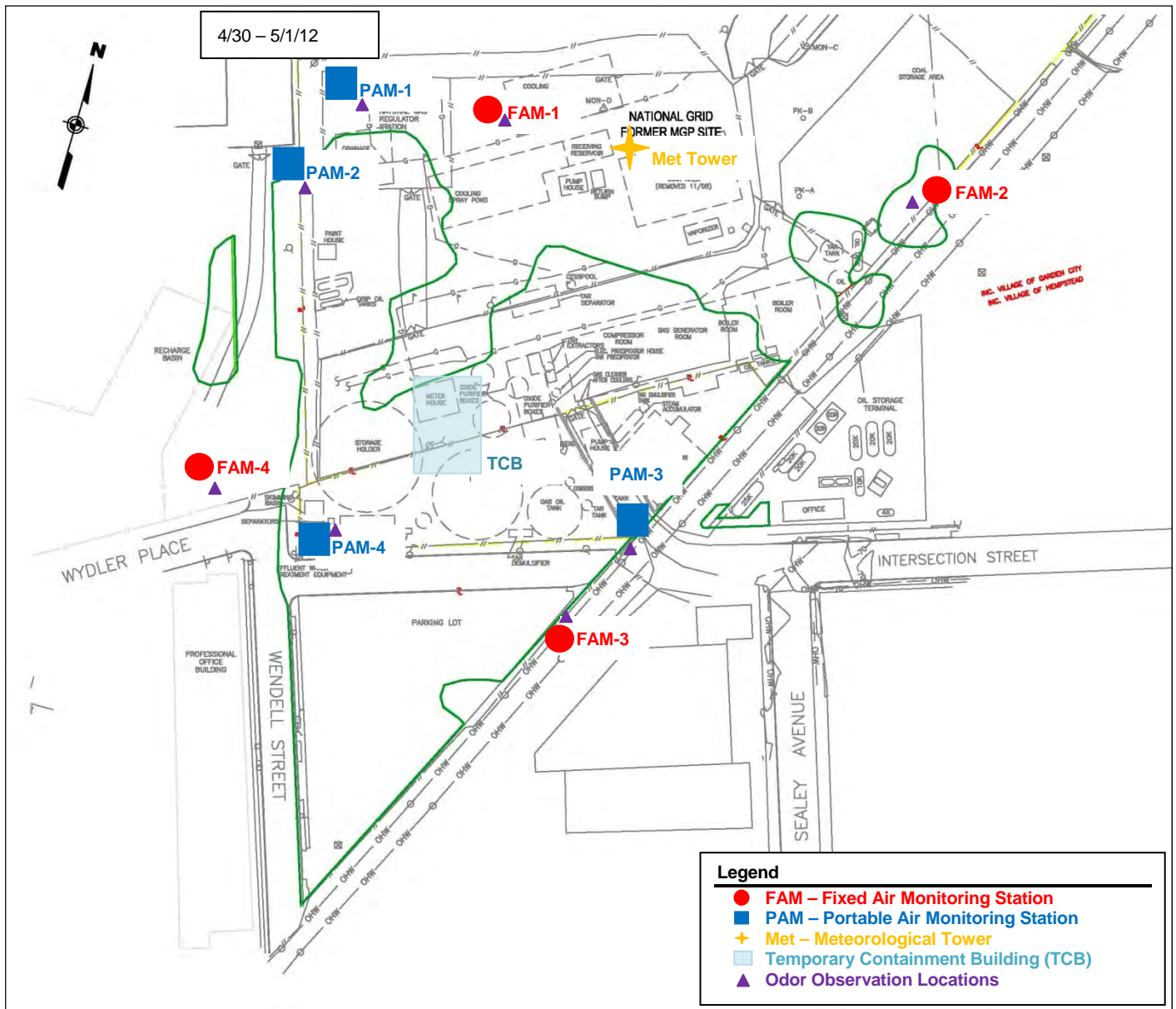
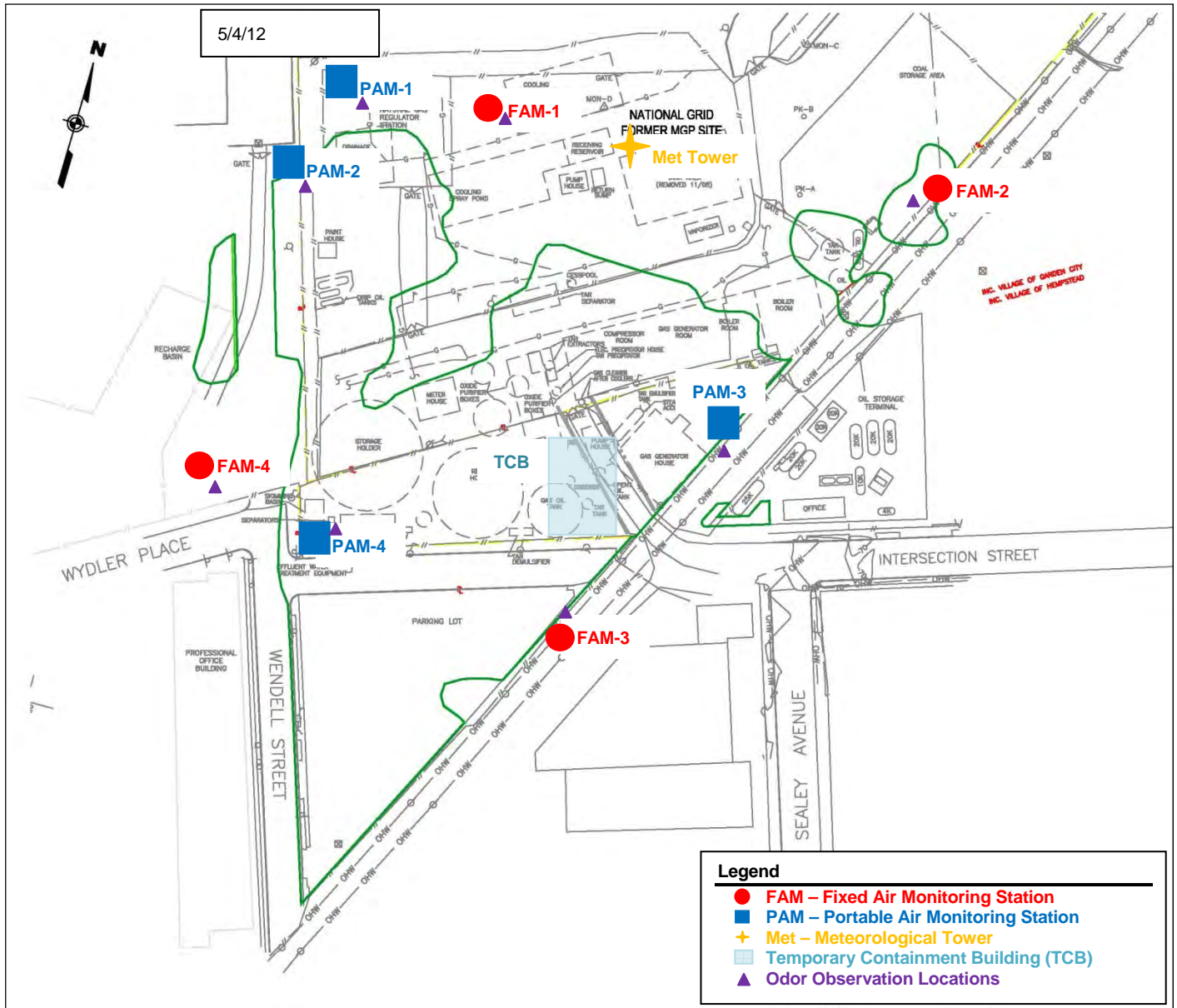


Figure 4: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 23 through April 29, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limit. However, there were PM₁₀ concentrations greater than the Response Limit. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

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During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. However, there were periods of PM₁₀ concentrations greater than the Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor Intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 4/23/12	19.1	0.1	42.2	0.1	17.5	0.1	26.7	0.1	25.7	0.1	18.4	0.1	18.7	0.1	22.0	0.1	X	≤ 3	X
Tue 4/24/12	15.9	0.1	28.7	0.1	16.0	0.1	19.3	0.1	21.6	0.1	64.2	0.1	14.4	0.1	37.7	0.1	X	≤ 3	X
Wed 4/25/12	46.7	0.1	51.1	0.1	23.8	0.1	24.2	0.1	35.4	0.1	48.6	0.1	56.2	0.1	25.0	0.1	X	≤ 3	X
Thu 4/26/12	61.6	0.1	75.3	0.1	45.0	0.1	44.8	0.1	62.1	0.1	62.8	0.1	48.5	0.1	46.3	0.6	X	≤ 3	X
Fri 4/27/12	53.0	0.1	95.3	0.1	61.1	0.1	59.7	0.1	14.9	0.1	19.8	0.1	23.1	0.1	117.7*	0.1	X	≤ 3	X
Sat 4/28/12	18.0	0.1	39.3	0.1	19.2	0.1	21.4	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 4/29/12	19.7	0.1	46.6	0.1	21.7	0.1	21.8	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

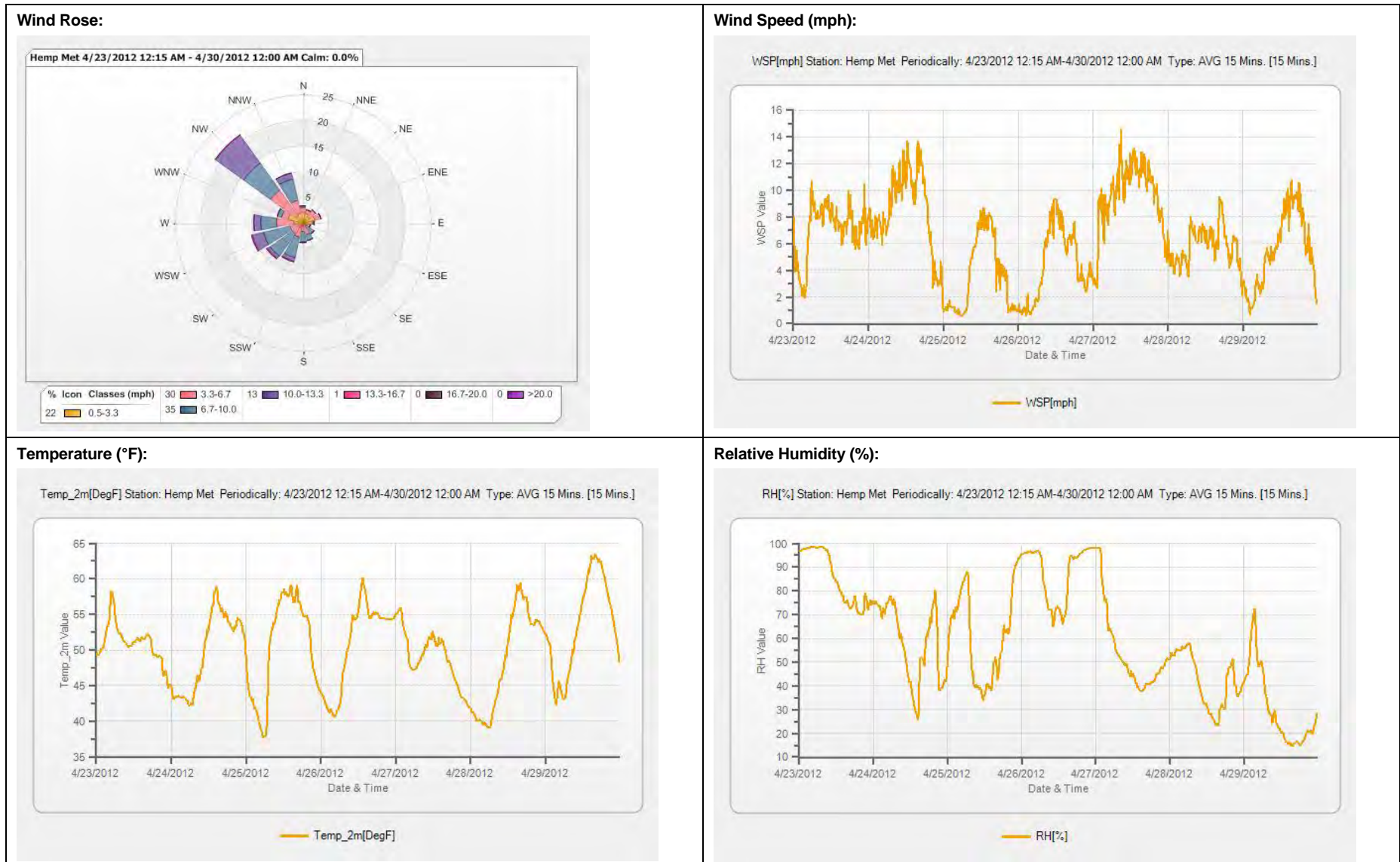
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 4/27/12	PAM-4	1:46PM 3:22PM	1:50PM 3:24PM	8	100	NW 11.2 mph	NW 11.0 mph	FAM-4	127.0	9.3	117.7	Response	Elevated PM ₁₀ concentrations were caused by an excavator moving the deep soil mixing pads in the vicinity of PAM-4. Water was applied to the area and concentrations dropped below the Response Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/23/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the Temporary Containment Building (TCB) (19 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued deep soil mixing (DSM) production; and •Routine air monitoring.
Tue 4/24/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (10 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued DSM production; and •Routine air monitoring.
Wed 4/25/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (10 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued DSM production; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 4/26/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued DSM production; and •Routine air monitoring.
Fri 4/27/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (15 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Completed batch plant #2 setup; •Continued DSM production; •Performed annual inspection of fire extinguishers; and •Routine air monitoring.
Sat 4/28/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/29/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 16 through April 22, 2012

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limit. However, there were PM₁₀ concentrations greater than the Response Limit. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ and TVOC concentrations greater than the Action Limits. However, there were periods of PM₁₀ concentrations greater than the Response Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and Figure 3:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 4/16/12	59.9	0.1	86.1	0.1	58.6	0.1	54.2	0.1	100.7*	0.1	70.1	0.1	59.5	0.1	51.2	0.1	X	≤ 3	X
Tue 4/17/12	34.3	0.1	65.4	0.1	38.2	0.1	99.9	0.1	87.6	0.1	99.2*	0.1	31.2	0.1	49.7	0.1	X	≤ 3	X
Wed 4/18/12	18.0	0.1	22.4	0.1	13.8	0.1	15.4	0.1	25.7	0.1	55.7	0.1	16.2	0.1	27.0	0.1	X	≤ 3	X
Thu 4/19/12	49.3	0.1	82.4	0.1	50.4	0.2	50.6	0.1	78.8	0.1	62.7	0.1	63.8	0.1	70.8	0.1	X	≤ 3	X
Fri 4/20/12	50.2	0.1	26.7	0.1	15.8	0.1	18.6	0.1	68.2	0.1	68.0	0.1	18.4	0.1	55.8	0.1	X	≤ 3	X
Sat 4/21/12	32.0	0.1	63.8	0.1	35.6	0.1	36.1	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 4/22/12	10.8	0.1	16.6	0.1	13.2	0.1	15.5	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Mon 4/16/12	PAM-1	1:07PM	1:08PM	2	150	SSW 6.7 mph	-	FAM-4	151.3	50.6	100.7	Response	Elevated PM ₁₀ concentrations were caused by truck traffic and excavation activities in the vicinity of PAM-1. Water was applied and concentrations quickly dropped below the Response Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/16/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the Temporary Containment Building (TCB) (10 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; and •Routine air monitoring.
Tue 4/17/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (19 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Changed TIGG filters; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 4/18/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Conducted grading in TCB; •Started the breakdown of TCB for north lateral pull; and •Routine air monitoring.
Thu 4/19/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Completed grading in TCB; •Performed TCB north lateral pull; •Start deep soil mixing (DSM) production; and •Routine air monitoring.
Fri 4/20/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued DSM production; and •Routine air monitoring.
Sat 4/21/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/22/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

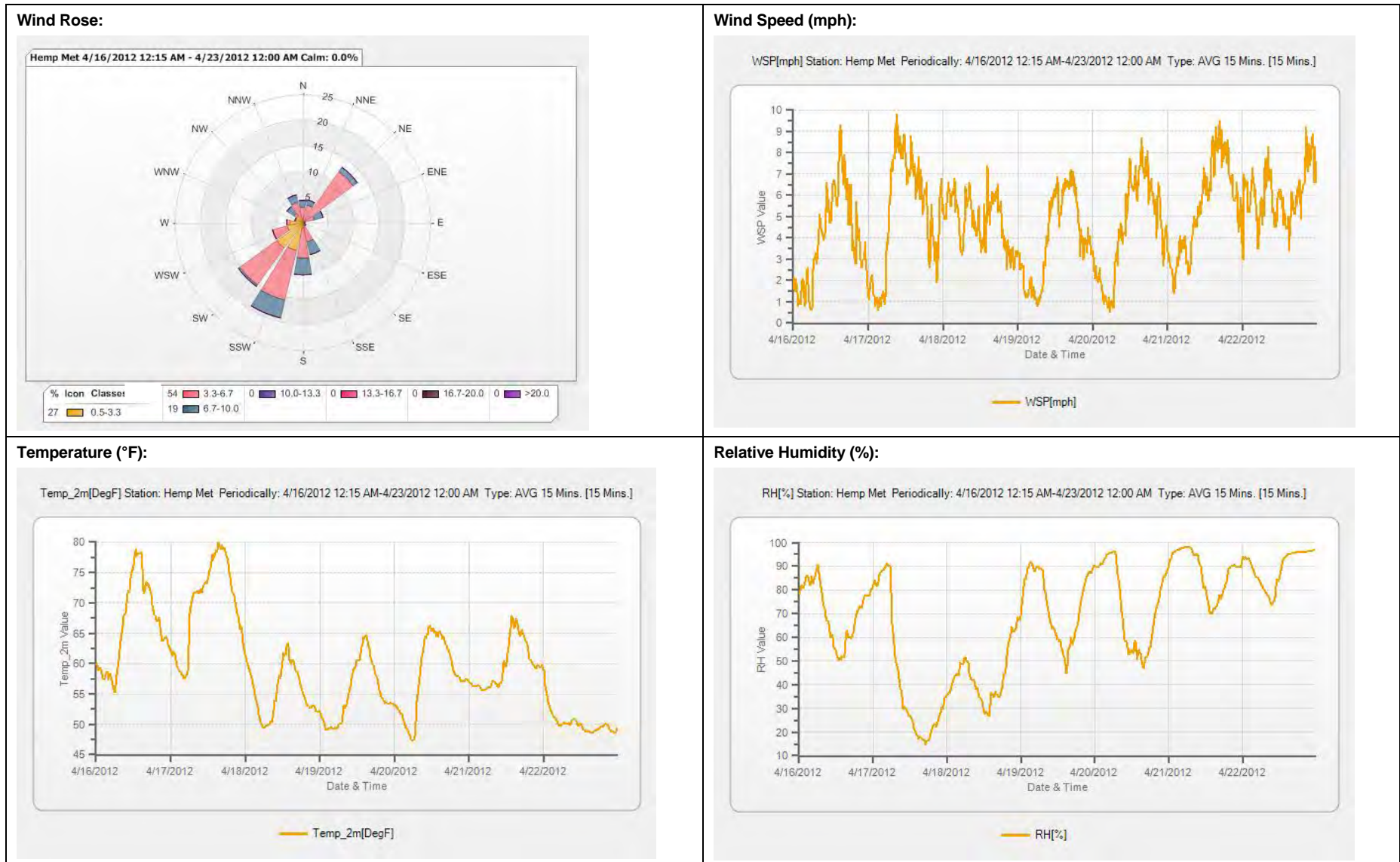


Figure 2: Site Map

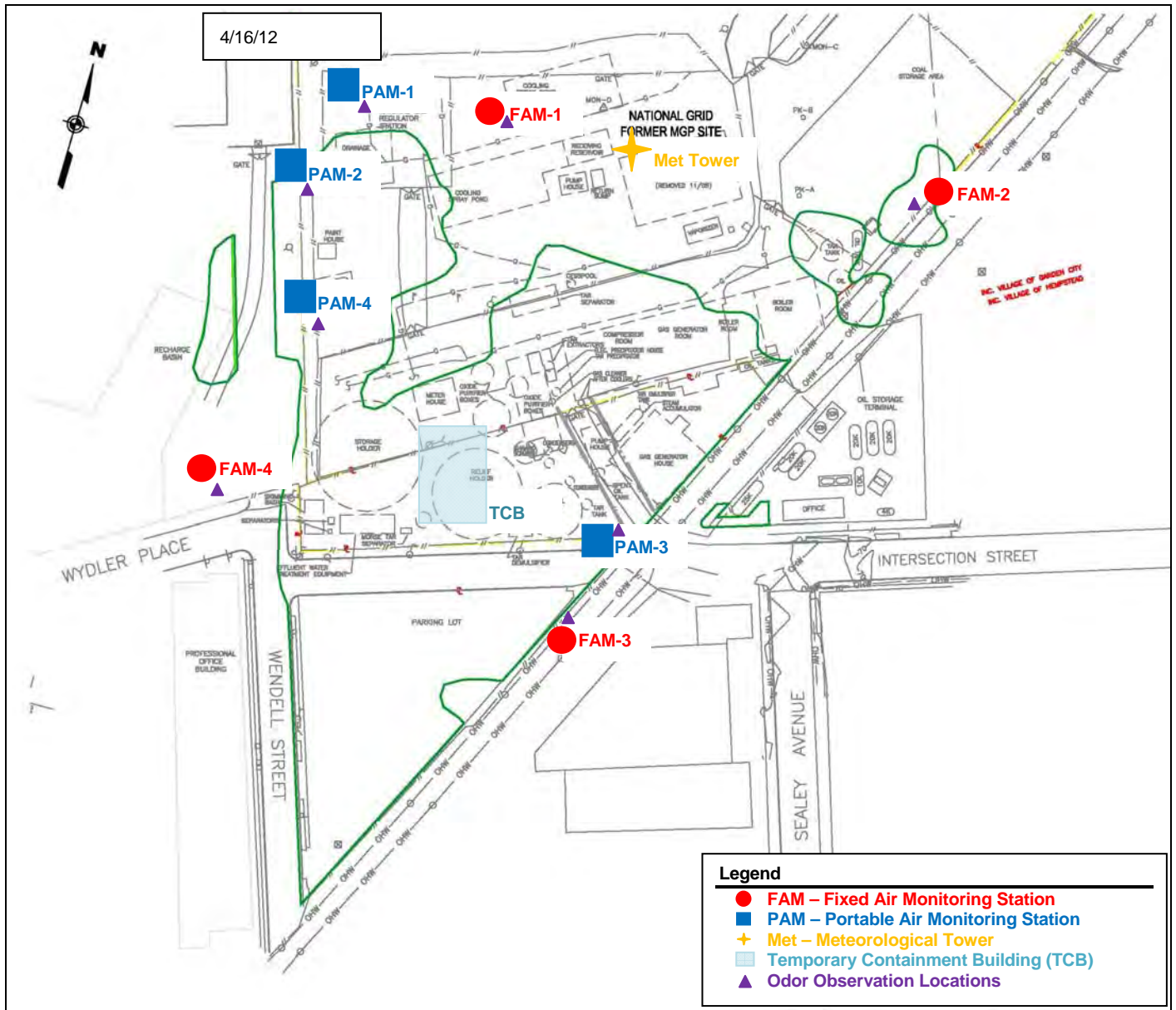
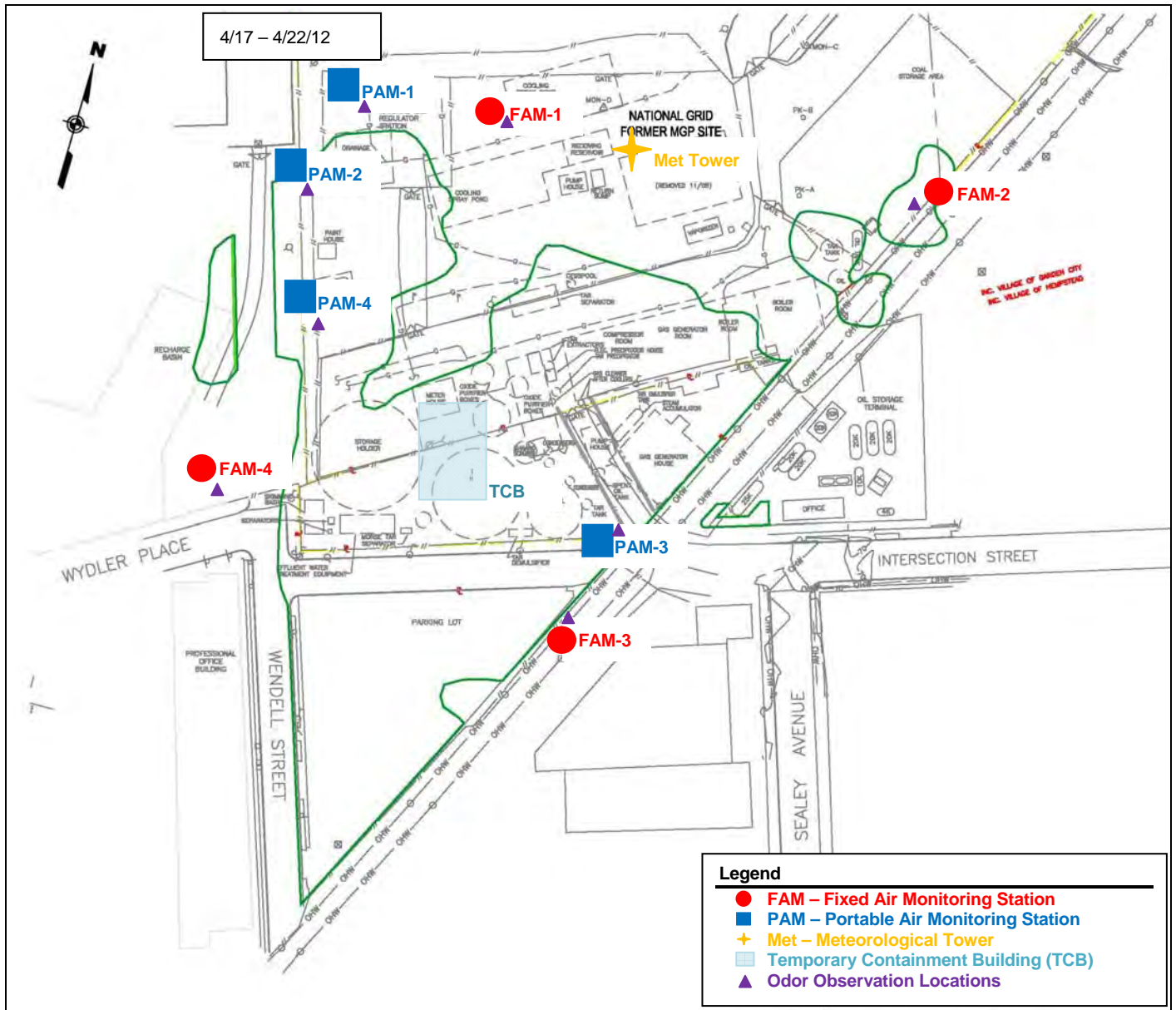


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 9 through April 15, 2012

During the report period there were no TVOC concentrations greater than the Action Limit. However, there were PM₁₀ concentrations greater than the Action Limit. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC concentrations greater than the Response and Action Limits. However, there were periods of PM₁₀ concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 4/9/12	10.3	0.1	19.1	0.1	11.1	0.1	12.4	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X ¹	X
Tue 4/10/12	19.1	0.1	49.2	0.1	26.1	0.1	21.2	0.1	28.5	0.1	225.3*	0.1	39.8	0.1	54.0	0.1	X	≤ 3	X
Wed 4/11/12	13.2	0.1	20.1	0.1	15.8	0.1	18.2	0.1	22.4	0.1	51.4	0.1	31.5	0.1	165.7*	0.3	X	≤ 3	X
Thu 4/12/12	0.0*	0.1	32.1	0.1	15.3	0.1	14.4	0.1	0.0*	0.1	85.9	0.1	20.3	0.1	75.3	0.3	X	≤ 3	X
Fri 4/13/12	8.3	0.1	14.4	0.1	9.6	0.1	16.9	0.1	20.6	0.1	85.4	0.1	18.5	0.1	65.8	0.1	X	≤ 3	X
Sat 4/14/12	23.8	0.1	52.0	0.1	25.0	0.1	28.5	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 4/15/12	38.0	0.1	71.3	0.1	43.1	0.1	43.1	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <p>• Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4).</p> <p>• FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured.</p> <p>• PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM).</p> <p>¹ Site closed for Easter Holiday (no Site activities).</p>																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 4/10/12	PAM-2	9:18AM	9:32AM	15	150	WNW 6.5 mph	WNW 6.4 mph	PAM-1	241.6	16.3	225.3	Action	Elevated PM ₁₀ concentrations were caused by Site activities (including the use of shovels, heavy equipment and power tools) in close proximity to PAM-2. Watering was implemented and concentrations remained below the Response and Action Limits for the remainder of the day.
PM ₁₀	Wed 4/11/12	PAM-4	1:37PM	1:44PM	8	150	NNW 6.9 mph	-	PAM-2	181.2	15.5	165.7	Action	Elevated PM ₁₀ concentrations were caused by excavation activities. Concentrations quickly dropped below the Response Limit once work was completed. Watering was implemented and concentrations remained below the Response and Action Limits for the remainder of the day.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

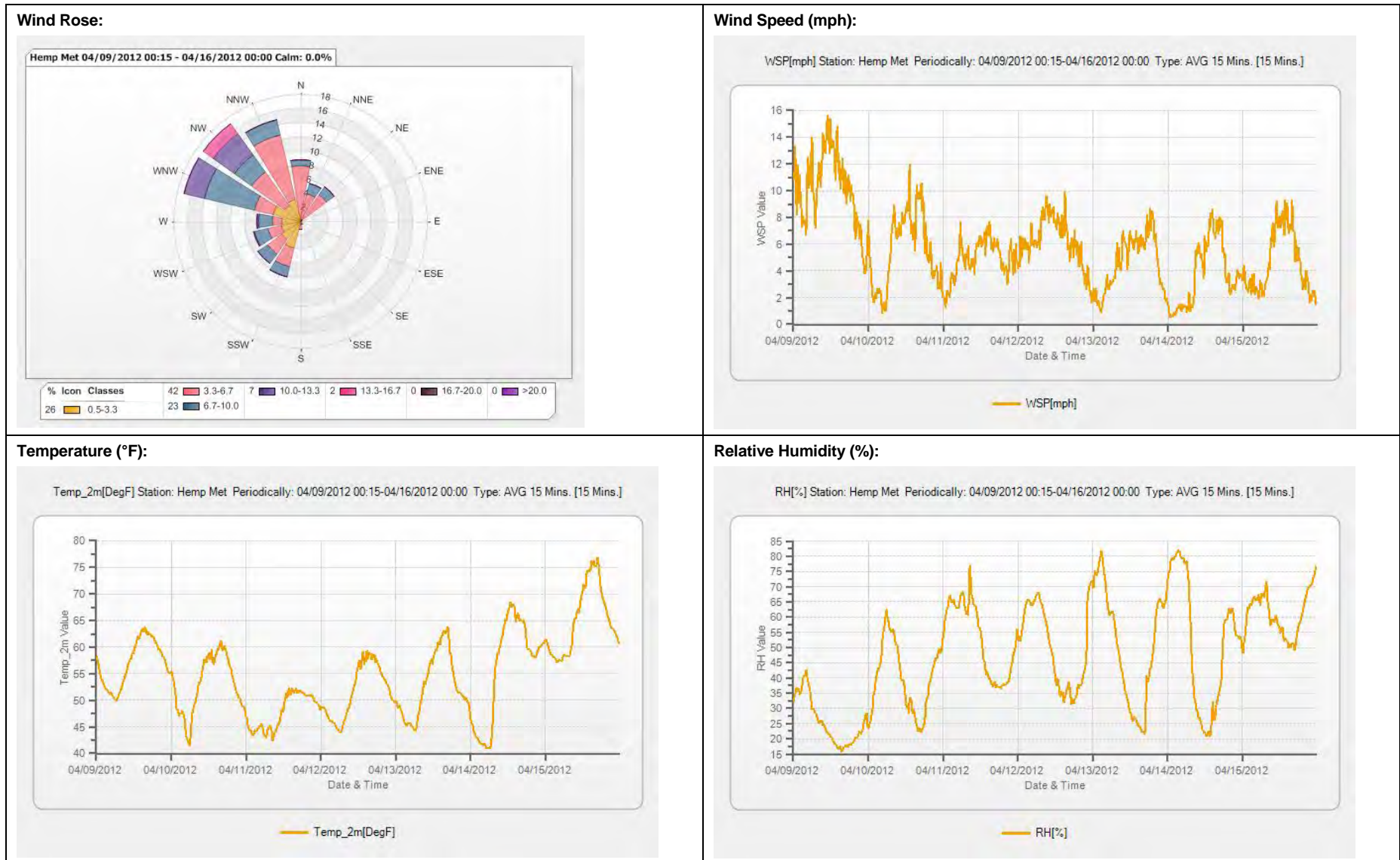
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Tue 4/10/12	PAM-2	2:22PM	2:30PM	9	100	WNW 6.3 mph	-	FAM-1	146.0	12.3	133.7	Response	Elevated PM ₁₀ concentrations were caused by Site activities (including the use of shovels, heavy equipment and power tools) in close proximity to PAM-2. Watering was implemented and concentrations remained below the Response and Action Limits for the remainder of the day.
PM ₁₀	Wed 4/11/12	PAM-4	1:32PM 1:45PM	1:36PM 1:47PM	8	100	NNW 6.9 mph	-	PAM-2	146.3	15.1	131.2	Response	Elevated PM ₁₀ concentrations were caused by excavation activities. Concentrations quickly dropped below the Response Limit once work was completed. Watering was implemented and concentrations remained below the Response and Action Limits for the remainder of the day.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/9/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Tue 4/10/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the Temporary Containment Building (TCB) (12 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Started to run electrical to batch plant #2; •Began coring for test deep soil mixing (DSM) columns; and •Routine air monitoring.
Wed 4/11/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued to run electrical to batch plant #2; •Continued coring for test DSM columns; and •Routine air monitoring.
Thu 4/12/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued to run electrical to batch plant #2; •Continued coring for test DSM columns (completed 4 columns); •Collected integrated VOC samples; and •Routine air monitoring.
Fri 4/13/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (10 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Continued to run electrical to batch plant #2; •Excavated two test columns for visual inspection; and •Routine air monitoring.
Sat 4/14/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/15/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	April 2 through April 8, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. However, there was a period of PM₁₀ concentrations greater than the Response Limit at PAM-4 on Wednesday, April 4, 2012. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 4/2/12	15.8	0.1	31.3	0.1	18.6	0.1	20.6	0.1	11.8	0.1	15.0	0.1	19.4	0.1	19.0	0.1	X	≤ 3	X
Tue 4/3/12	7.0	0.1	22.9	0.1	8.1	0.1	8.8	0.1	12.9	0.1	25.7	0.2	17.2	0.1	16.2	0.1	X	≤ 3	X
Wed 4/4/12	15.6	0.1	50.2	0.1	29.2	0.1	19.5	0.1	25.3	0.1	41.5	0.1	41.8	0.1	108.7*	0.1	X	≤ 3	X
Thu 4/5/12	7.4	0.1	11.0	0.1	6.5	0.1	11.7	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X ¹	X
Fri 4/6/12	4.3	0.1	9.9	0.1	4.3	0.1	8.0	0.1	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X ¹	X	X ¹	X
Sat 4/7/12	14.0	0.1	12.9	0.1	8.5	0.1	11.0	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 4/8/12	9.7	0.1	22.8	0.1	11.6	0.1	14.1	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ Site closed for Easter Holiday (no Site activities).</p>																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 4/4/12	PAM-4	1:47PM 2:05PM	2:01PM -	16	100	NNW 10.2 mph	NW 9.4 mph	PAM-2	138.6	29.9	108.7	Response Condition	Elevated PM ₁₀ concentrations were caused by truck traffic in the vicinity of PAM-4. Concentrations quickly dropped below the Response Limit.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 4/2/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the temporary containment building (TCB) (23 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; and •Routine air monitoring.
Tue 4/3/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (22 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; •Removed two old water lines, associated with old fire hydrant from the west side of the Site; and •Routine air monitoring.
Wed 4/4/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (24 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued batch plant #2 setup; and •Routine air monitoring.
Thu 4/5/12	<ul style="list-style-type: none"> •No Site activities; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 4/6/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 4/7/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/8/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

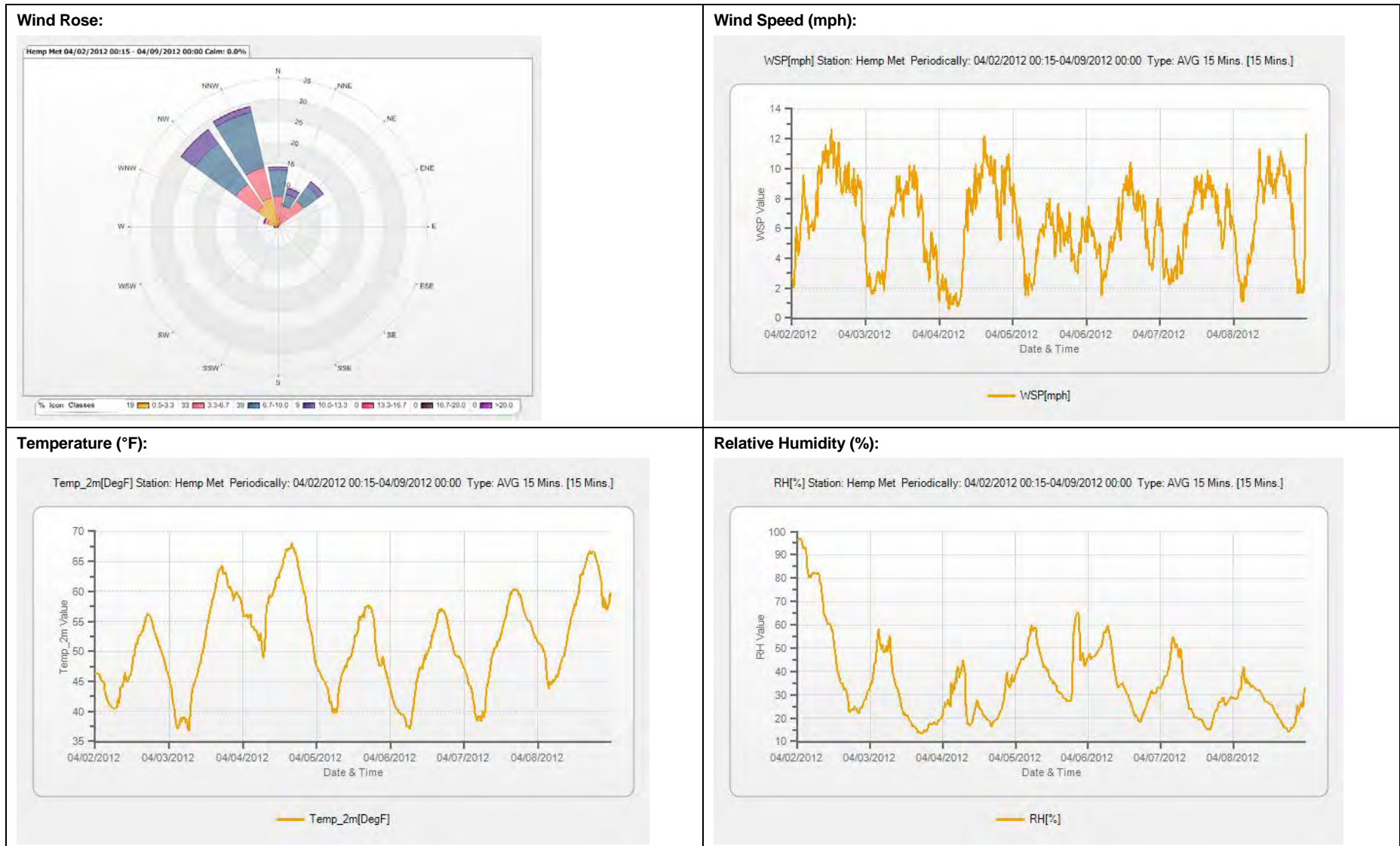
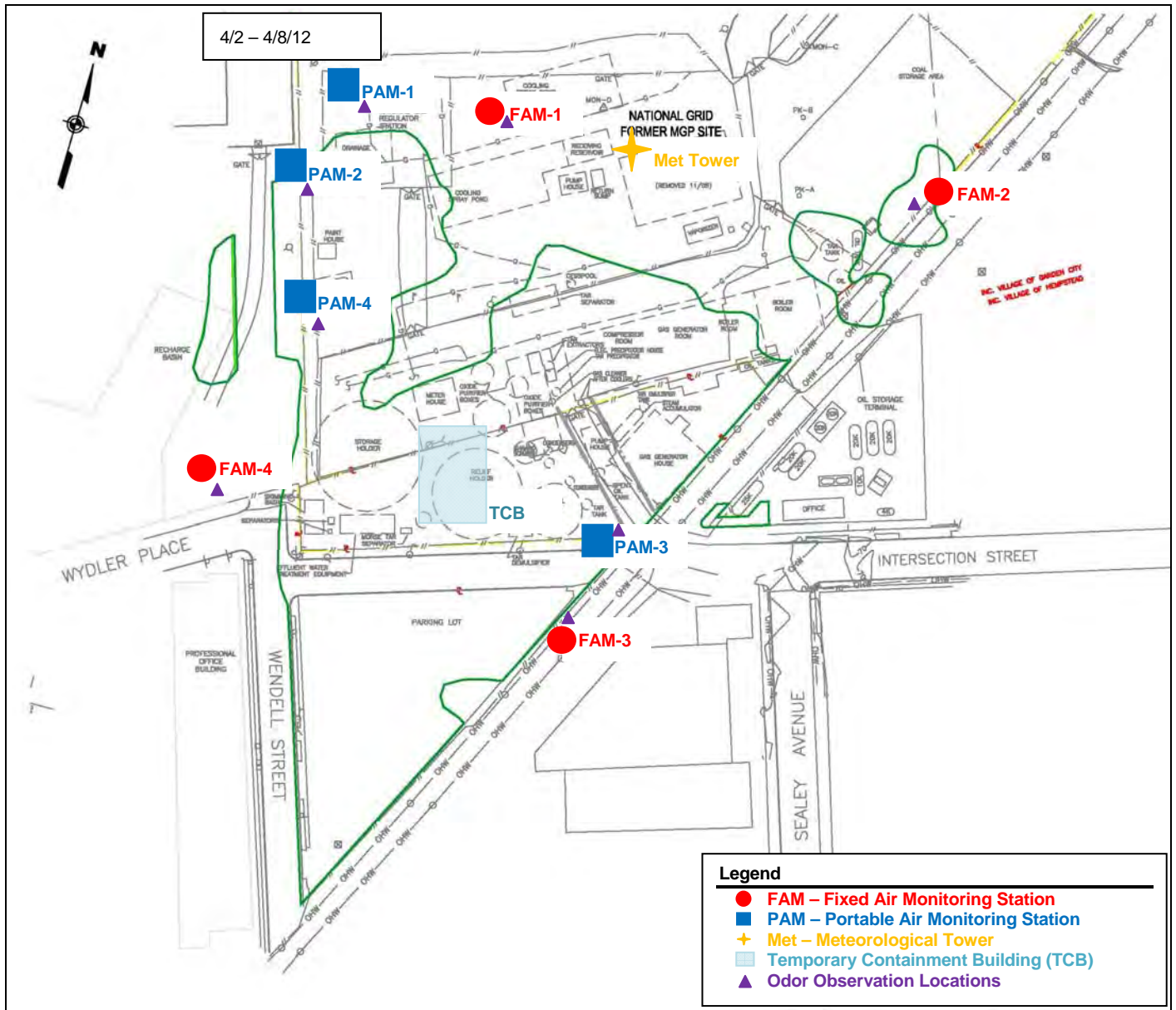


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 26 through April 1, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

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Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 3/26/12	25.8	0.1	56.6	0.1	28.2	0.1	31.3	0.1	43.7	0.1	35.8	0.1	29.2	0.1	75.0	0.1	X	≤ 3	X
Tue 3/27/12	12.7	0.1	47.6	0.1	20.4	0.1	12.5	0.1	11.1	0.1	33.9	0.1	36.2	0.1	42.0	0.1	X	≤ 3	X
Wed 3/28/12	32.0	0.1	60.5	0.1	32.7	0.1	36.6	0.1	30.6	0.1	25.1	0.1	20.4	0.1	20.3	0.1	X	≤ 3	X
Thu 3/29/12	31.5	0.1	60.0	0.1	32.7	0.1	33.3	0.1	6.8	0.1	17.8	0.1	19.8	0.1	31.0	0.1	X	≤ 3	X
Fri 3/30/12	11.7	0.1	27.8	0.1	14.9	0.1	15.1	0.1	13.8	0.1	18.3	0.1	40.0	0.1	28.2	0.1	X	≤ 3	X
Sat 3/31/12	19.1	0.1	59.0	0.1	29.1	0.1	22.6	0.1	X	X	X	X	X	X	X	X	X	X	X
Sun 4/1/12	38.7	0.1	71.1	0.1	42.8	0.1	44.4	0.1	X	X	X	X	X	X	X	X	X	X	X
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene X = Monitoring not required per Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/26/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the temporary containment building (TCB) (21 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued to assemble SR-100; •Mega Mix performed set up of scales for silos (Batch Plant #2); and •Routine air monitoring.
Tue 3/27/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (22 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued to assemble SR-100; •Mega Mix continued to perform set up of scales for silos (Batch Plant #2); •Collected integrated VOC samples; and •Routine air monitoring.
Wed 3/28/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (17 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Mega Mix continued to perform set up of scales for silos (Batch Plant #2); •Removed two old power poles from south side of Site; and •Routine air monitoring.
Thu 3/29/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (27 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Mega Mix completed set up of scales for silos (Batch Plant #2); •Removed two old power poles from south side of site; and •Routine air monitoring.
Fri 3/30/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (27 trucks); •Excavated and stockpiled soil and debris west of TCB area and TCB; •Continued to set up Batch Plant #2; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 3/31/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 4/1/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

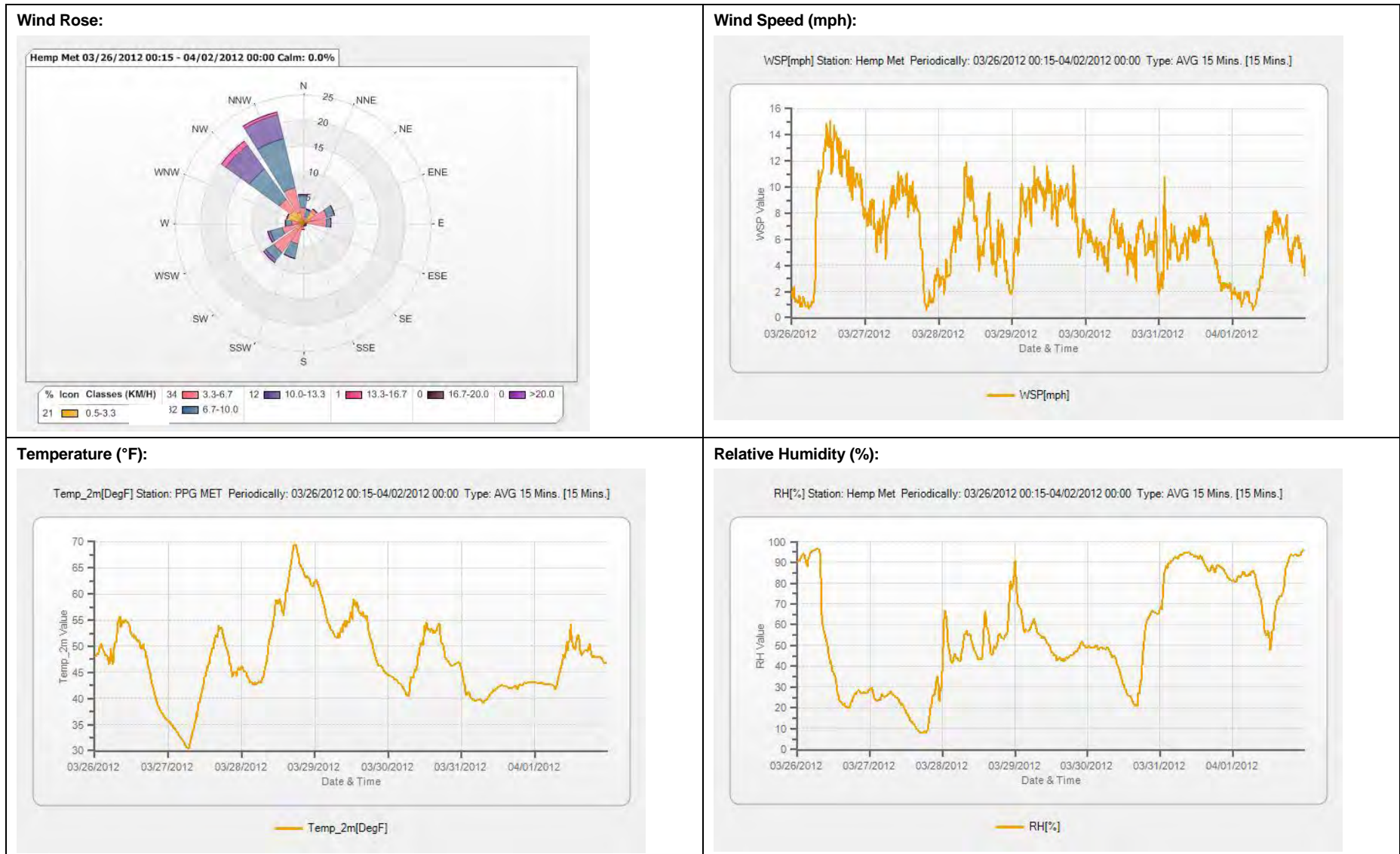
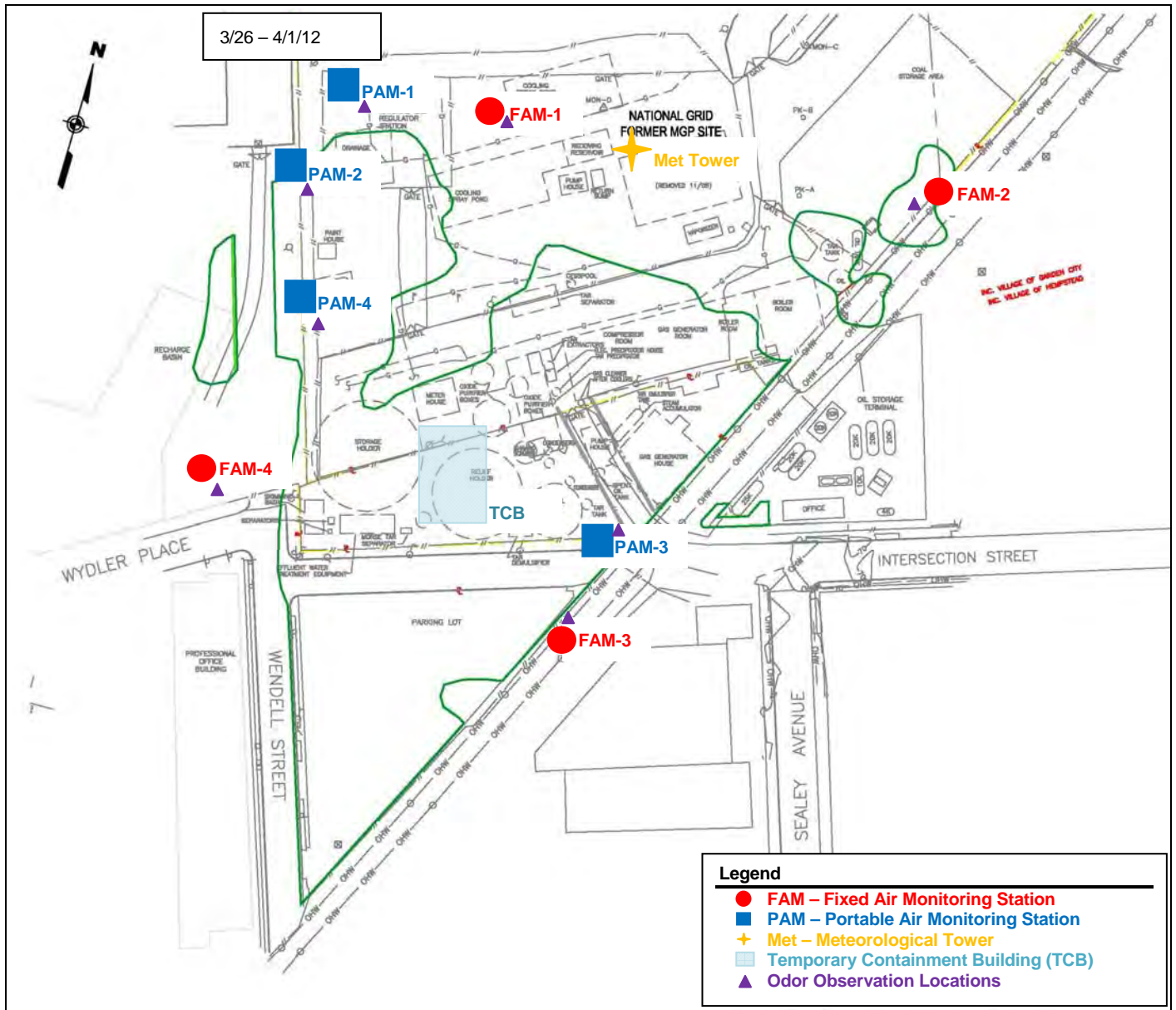


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 19 through March 25, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 through 4:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 3/19/12	55.2	0.1	91.2	0.1	58.5	0.1	59.5	0.3	97.3	0.2	77.1	0.1	71.1	0.1	57.2	0.3	NA	NA	NA
Tue 3/20/12	48.2	0.1	73.8	0.2	47.5	0.1	44.9	0.1	99.1	0.3	77.8	0.1	58.4	0.1	52.4	0.1	NA	≤ 3	NA
Wed 3/21/12	32.1	0.1	63.9	0.2	41.5	0.1	35.9	0.1	74.5	0.1	54.2	0.1	51.3	0.1	53.8	0.3	NA	≤ 3	NA
Thu 3/22/12	0.0*	0.1	52.0*	0.1	12.9*	0.1	3.0*	0.1	54.2*	0.4	21.0*	0.2	32.7*	0.1	22.9*	0.1	NA	≤ 3	NA
Fri 3/23/12	50.1	0.1	89.2	0.1	57.7	0.1	50.5	0.1	59.3	0.1	91.2	0.1	59.2	0.1	85.9	2.0	NA	≤ 3	NA
Sat 3/24/12	14.5	0.1	20.3	0.1	17.5	0.1	18.9	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 3/25/12	13.2	0.1	20.0	0.1	15.4	0.1	15.6	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable – Monitoring not required by the Site-specific CAMP. ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/19/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the temporary containment building (TCB) (24 trucks); •Excavated and stockpiled soil and debris in gas regulator station (GRS) area and TCB; •Started to install the deep soil mixing (DSM) test program (3); •Continued to assemble SR-100; and •Routine air monitoring.
Tue 3/20/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris in GRS area and TCB; •Continued to install the DSM test program (3) columns; •Continued to assemble SR-100; and •Routine air monitoring.
Wed 3/21/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris in GRS area and TCB; •Continued to install the DSM test program (2) columns; •Continued to assemble SR-100; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 3/22/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris in GRS area and TCB; •Completed the DSM test program (4) columns; •Continued to assemble SR-100; •Changed TIGG filters; •Routine air monitoring.
Fri 3/23/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (21 trucks); •Excavated and stockpiled soil and debris in gas regulator station (GRS) area and TCB; •Continued to assemble SR-100; and •Routine air monitoring.
Sat 3/24/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/25/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map

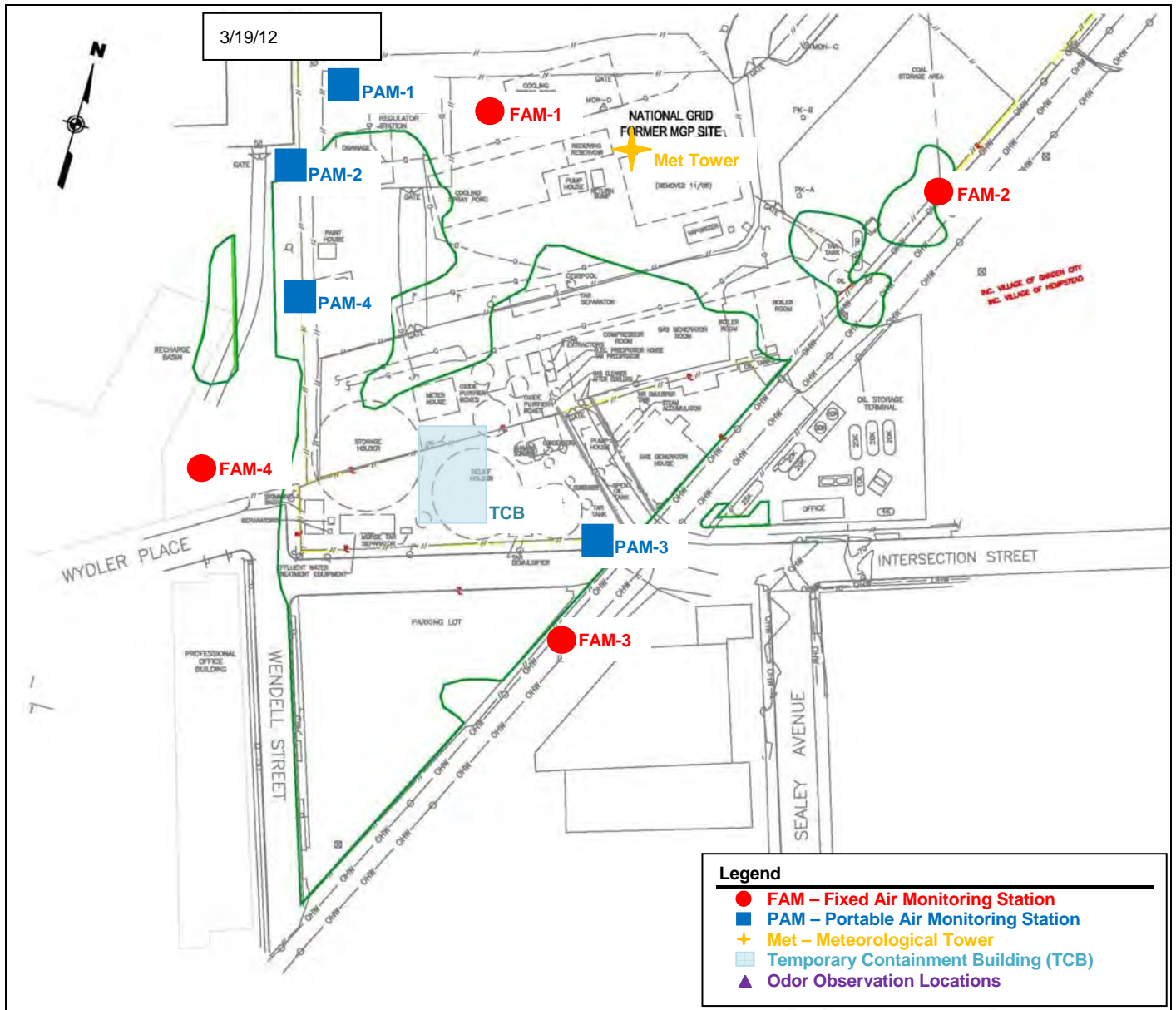


Figure 3: Site Map

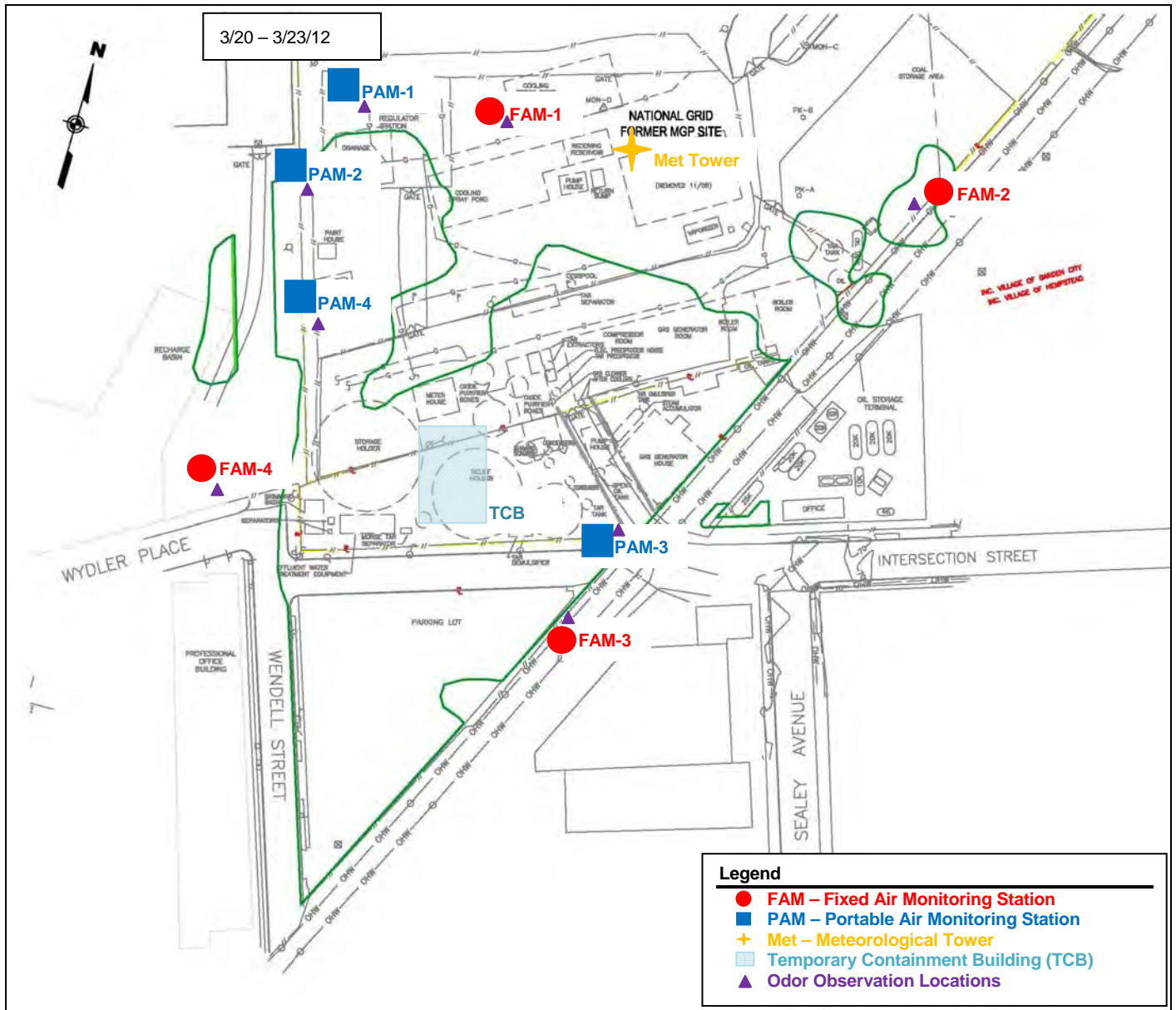
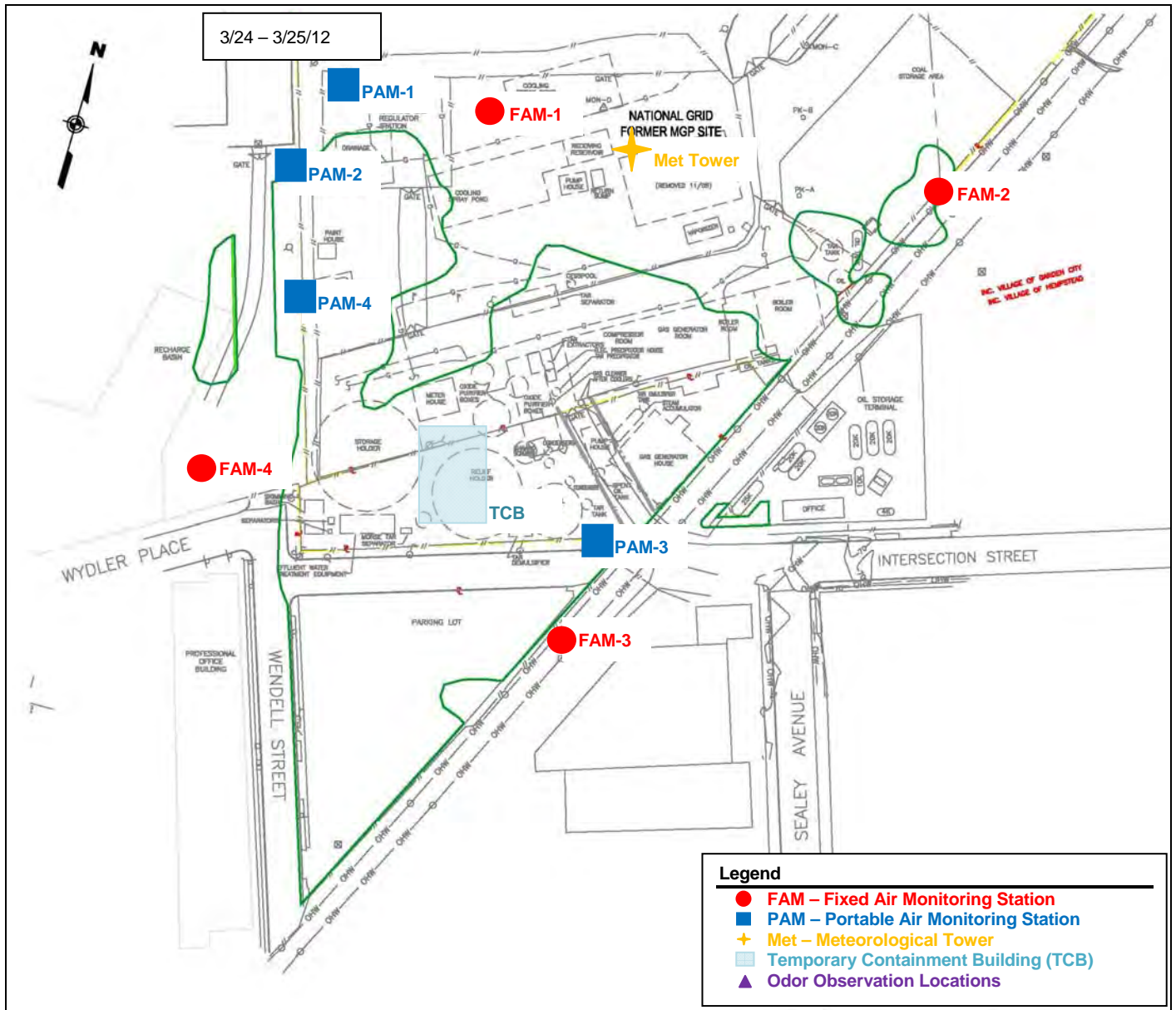


Figure 4: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 12 through March 18, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 through 4:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Response Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 3/12/12	41.5	0.4	75.4	0.1	46.6	0.1	47.9	0.5 ¹	66.5	0.9	75.2	0.6	72.4	0.2	58.6	0.4	NA	NA	NA
Tue 3/13/12	41.8	0.1	67.1	0.2	43.2	0.1	41.1	0.5 ¹	80.4	0.9	61.8	0.3	81.0	0.1	62.8	0.2	NA	NA	NA
Wed 3/14/12	25.8	0.3	51.3	0.1	27.7	0.1	29.8	0.3 ¹	39.9	0.3	21.3	0.2	44.5	0.1	30.0	0.1	NA	NA	NA
Thu 3/15/12	26.5	0.1	59.7	0.1	29.6	0.1	39.4	0.3	65.3	0.1	58.2	0.2	67.2	0.2	56.5	0.1	NA	NA	NA
Fri 3/16/12	65.8	0.1	37.8*	0.2	77.6	0.1	75.6	0.2 ¹	62.4	0.1	75.9	0.1	83.9	0.1	52.4	0.1	NA	≤ 3	NA
Sat 3/17/12	68.3	0.1	46.0*	0.1	82.4	0.1	82.2	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 3/18/12	61.3	0.1	99.8	0.1	65.5	0.1	65.6	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ TVOC concentrations were found to be invalid between 3/12/12 12:00AM and 8:14AM, 3/13/12 7:32PM and 3/14/12 9:32AM, 3/14/12 7:36PM and 11:50PM, and 3/16/12 5:41PM and 3/17/12 2:22AM. The PID was replaced on 3/19/12.</p>																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/12/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the temporary containment building (TCB) (14 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavate gas regulator station (GRS) pipes and load into Miller Rolloff Box; •Continued installation of entrance gate; •Continued to assemble batch plant #2; and •Routine air monitoring.
Tue 3/13/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (11 trucks); •Excavated and stockpiled soil and debris in GRS area and TCB; •Removed old perimeter fence along Garden City Park; •Started pre-excitation in deep soil mixing (DSM) test column locations; •Continued to assemble batch plant #2; and •Routine air monitoring.
Wed 3/14/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (12 trucks); •Excavated and stockpiled soil and debris in GRS area and TCB; •Continued pre-excitation in DSM test column locations; •Continued to assemble batch plant #2; •Continued to clear and grub fence line adjacent to Garden City Park; and •Routine air monitoring.
Thu 3/15/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris in GRS area and TCB; •Continued pre-excitation in DSM test column locations; •Continued to assemble batch plant #2; •Continued to clear and grub fence line adjacent to Garden City Park; •Started to assemble SR-100; and •Routine air monitoring.
Fri 3/16/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris in GRS area and TCB; •Continued pre-excitation in DSM test column locations; •Continued to assemble batch plant #2; •Continued to clear and grub fence line adjacent to Garden City Park; •Continued to assemble SR-100; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 3/17/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/18/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

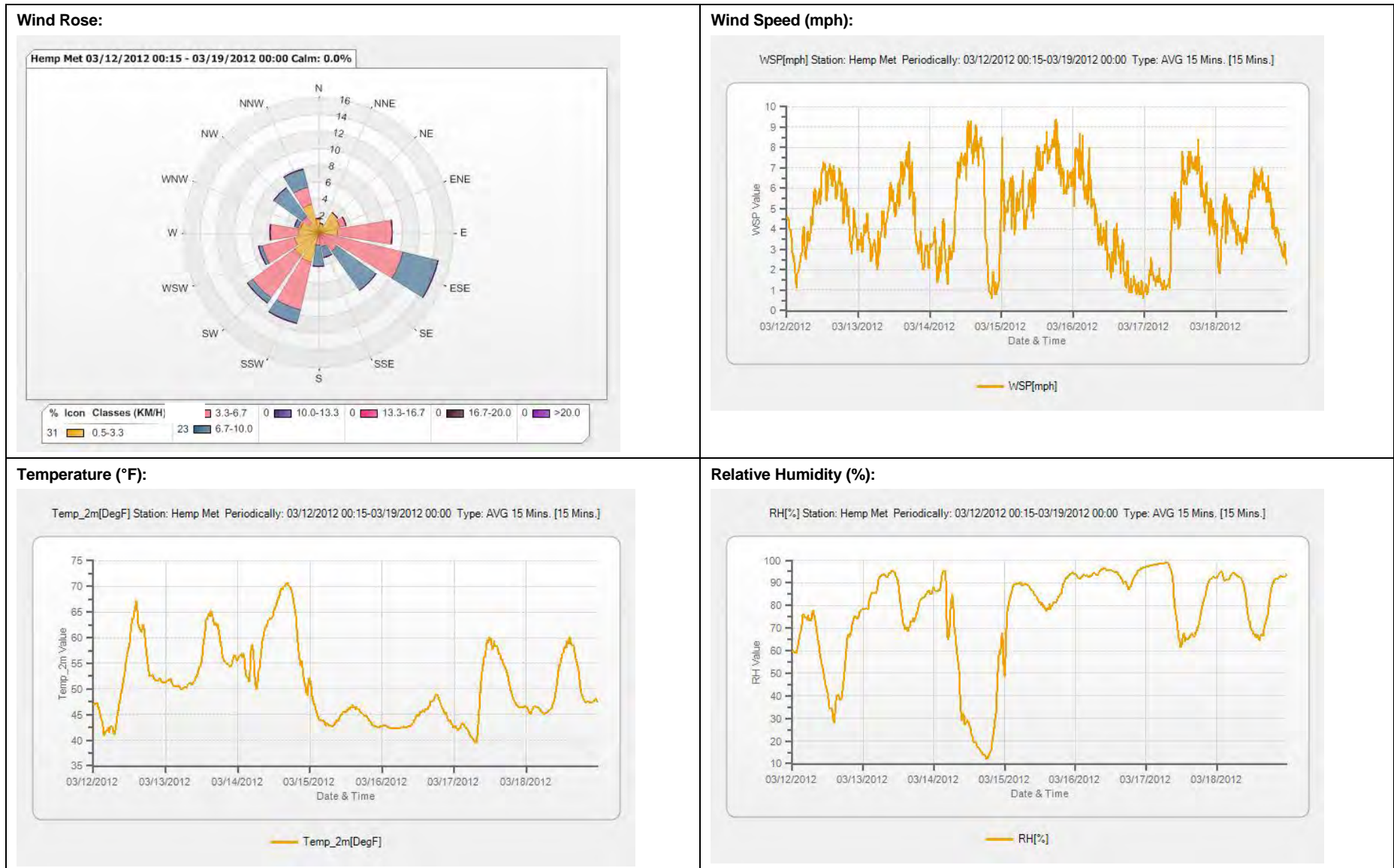


Figure 2: Site Map

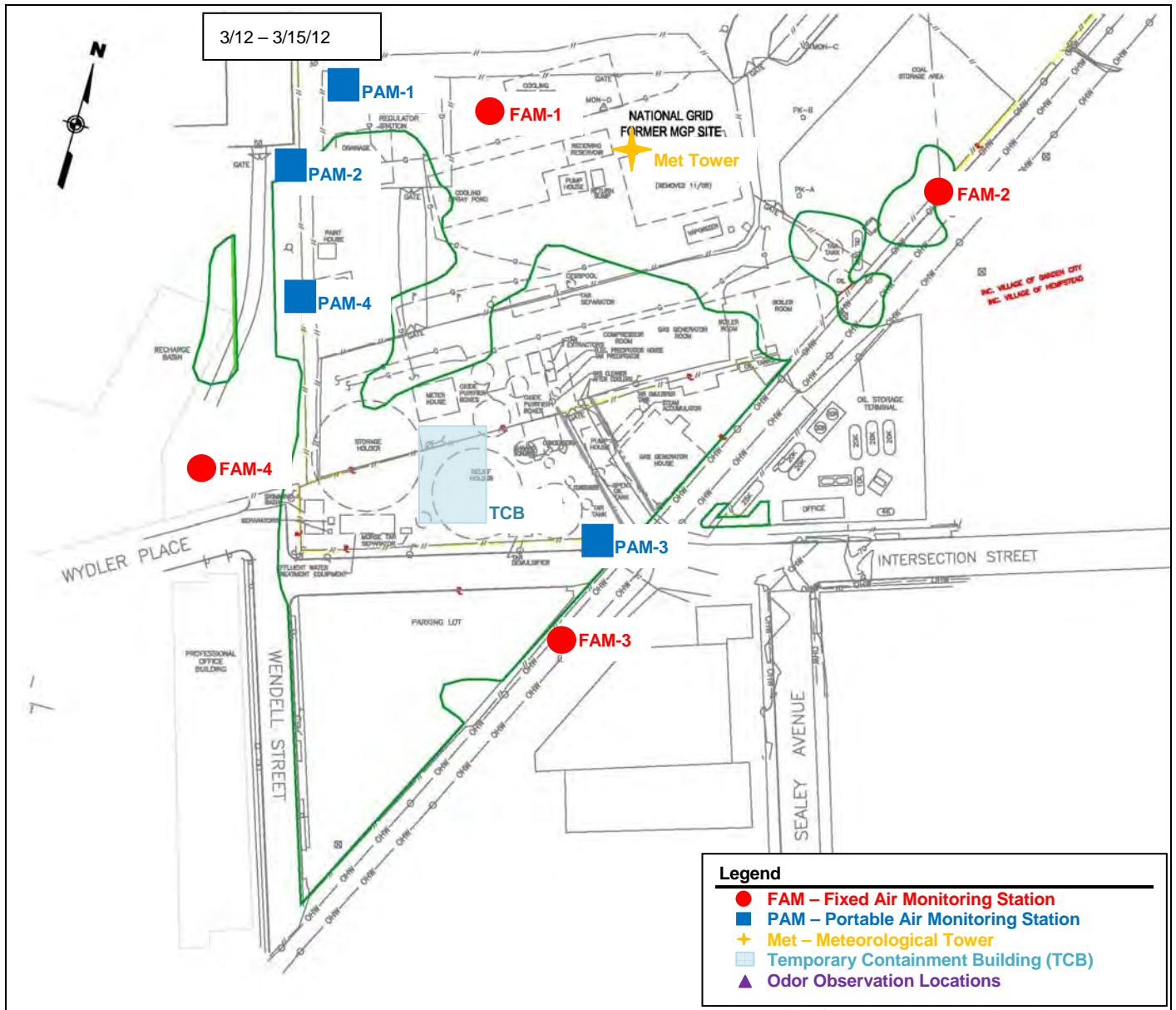


Figure 3: Site Map

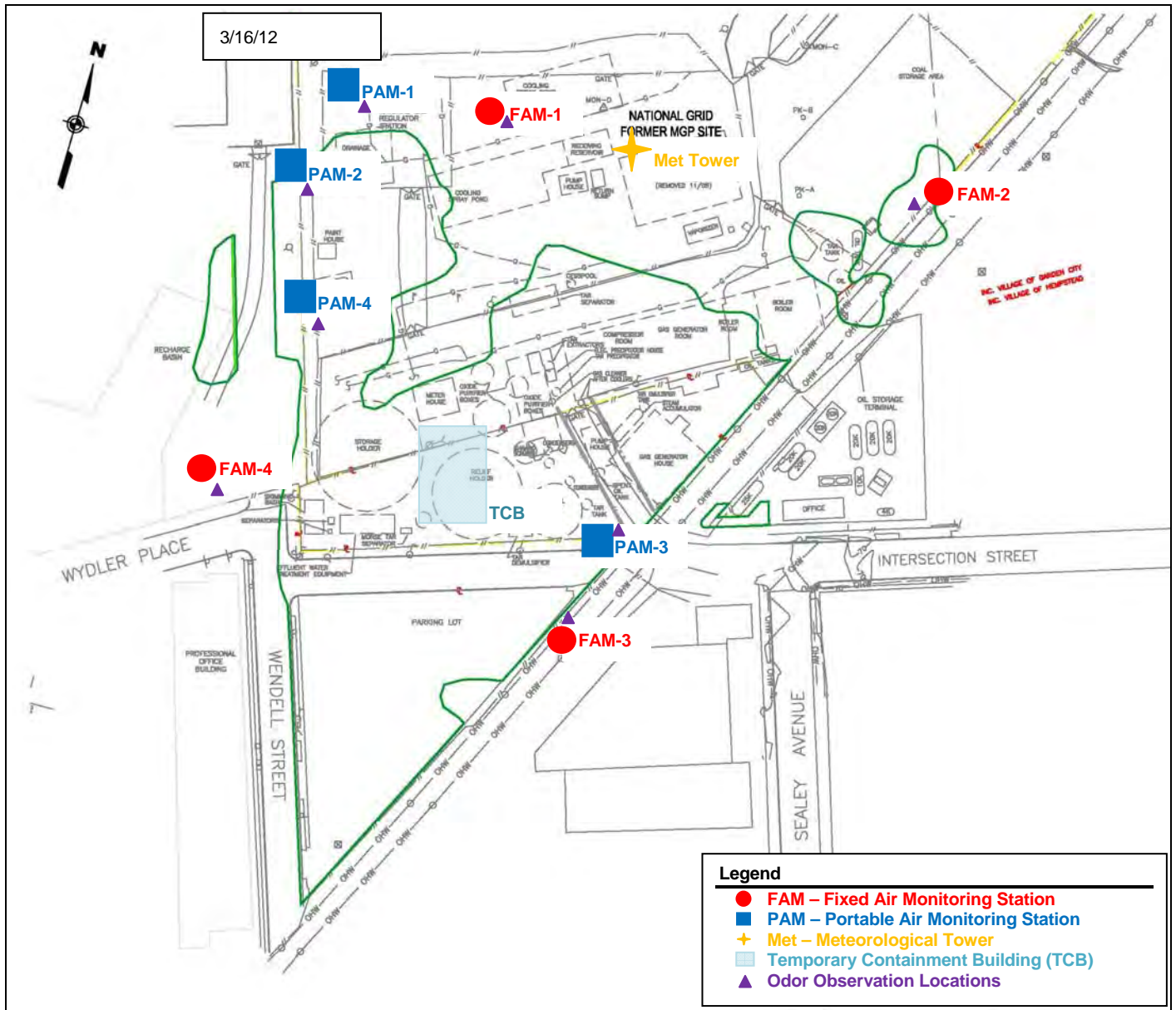
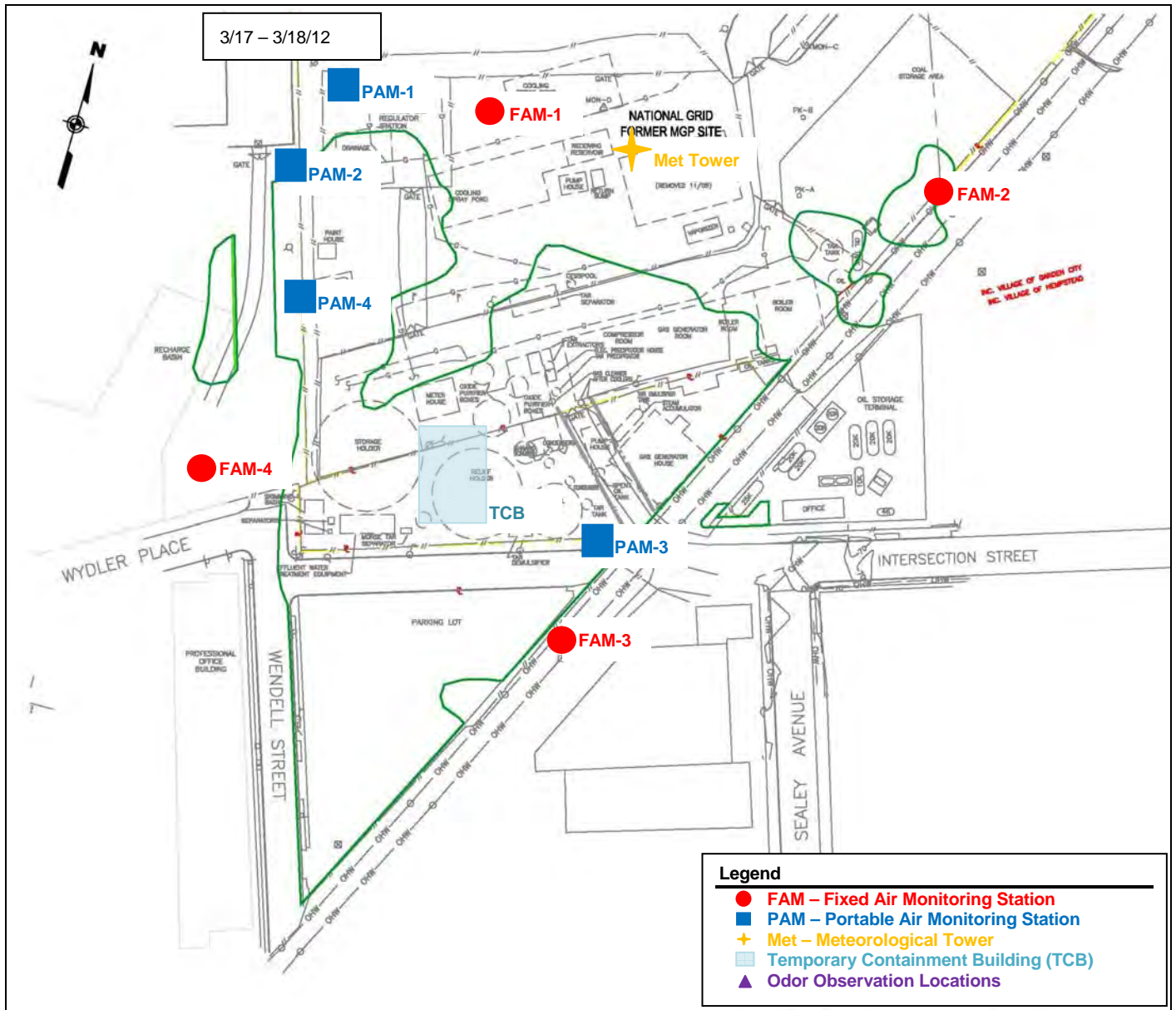


Figure 4: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	March 5 through March 11, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 through 4:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm Benzene (GC) – ppm	3.7 NA	5.0 NA	25.0 1.0	$[C_{avg}] \leq 3.7$ $[C_{avg}] \leq 1.0$	$3.7 < [C_{avg}] \leq 5.0$ NA	$5.0 < [C_{avg}] \leq 25.0$ NA	$[C_{avg}] > 25.0$ $[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 3/5/12	9.8	0.1	39.0	0.1	13.2	0.1	10.2	0.1	13.0	0.1	9.6	0.2	46.7	0.1	10.9	0.1	NA	NA	NA
Tue 3/6/12	25.1	0.1	69.9	0.1	32.7	0.1	22.2	0.1	33.2	0.1	24.0	0.2	40.0	0.1	21.8	0.1	NA	NA	NA
Wed 3/7/12	32.7	0.1	41.9	0.2	24.0	0.1	24.4	0.1	37.2	0.3	33.5	0.1	30.5	0.2	35.4	0.1	NA	≤ 3	NA
Thu 3/8/12	23.0	0.2	32.6	0.2	20.5	0.1	23.0	0.2	37.8	0.7	34.9	0.1	25.8	0.1	21.6	0.3	NA	≤ 3	NA
Fri 3/9/12	20.1	0.2	31.9	0.3	20.8	0.1	23.7	0.5	13.4	0.1	17.3	1.0	22.3	0.1	14.6	0.1	NA	NA	NA
Sat 3/10/12	21.5	0.1	43.6	0.1	22.9	0.1	31.0	0.3 ¹	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 3/11/12	39.0	0.1	72.4	0.2	44.0	0.1	44.8	0.2 ¹	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ TVOC concentrations were found to be invalid between 3/10/12 at 5:58PM and 3/11/12 at 7:51AM and 3/11/12 7:29PM and 3/11/12 11:59PM because of an instrument malfunction. The PID was replaced on 3/13/12.</p>																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 3/5/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the temporary containment building (TCB) (20 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavated west fenceline slop; •Installed new electric vibrators on silos; •Loaded gas regulator pipes into Miller Rolloff Box; •Surveyed, located, and painted utilities in Garden City Park; and •Routine air monitoring.
Tue 3/6/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (24 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavated gas regulator station pipes and loaded into Miller Rolloff Box; •Performed coring at deep soil mixing (DSM) column T25; •Started to assemble batch plant #2; and •Routine air monitoring.
Wed 3/7/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (19 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavated gas regulator station pipes and loaded into Miller Rolloff Box; •Performed coring at DSM column T26 and began coring at DSM column T19; •Started to assemble batch plant #2; and •Routine air monitoring.
Thu 3/8/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (24 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavated gas regulator station pipes and loaded into Miller Rolloff Box; •Began installation of entrance gate; •Started to assemble batch plant #2; •Collected integrated VOC samples, and •Routine air monitoring.
Fri 3/9/12	<ul style="list-style-type: none"> •Performed disposal and loadout of soil and debris from the TCB (11 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Removed old perimeter fence along Garden City Park; •Began pre-excavation in DSM test column locations; •Continued to assemble batch plant #2; and •Routine air monitoring.
Sat 3/10/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/11/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Figure 2: Site Map

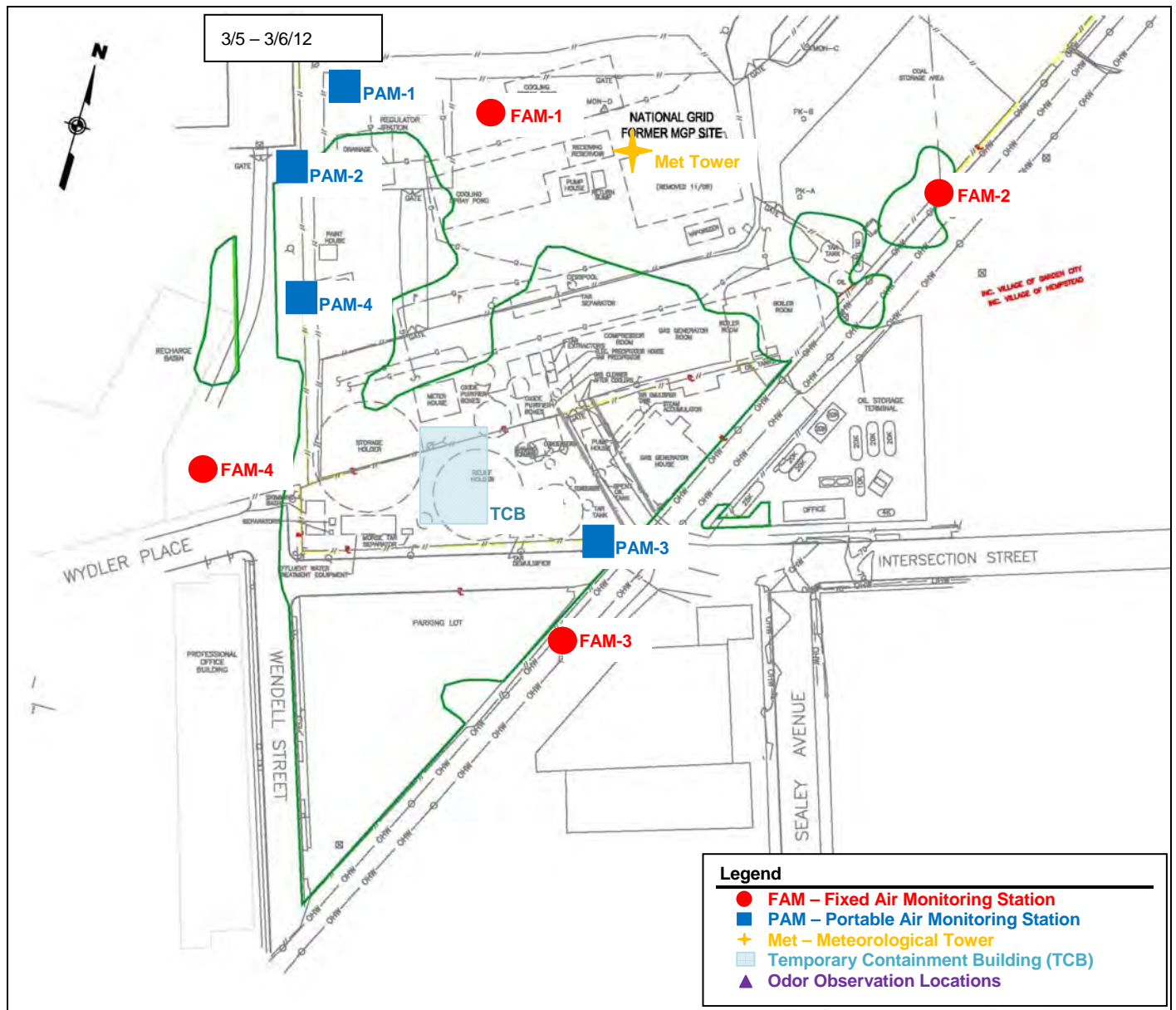
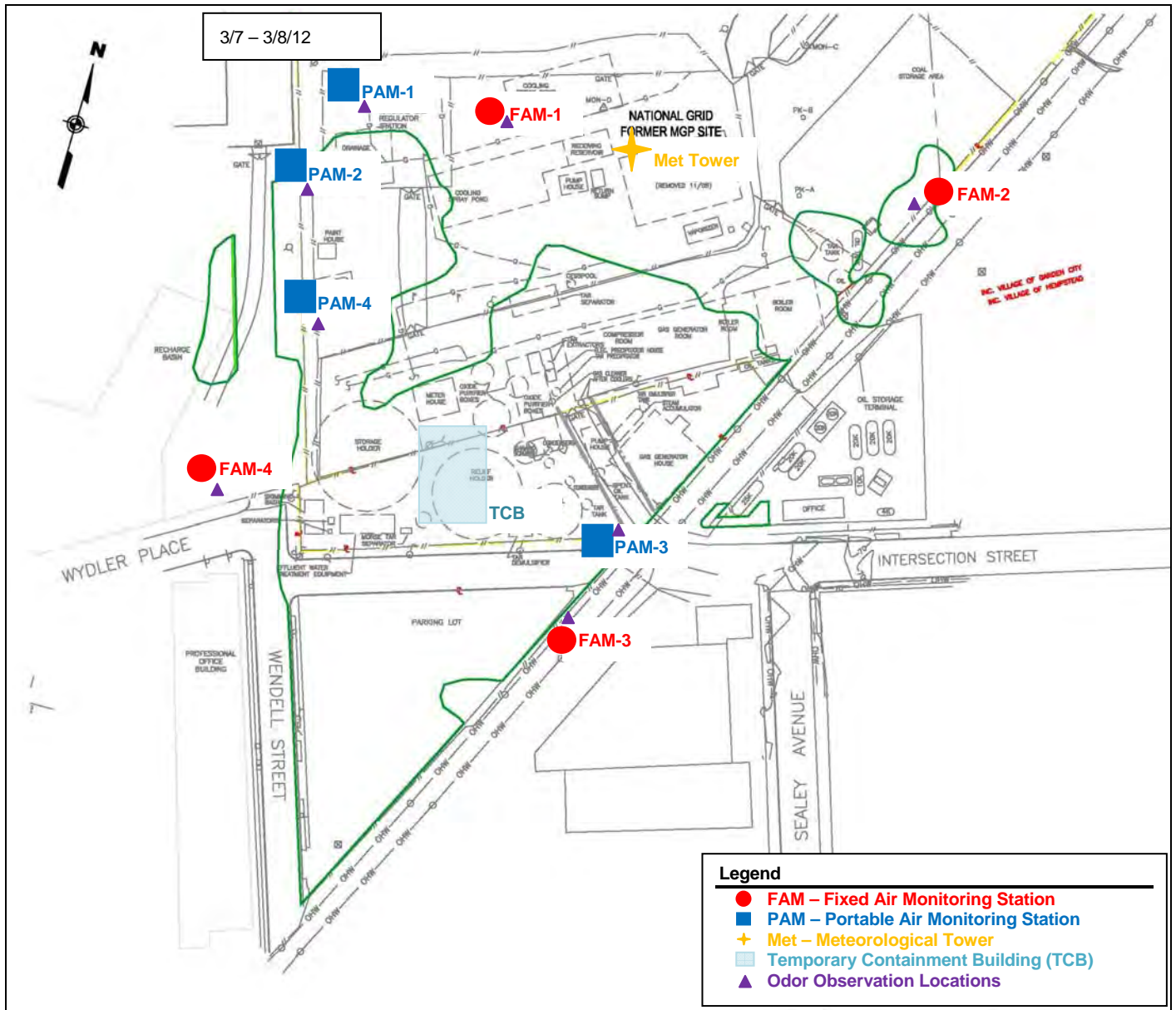


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 27 through March 4, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm Benzene (GC) – ppm	3.7 NA	5.0 NA	25.0 1.0	$[C_{avg}] \leq 3.7$ $[C_{avg}] \leq 1.0$	$3.7 < [C_{avg}] \leq 5.0$ NA	$5.0 < [C_{avg}] \leq 25.0$ NA	$[C_{avg}] > 25.0$ $[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 2/27/12	40.6	0.1	74.7	0.2	45.2	0.1	40.6	0.1	40.1	0.2	44.8	0.3	31.8	0.1	44.8	0.1	NA	2	NA
Tue 2/28/12	19.5	0.1	39.5	0.2	23.6	0.1	20.9	0.1	26.5	0.1	29.2	0.1	40.1	0.4	31.6	0.1	NA	2	NA
Wed 2/29/12	25.6	0.1	57.8	0.2	29.2	0.1	29.1	0.1	47.8	0.1	36.0	0.3	40.6	0.1	37.3	0.1	NA	2	NA
Thu 3/1/12	11.4	0.1	13.1	0.3	30.4	0.1	13.0	0.1	50.0	0.1	39.9	0.2	55.6	0.1	25.1	0.2	NA	1	NA
Fri 3/2/12	17.6	0.1	33.4	0.2	16.2	0.1	16.5	0.1	36.6	0.1	37.2	0.3	25.4	0.1	20.8	0.1	NA	2	NA
Sat 3/3/12	22.2	0.1	49.7	0.2	25.2	0.2	26.2	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 3/4/12	15.2	0.1	21.0	0.1	16.7	0.1	16.8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 2/27/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from the temporary containment building (TCB) (10 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Organized Connex boxes; •Poured 14 yards of Ready Mix for batch plant #2; and •Routine air monitoring.
Tue 2/28/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from the TCB (12 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Organized Connex boxes; •Started to frame pad for batch plant #2; and •Routine air monitoring.
Wed 2/29/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from the TCB (21 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Organized Connex boxes; •Completed the frame pad for batch plant #2; and •Routine air monitoring.
Thu 3/1/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from the TCB (23 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavated west fenceline slop; and •Routine air monitoring.
Fri 3/2/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from the TCB (15 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Excavated west fenceline slop; •Poured second half of the pad for batch plant #2; •Changed out TIGG filters; •Collected integrated VOC samples, and •Routine air monitoring.
Sat 3/3/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 3/4/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

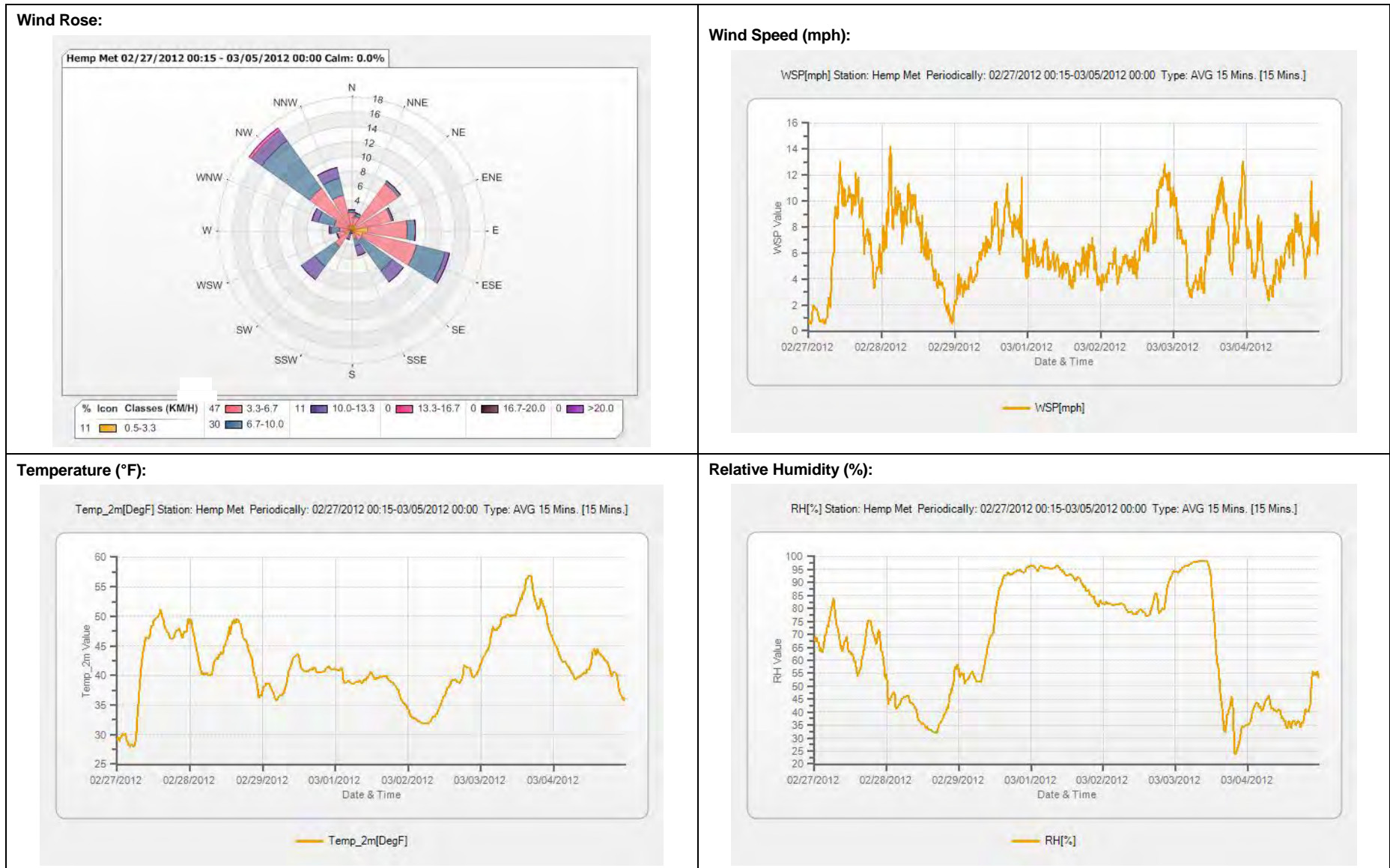
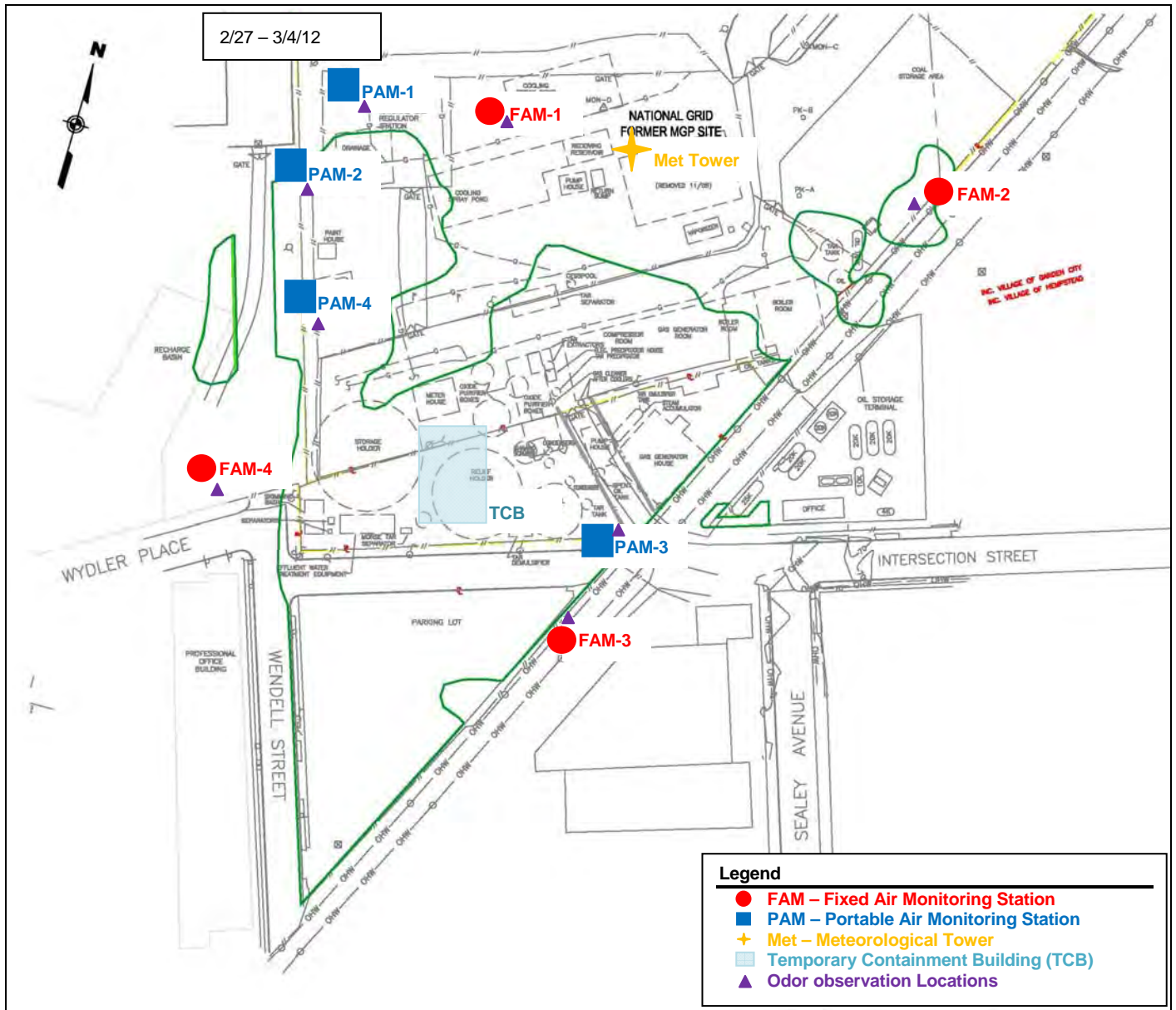


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 20 through February 26, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 through Figure 6:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 2/20/12	14.5	0.1	16.4	0.1	20.7	0.1	16.0	0.1	38.0	0.1	17.5	0.1	34.1	0.2	19.4	0.1	NA	NA	NA
Tue 2/21/12	27.0	0.1	29.5	0.1	18.0	0.1	81.8	0.1	43.8	0.1	28.6	0.1	19.8	0.2	18.2	0.2	NA	2	NA
Wed 2/22/12	42.9	0.2	73.1	0.2	41.7	0.1	43.0	0.1	84.6	0.2	65.4	0.1	92.9	0.3	63.3	0.3	NA	NA	NA
Thu 2/23/12	28.4	0.2	52.1	0.3	29.7	0.1	30.9	0.1	35.6	0.1	28.3	0.1	40.2	0.1	34.3	0.2	NA	NA	NA
Fri 2/24/12	23.8	0.2	28.9	0.3	26.3	0.1	31.0	0.2	55.0	0.1	57.4	0.1	53.8	0.1	57.6	0.2	NA	1	NA
Sat 2/25/12	9.8	0.1	9.5	0.2	9.8	0.1	10.8	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 2/26/12	40.1	0.1	71.9	0.1	41.9	0.1	38.0	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

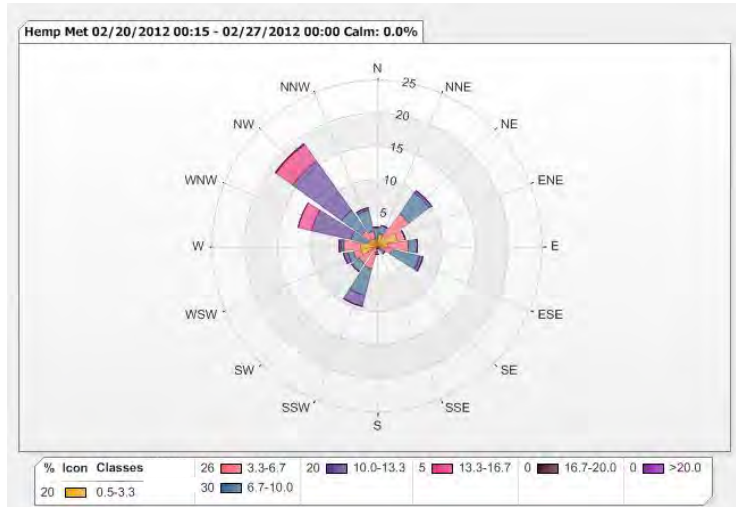
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

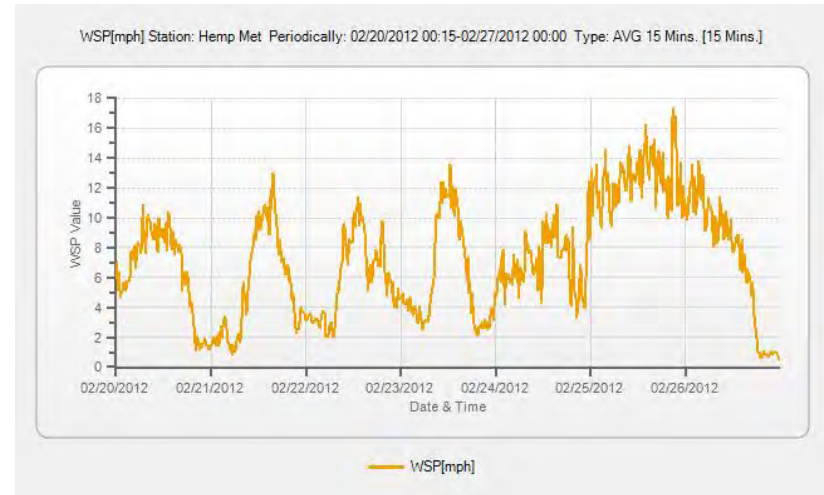
	Site Activities
Mon 2/20/12	<ul style="list-style-type: none"> •Completed tie down of the temporary containment building (TCB) (cables and blocks) and hooked up TIGGs and generator to TCB; •Continued deep soil mixing (DSM) pretest with auger; •Cleared and grubbed tree line west of gas regulator station; and •Routine air monitoring.
Tue 2/21/12	<ul style="list-style-type: none"> •Excavated and stockpiled soils and debris in gas regulator station area; •Assembled augers for Bentonite Feeder; and •Routine air monitoring.
Wed 2/22/12	<ul style="list-style-type: none"> •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Replaced bag filters on TIGG units; •Continued to assemble augers for Bentonite Feeder; •Started to frame pad for batch plant #2; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 2/23/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from the TCB (14 trucks) •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Continued to assemble augers for Bentonite Feeder; •Continued to frame pad for batch plant #2; and •Routine air monitoring.
Fri 2/24/12	<ul style="list-style-type: none"> •Performed excavation and loadout of soil and debris from TCB (16 trucks); •Excavated and stockpiled soil and debris in gas regulator station area and TCB; •Continued to assemble augers for Bentonite Feeder; •Continued to frame pad for batch plant #2; and •Routine air monitoring.
Sat 2/25/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/26/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

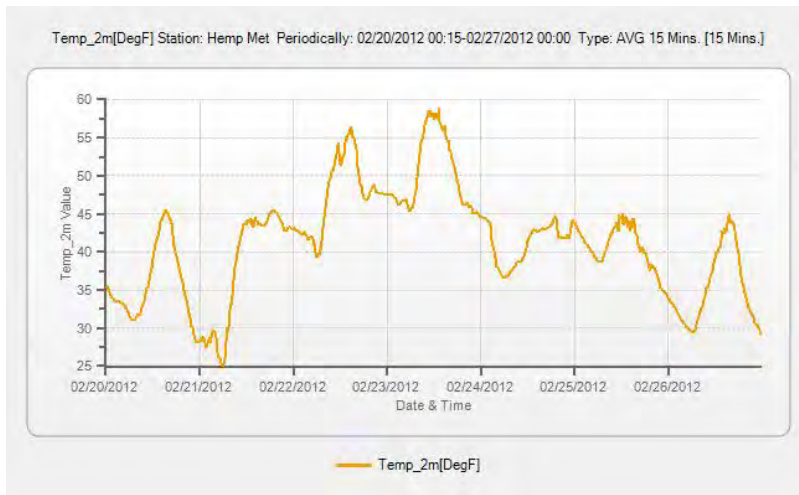
Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

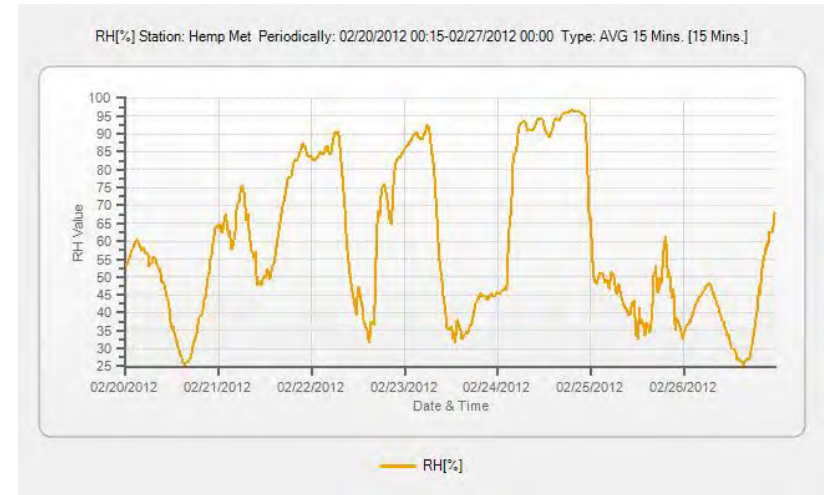


Figure 2: Site Map

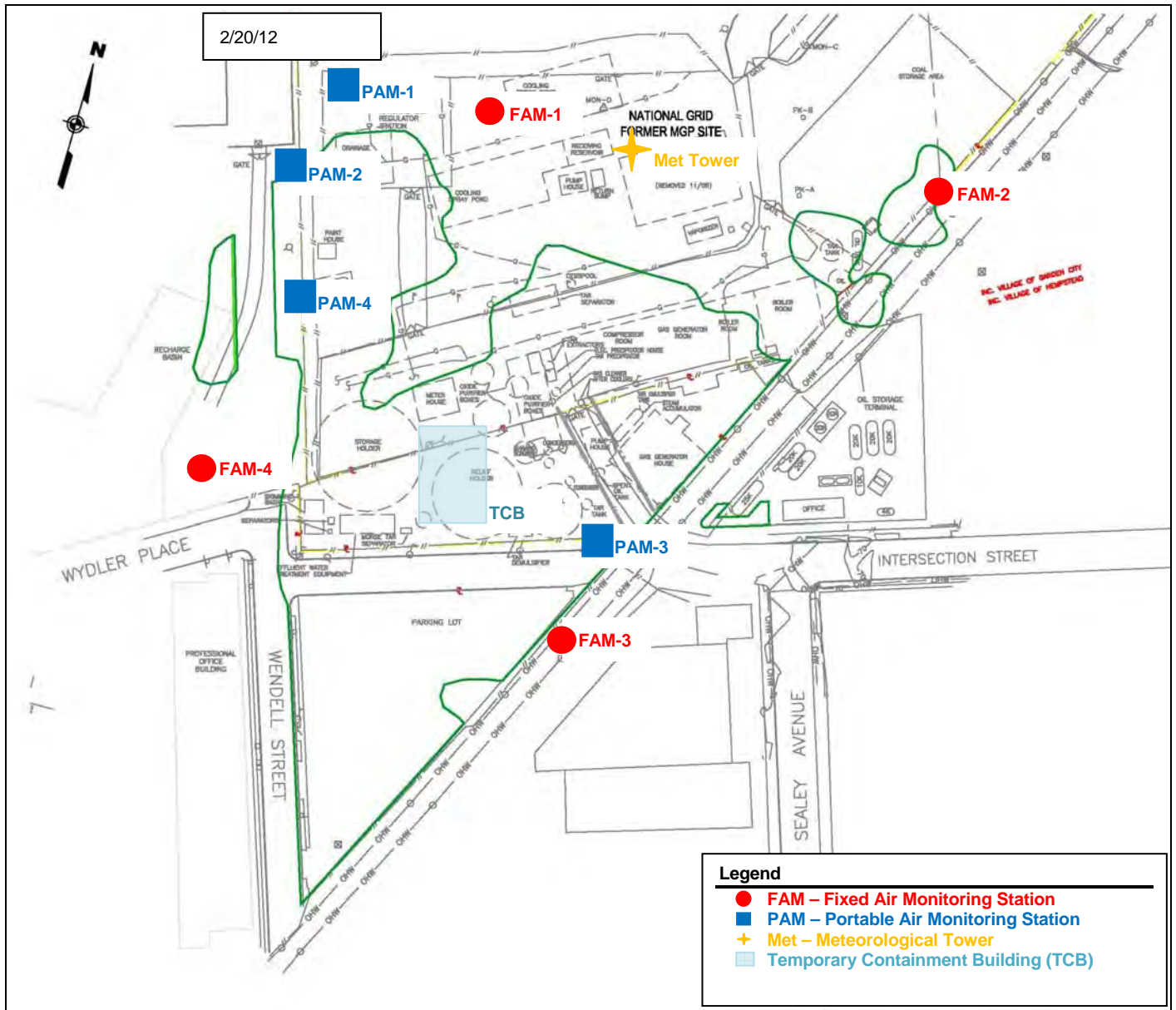


Figure 3: Site Map Map

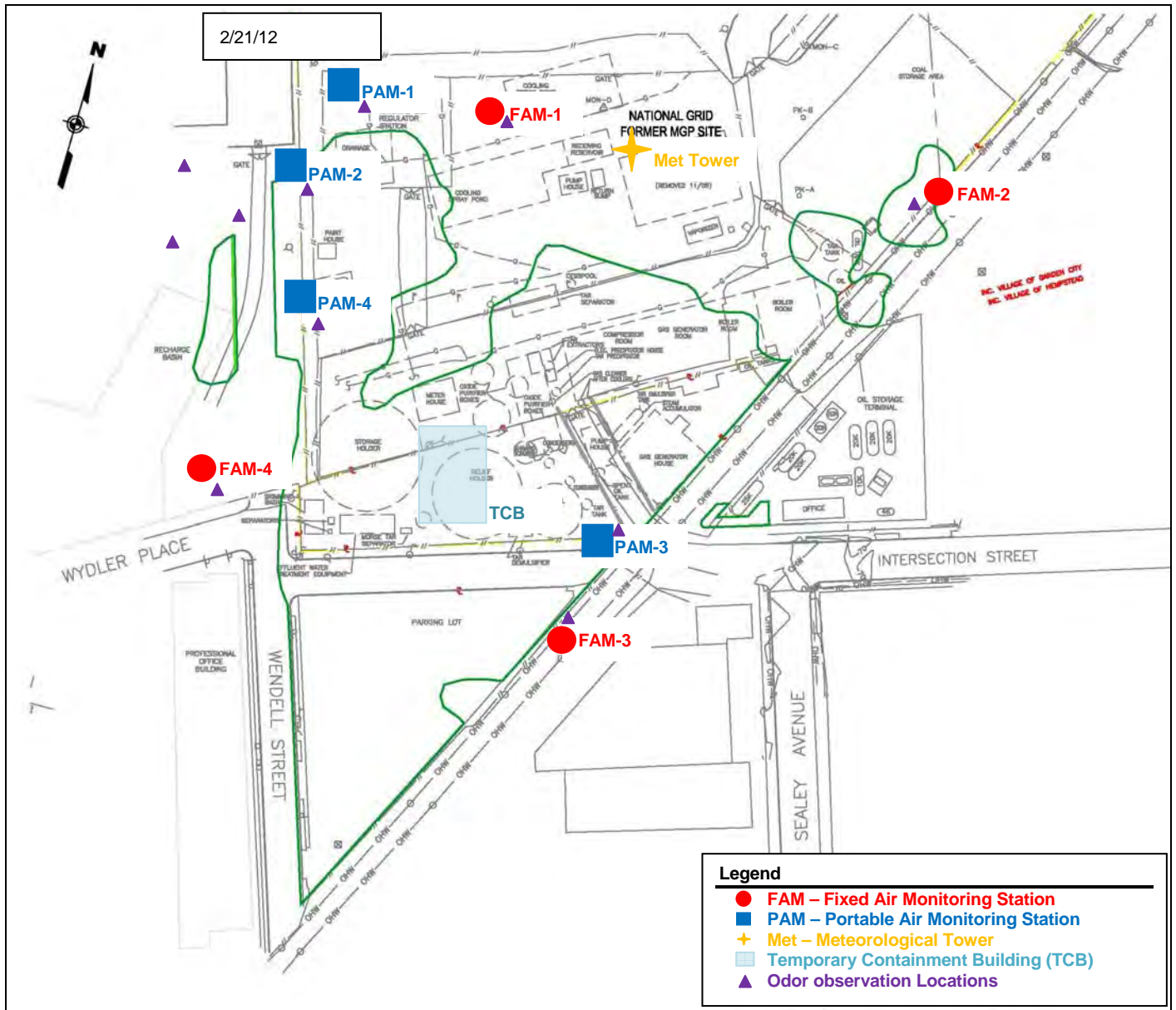


Figure 4: Site Map

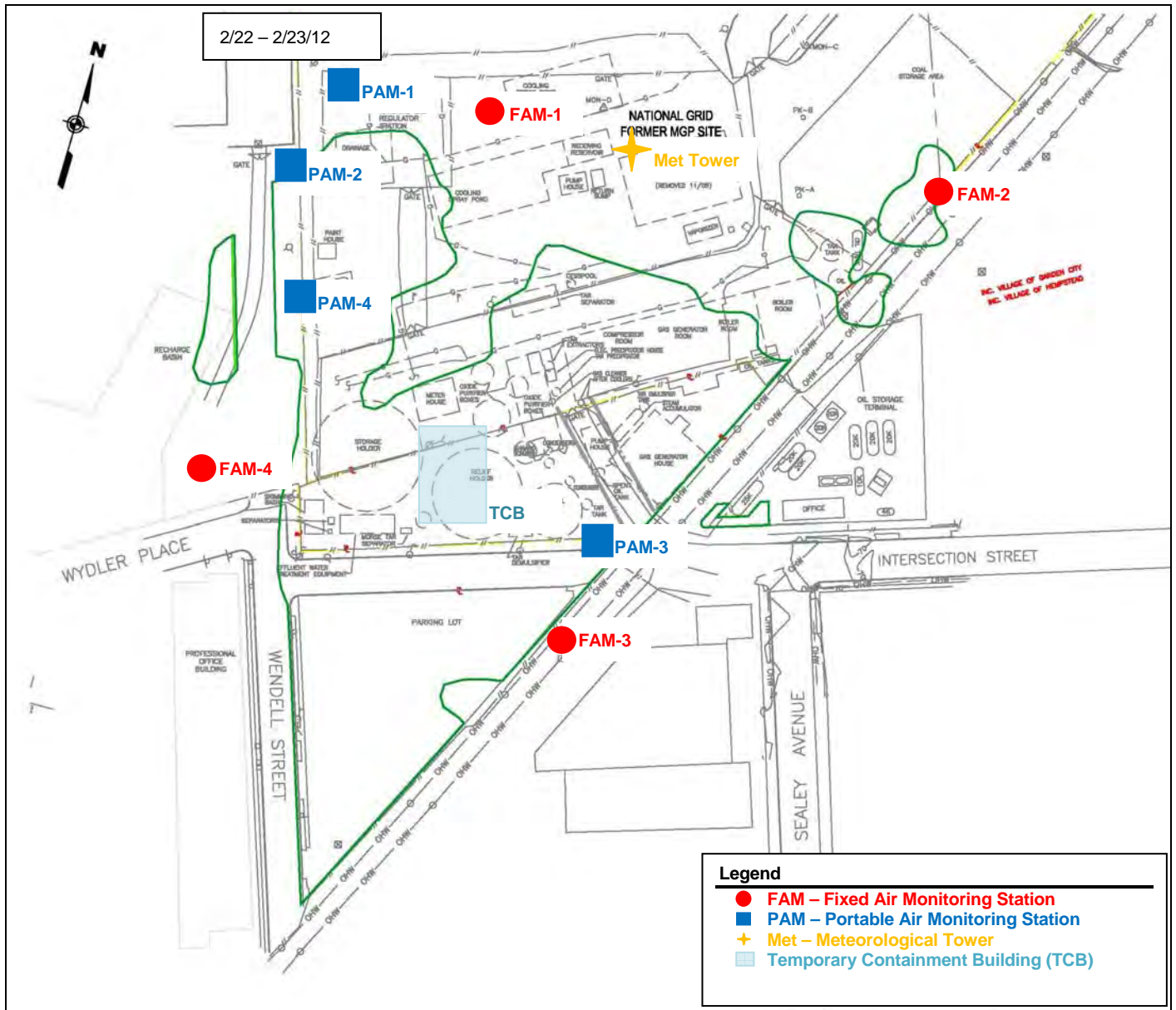
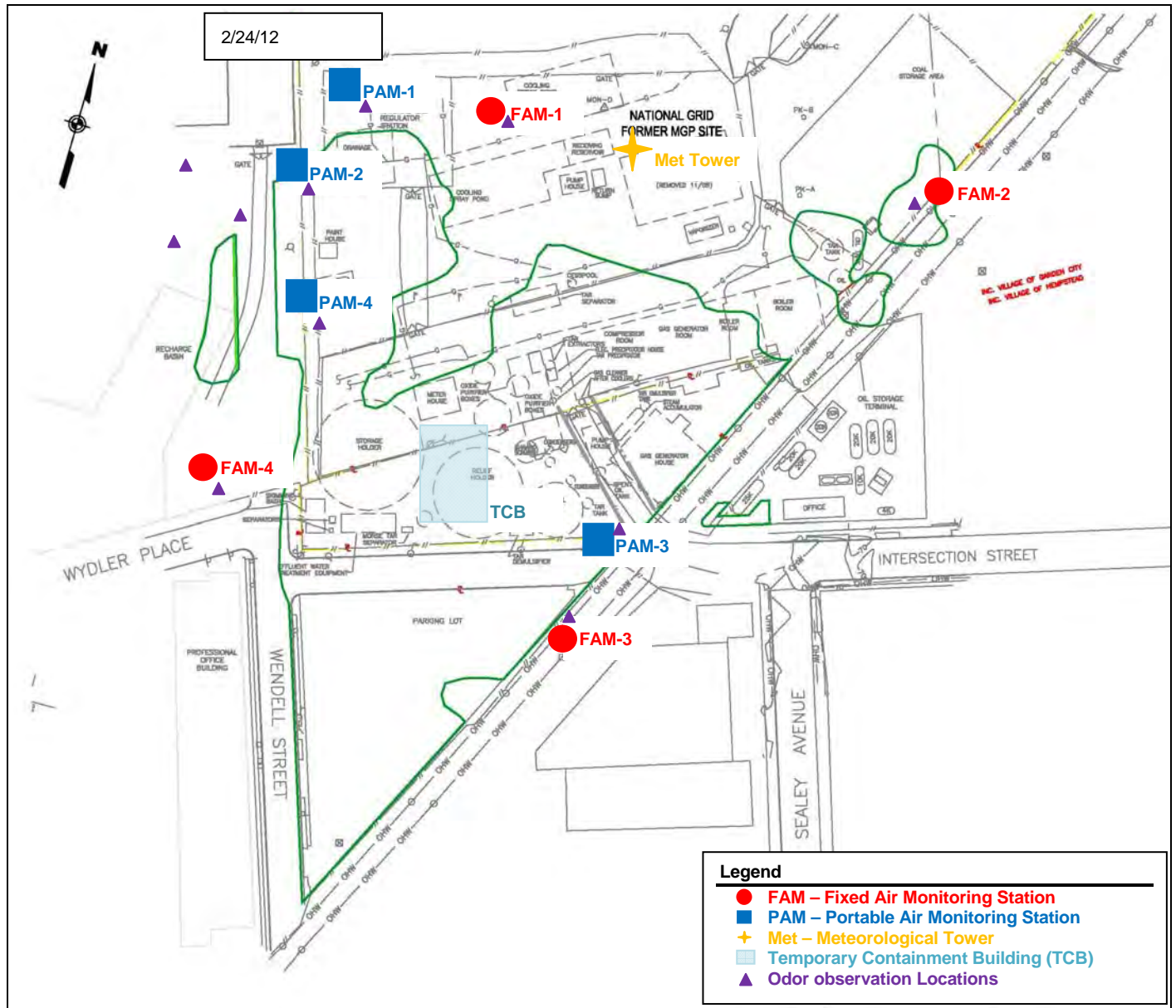


Figure 5: Site Map Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 13 through February 19, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and 3:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 2/13/12	23.4	0.1	70.4	0.1	25.3	0.1	24.5	0.1	32.3	0.3	27.8	0.2	42.7	0.3	25.9	0.3	NA	NA	NA
Tue 2/14/12	29.5	0.1	48.1	0.1	30.1	0.1	28.1	0.1	47.8	0.2	27.1	0.2	28.0	0.4	58.2	0.4	NA	NA	NA
Wed 2/15/12	59.7	0.1	94.6	0.1	64.9	0.1	66.2	0.1	53.3*	0.3	88.0	0.3	93.6	0.3	82.6	0.6	NA	NA	NA
Thu 2/16/12	55.4	0.1	73.3	0.1	60.4	0.1	46.0	0.1	88.4	0.1	64.7	0.1	66.2	0.1	55.0	0.1	NA	NA	NA
Fri 2/17/12	51.0	0.1	97.3	0.1	55.6	0.1	56.4	0.1	87.7	0.1	66.1	0.1	76.1	0.2	67.9	0.1	NA	NA	NA
Sat 2/18/12	37.5	0.1	80.2	0.1	54.8	0.1	64.5	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 2/19/12	22.8	0.1	44.5	0.1	23.6	0.1	30.0	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

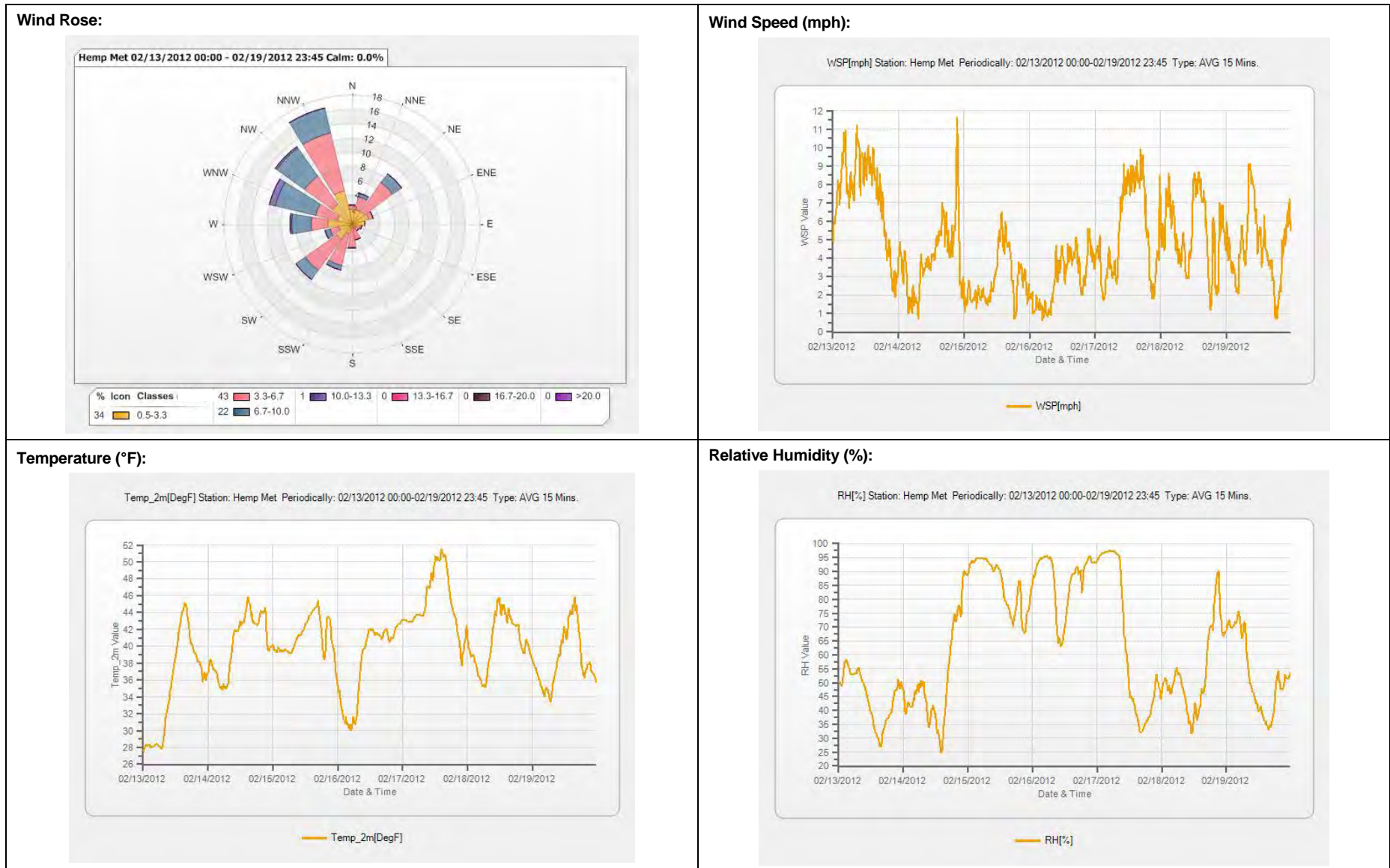
Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 2/13/12	<ul style="list-style-type: none"> •Continued to excavate soil and debris in the Temporary Containment Building (TCB) and brought to final grade (added one foot clean layer); •Continued to install lifting brackets to TCB; •Continued deep soil mixing (DSM) pretest with auger; •Prepped TCB for move; and •Routine air monitoring.
Tue 2/14/12	<ul style="list-style-type: none"> •Continued to excavating soil and debris in the TCB and brought to final grade (added one foot clean layer); •Continued to install lifting brackets to TCB; •Continued DSM pretest with auger; and •Routine air monitoring.
Wed 2/15/12	<ul style="list-style-type: none"> •Continued to install lifting brackets to TCB; •Continued DSM pretest with auger; and •Routine air monitoring.
Thu 2/16/12	<ul style="list-style-type: none"> •Performed first crane move of TCB; •Continued DSM pretest with auger; and •Routine air monitoring.
Fri 2/17/12	<ul style="list-style-type: none"> •Tied down TCB (cables, blocks, etc.); •Continued DSM pretest with auger; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 2/18/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/19/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	February 6 through February 12, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and 3:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 2/6/12	31.6	0.1	77.0	0.1	32.7	0.1	32.2	0.1	40.5	0.3	39.3	0.4	64.8	0.6	30.9	0.6	NA	NA	NA
Tue 2/7/12	31.3	0.1	83.3	0.1	35.0	0.1	33.0	0.1	49.6	0.3	40.2	0.1	48.6	0.1	33.0	0.2	NA	NA	NA
Wed 2/8/12	33.6	0.1	64.6	0.1	36.4	0.1	34.8	0.1	25.4	0.1	31.5	0.1	17.7	0.2	14.8	0.4	NA	NA	NA
Thu 2/9/12	31.4	0.1	61.6	0.1	34.2	0.1	34.0	0.1	37.5	0.1	26.2	0.1	31.2	0.2	22.4	0.3	NA	NA	NA
Fri 2/10/12	55.3	0.1	92.2	0.1	60.5	0.1	60.6	0.1	51.0	0.1	55.5	0.1	54.6	0.2	47.2	0.3	NA	NA	NA
Sat 2/11/12	58.8	0.1	98.0	0.1	65.5	0.1	64.5	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 2/12/12	18.8	0.1	28.6	0.1	19.6	0.1	18.6	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

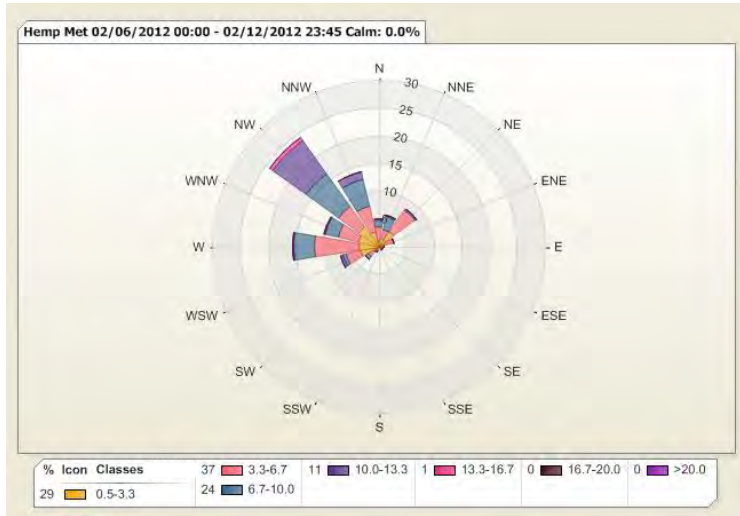
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

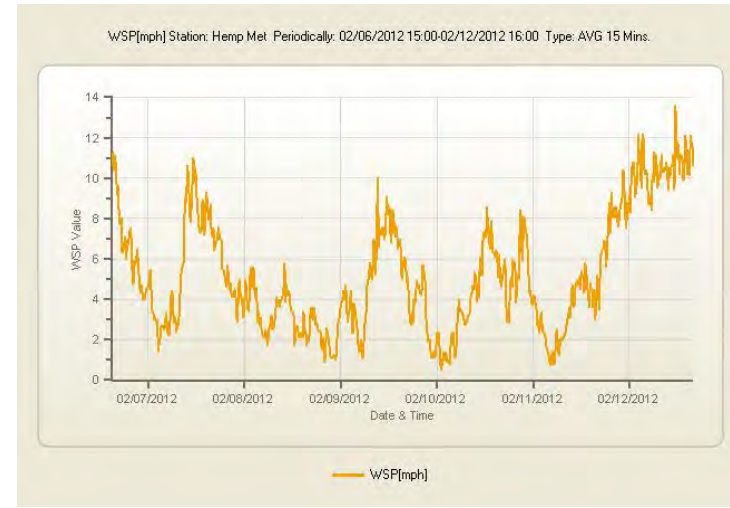
	Site Activities
Mon 2/6/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil and debris from the temporary containment building (TCB) (17 trucks); •Continued excavation of soil and debris in TCB and materials were stockpiled for loadout; •Continued to install lifting brackets to TCB; and •Routine air monitoring.
Tue 2/7/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil and debris from the TCB (14 trucks); •Continued excavation of soil and debris in TCB and materials were stockpiled for loadout; •Continued to install lifting brackets to TCB; and •Routine air monitoring.
Wed 2/8/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil and debris from the TCB (14 trucks); •Continued excavation of soil and debris in TCB and materials were stockpiled for loadout; •Continued to install lifting brackets to TCB; •Started deep soil mixing (DSM) pretest column with auger; and •Routine air monitoring.
Thu 2/9/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil and debris from the TCB (14 trucks); •Continued excavation of soil and debris in TCB and materials were stockpiled for loadout; •Continued to install lifting brackets to TCB; •Continued DSM pretest column with auger; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 2/10/12	<ul style="list-style-type: none"> •Continued open air excavation of soil and debris in TCB and brought to a final grade; •Continued to install lifting brackets to TCB; •Started DSM pretest column with auger; •Changed out sock filters in TCB; and •Routine air monitoring.
Sat 2/11/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/12/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

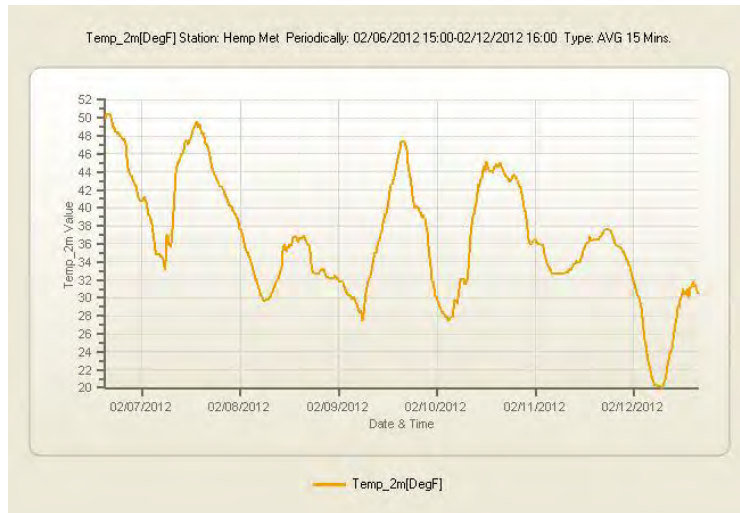
Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

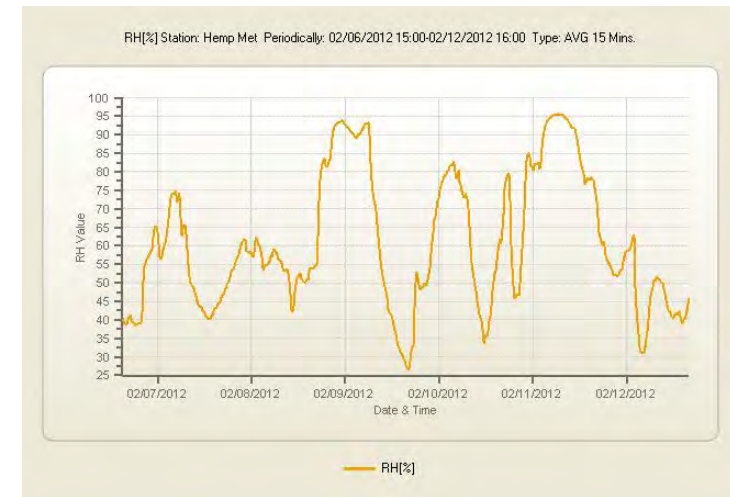


Figure 2: Site Map

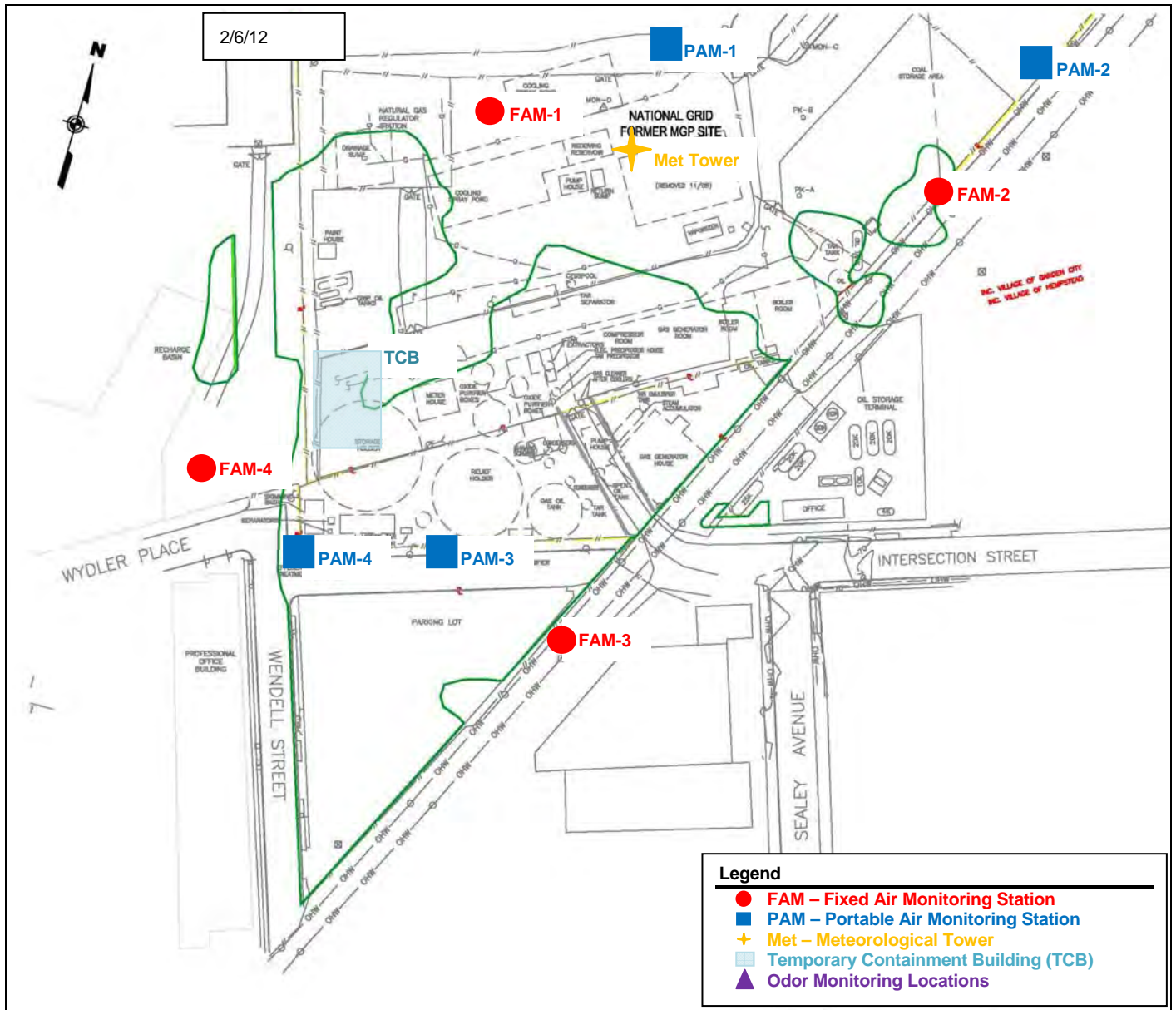
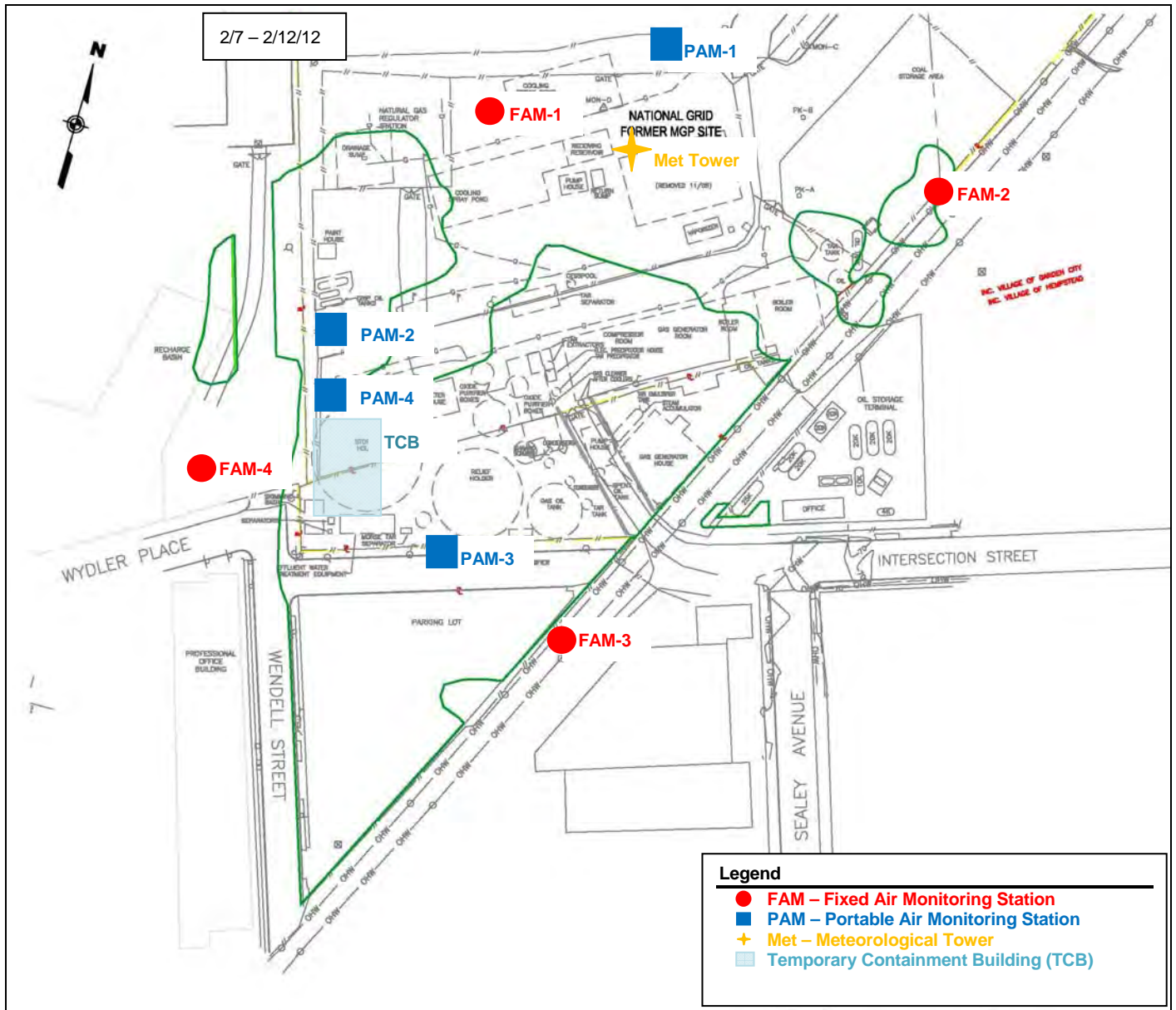


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 30 through February 5, 2012

During the report period there were no respirable particulate matter (PM₁₀) or total volatile organic compounds (TVOC) concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project Community Air Monitoring Plan (CAMP) (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) fixed air monitoring (FAM) stations and four (4) portable air monitoring (PAM) stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and hydrogen cyanide (HCN) concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 - 5:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. HCN = Hydrogen Cyanide NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 1/30/12	20.8	0.1	36.4	0.2	20.6	0.1	20.8	0.1	39.8	0.2	22.0	0.1	30.7	0.3	33.9	0.5	NA	NA	NA
Tue 1/31/12	21.9	0.1	32.2	0.4	25.0	0.1	22.8	0.1	30.6	0.1	28.2	0.1	23.0	0.5	20.2	0.3	NA	NA	NA
Wed 2/1/12	27.3	0.1	56.5	0.2	28.6	0.1	29.4	0.1	42.8	0.1	36.5	0.1	35.9	0.1	31.0	0.2	NA	NA	NA
Thu 2/2/12	25.4	0.1	52.3	0.2	33.6	0.1	29.3	0.1	48.0	0.1	39.8	0.1	41.3	0.1	35.0	0.2	NA	NA	NA
Fri 2/3/12	17.3	0.1	23.6	0.2	19.0	0.1	19.6	0.1	19.2	0.1	12.6	0.1	21.2	0.1	12.3	0.1	NA	NA	NA
Sat 2/4/12	19.1	0.1	29.2	0.2	22.7	0.1	19.8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 2/5/12	23.3	0.1	35.9	0.1	26.8	0.1	28.2	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM₁₀ = Respirable Particulate Matter (µg/m³)

TVOC = Total Volatile Organic Compounds (ppm)

Nap = Naphthalene

HCN = Hydrogen Cyanide

NA = Not Applicable

ND = No Data

* = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.

- Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in **Table 3** and **4**).
- FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured.
- PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM).

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene (ppm) HCN = Hydrogen Cyanide (ppm) VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

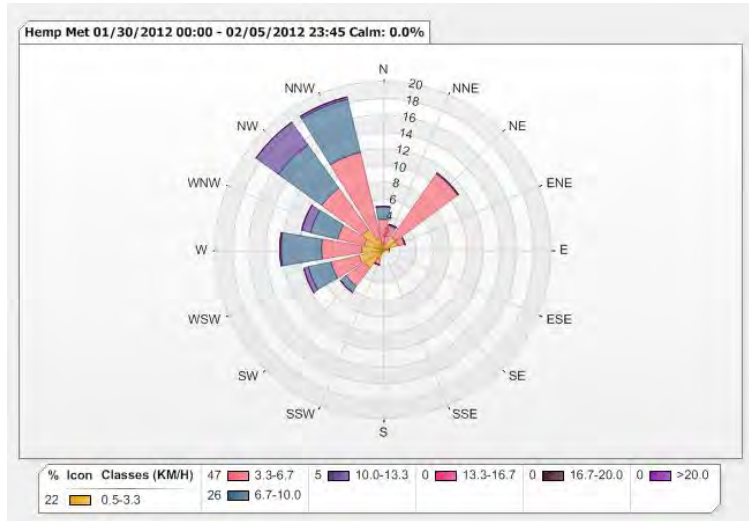
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

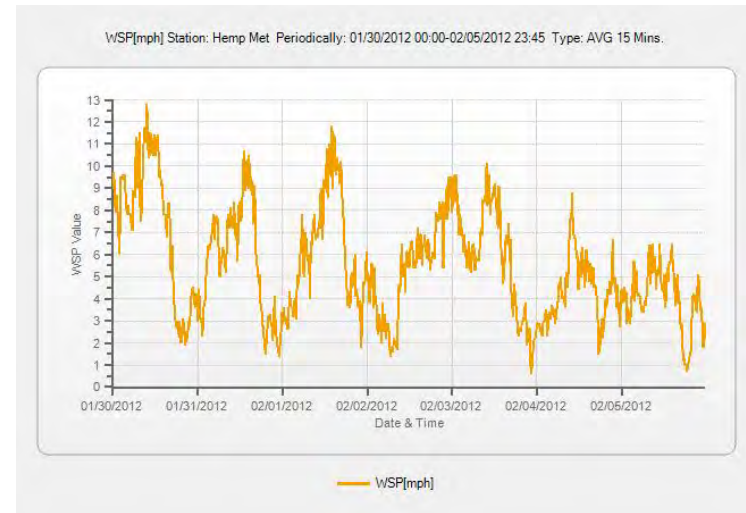
	Site Activities
Mon 1/30/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil and debris from the Temporary Containment Building (TCB) (10 trucks); •Performed clearing and grubbing along the western fenceline; •Installed privacy fence along outside of western fenceline; •Continued to install lifting brackets on TCB; and •Routine air monitoring.
Tue 1/31/12	<ul style="list-style-type: none"> •Prepared TCB to be moved north; •Backfilled low areas in the area of the new location of TCB; and •Routine air monitoring.
Wed 2/1/12	<ul style="list-style-type: none"> •Prepared TCB to be moved north; •Dragged TCB to the north approximately 85 feet (see new Site map); •Reassembled TCB (blocks, TIGG units, and etc.); and •Routine air monitoring.
Thu 2/2/12	<ul style="list-style-type: none"> •Started excavating soil and debris inside TCB; •Continued to reassemble TCB (blocks, TIGG units, etc.); •Stockpiled clean soils within TCB; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 2/3/12	<ul style="list-style-type: none"> •Continued to excavated soil and debris in TCB and stockpiled for future loadout; •Pre-dug deep soil mixing (DSM) area test column location; and •Routine air monitoring.
Sat 2/4/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 2/5/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

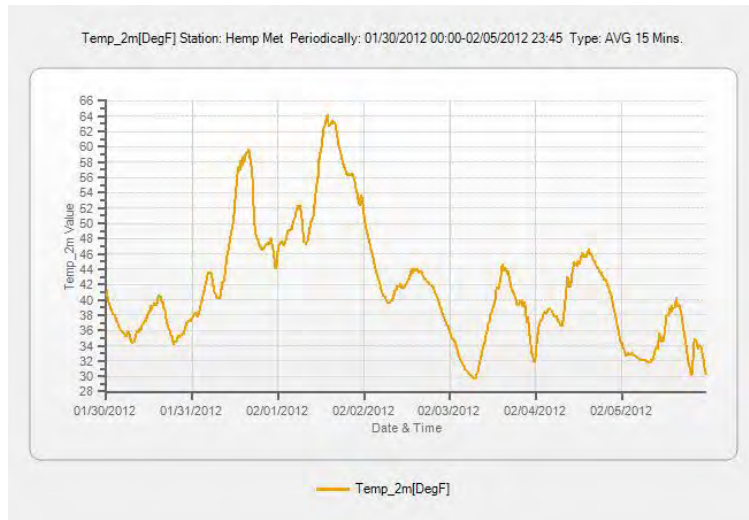
Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

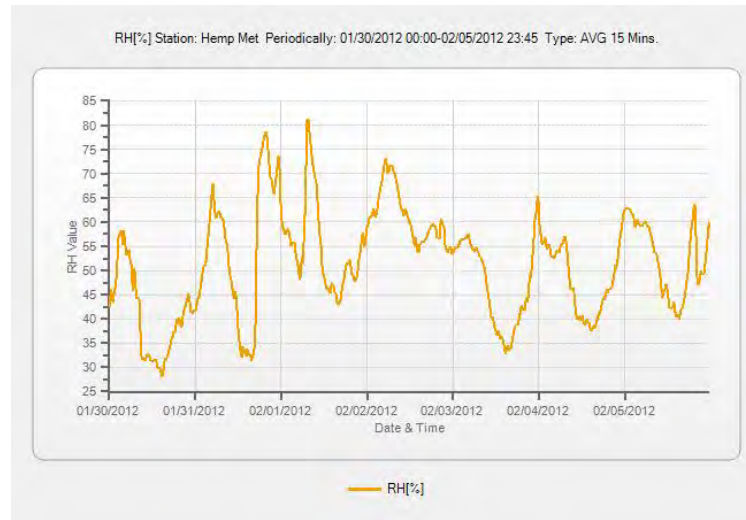


Figure 2: Site Map

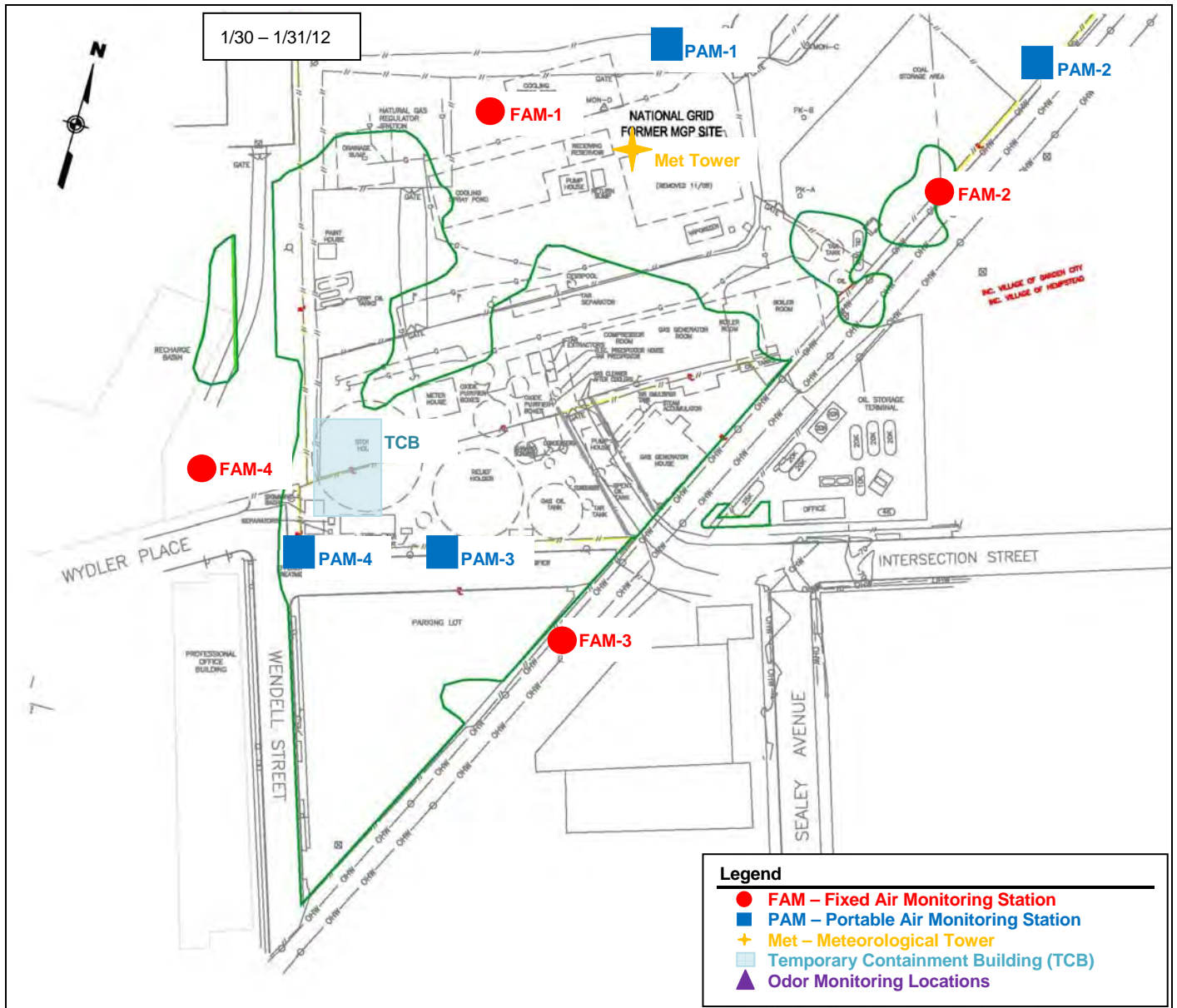
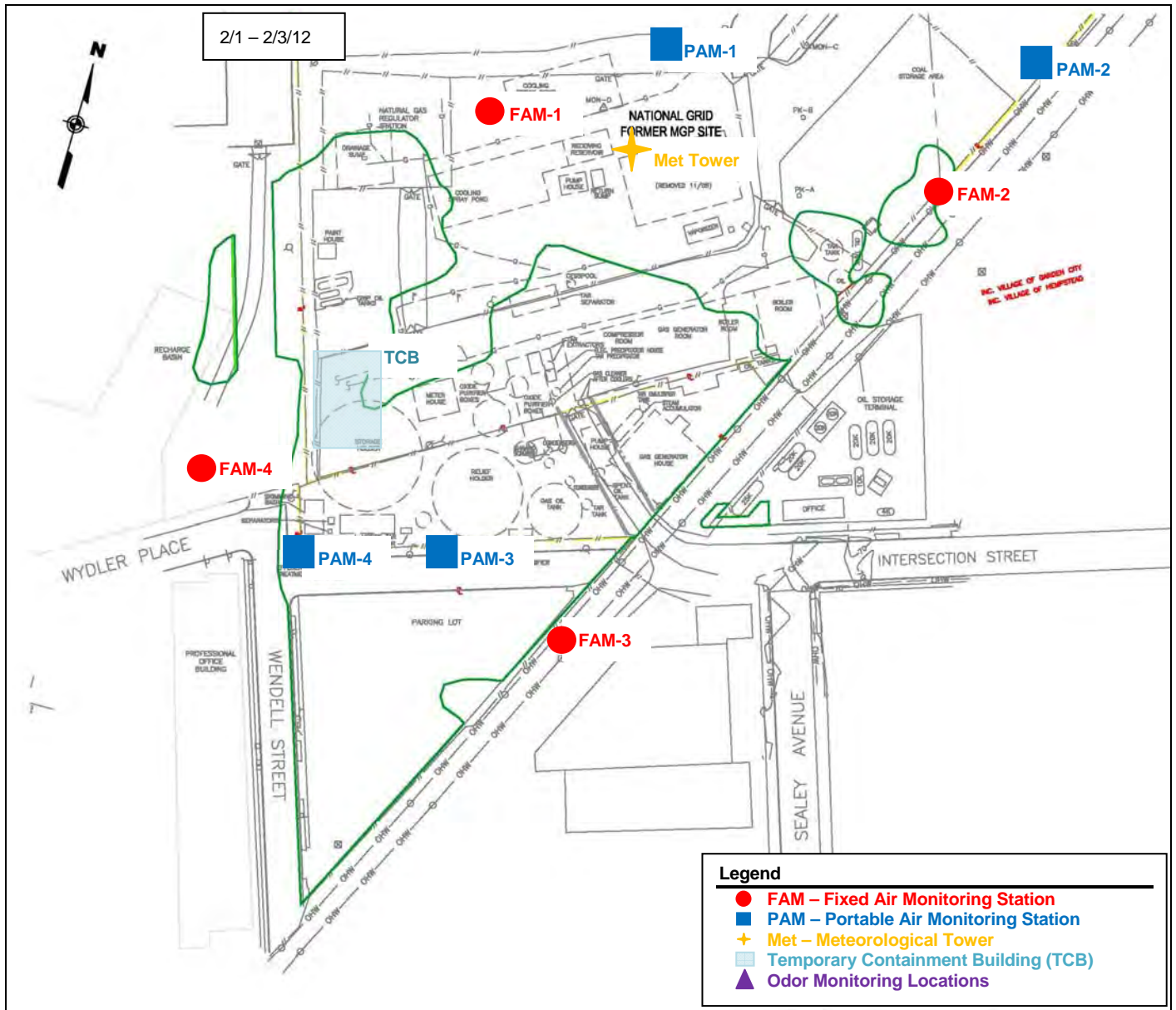


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 23 through January 29, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figures 2 - 5:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 1/23/12	17.6	0.1	36.3	0.1	32.9	0.1	35.6	0.1	97.0	0.1	70.5	0.1	77.8	0.1	51.4	0.1	NA	NA	NA
Tue 1/24/12	37.7	0.1	70.2	0.1	43.0	0.1	41.3	0.1	73.4	0.2	78.4	0.1	73.1	0.3	43.5	0.4	NA	0	NA
Wed 1/25/12	21.3	0.1 ¹	35.4	0.1	26.4	0.1	23.2	0.1	27.1	0.1	27.8	0.1	43.6	0.1	41.1	0.6	NA	2	NA
Thu 1/26/12	43.8	0.1	67.4*	0.2	50.9	0.1	59.9	0.1	67.3	0.1	55.0	0.2	64.4	0.1	45.3	0.6	NA	NA	NA
Fri 1/27/12	35.4	0.1	66.8	0.3	39.4	0.1	40.3	0.1	92.7	0.1	81.5	0.6	72.0	0.1	72.0	0.2	NA	NA	NA
Sat 1/28/12	17.7	0.1	24.9	0.2	20.1	0.1	19.3	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 1/29/12	12.9	0.1	15.2	0.1	14.9	0.1	16.1	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM₁₀ = Respirable Particulate Matter (µg/m³)

TVOC = Total Volatile Organic Compounds (ppm)

Nap = Naphthalene

NA = Not Applicable

ND = No Data

* = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.

- Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in **Table 3** and **4**).
- FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured.
- PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM).

¹ FAM-1 TVOC data was found to be invalid on 1/25/12 between 1:47AM and 9:31AM because of an instrument malfunction. The instrument was restarted and calibrated during the morning hours on 1/25/12.

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

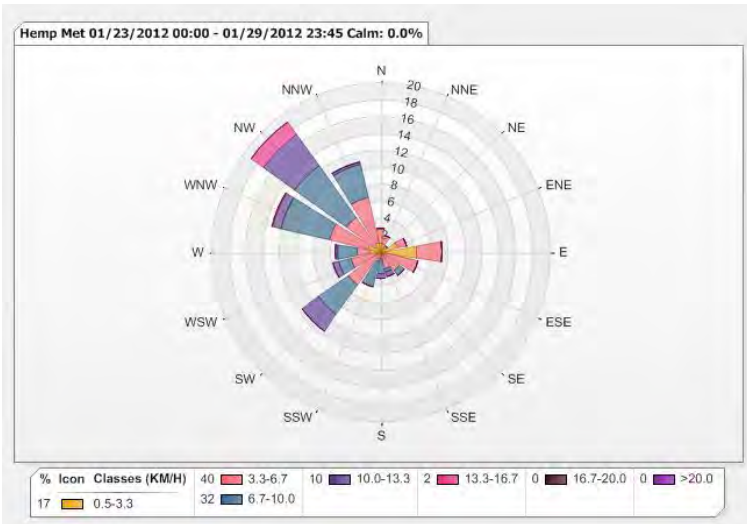
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

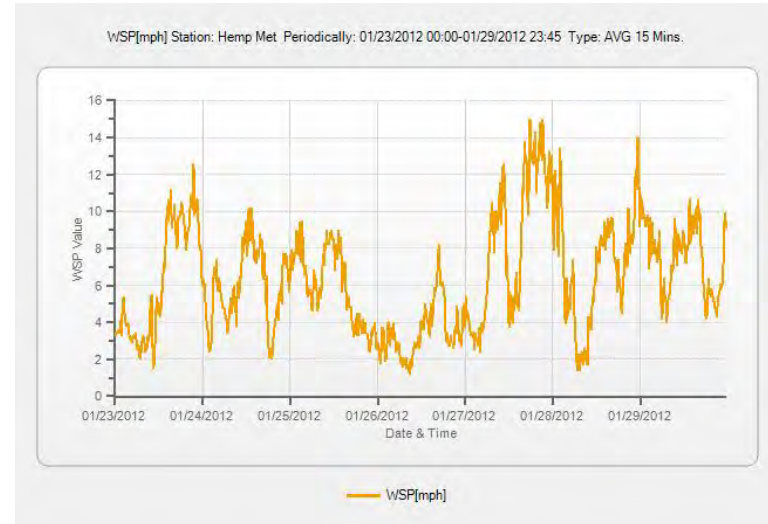
	Site Activities
Mon 1/23/12	<ul style="list-style-type: none"> •Performed open air excavation of soil and debris south of the temporary containment building (TCB) and materials were stockpiled in the TCB; •Continued to install new temporary fence in gas regulator station and removed existing fence located within excavation limits; •Repaired gate on the north fenceline; and •Routine air monitoring.
Tue 1/24/12	<ul style="list-style-type: none"> •Performed open air excavation of soil and debris south of the TCB and materials were stockpiled in the TCB; •Removed inner fence, brush and trees from western side of Site; and •Routine air monitoring.
Wed 1/25/12	<ul style="list-style-type: none"> •Performed open air excavation of soil and debris south of the TCB and materials were stockpiled in the TCB; •Broke concrete into smaller sizes for load out; •Removed inner fence, brush and trees from western side of Site; •Started excavation of clean soils for one foot cover south of TCB; •Installed fence panels around deep soil mixing (DSM) excavation area; •Collected integrated VOC samples; and •Routine air monitoring.
Thu 1/26/12	<ul style="list-style-type: none"> •Performed open air excavation of soil and debris south of the TCB and materials were stockpiled in the TCB; •Broke concrete into smaller sizes for load out; •Removed inner fence, brush and trees from western side of Site; •Continued excavation of clean soils for one foot cover south of TCB; •Started to install lifting brackets to TCB; and •Routine air monitoring.
Fri 1/27/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil and debris from the TCB (10 trucks); •Performed clearing and grubbing activities along the western fenceline; •Continued excavation of clean soils for one foot cover south of TCB; •Continued to install lifting brackets to TCB; and •Routine air monitoring.
Sat 1/28/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/29/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

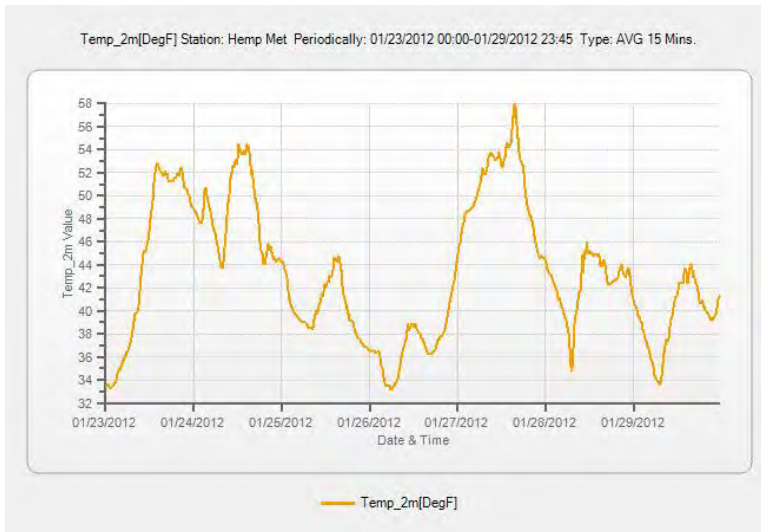
Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

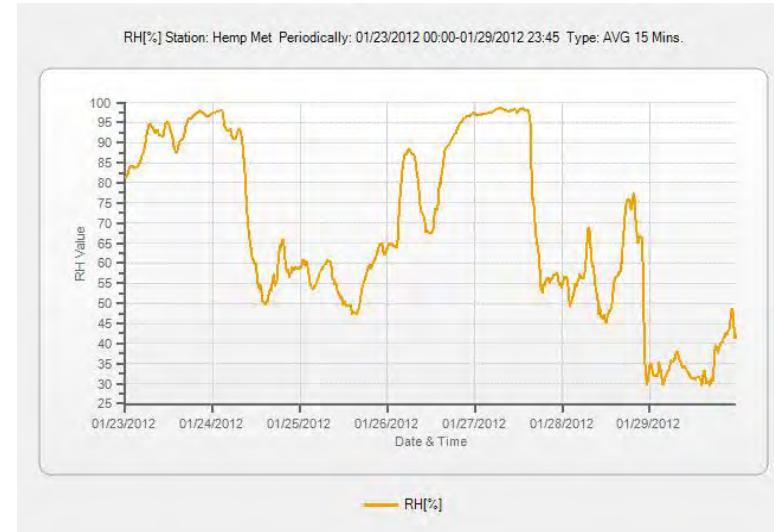


Figure 2: Site Map

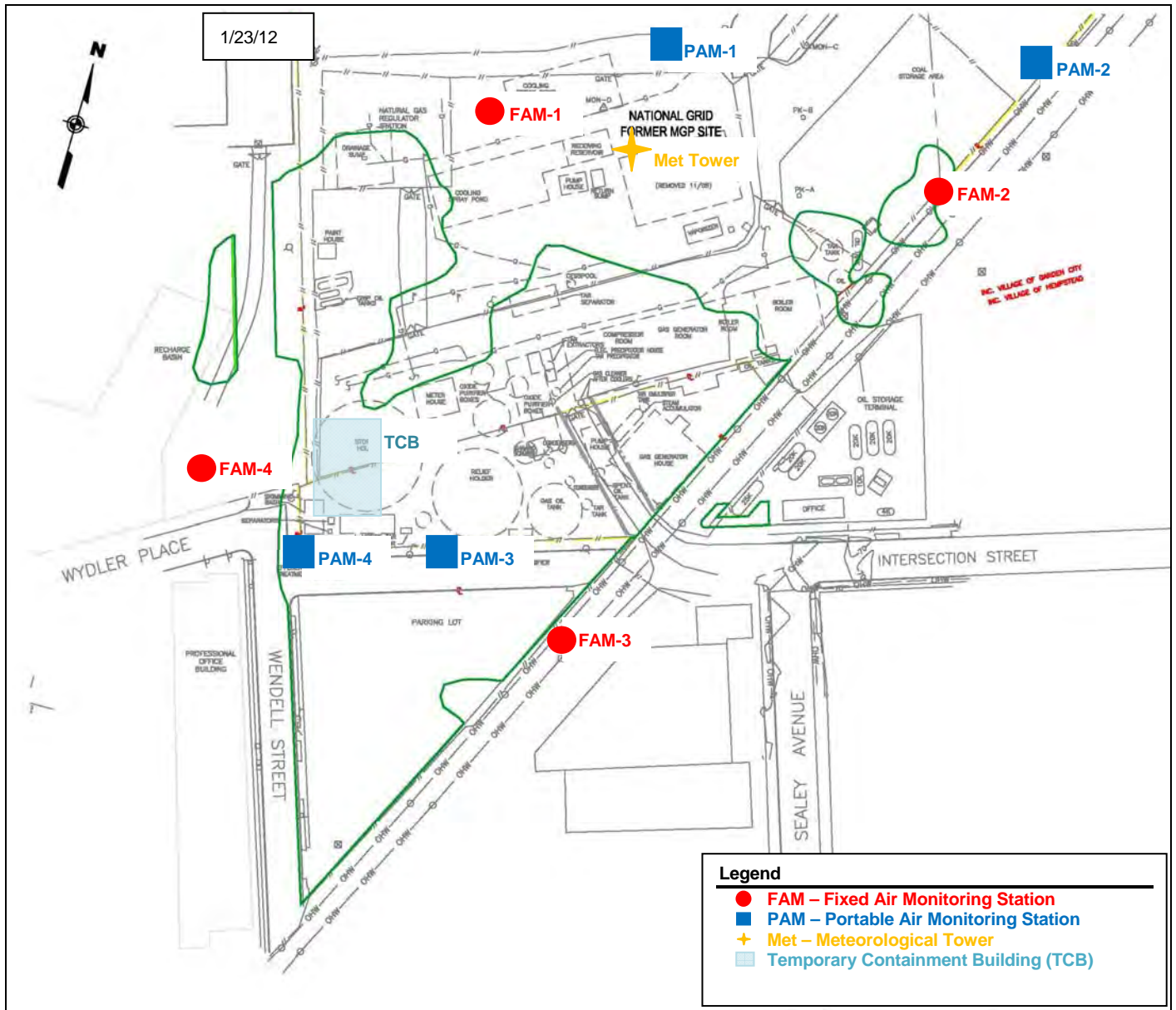
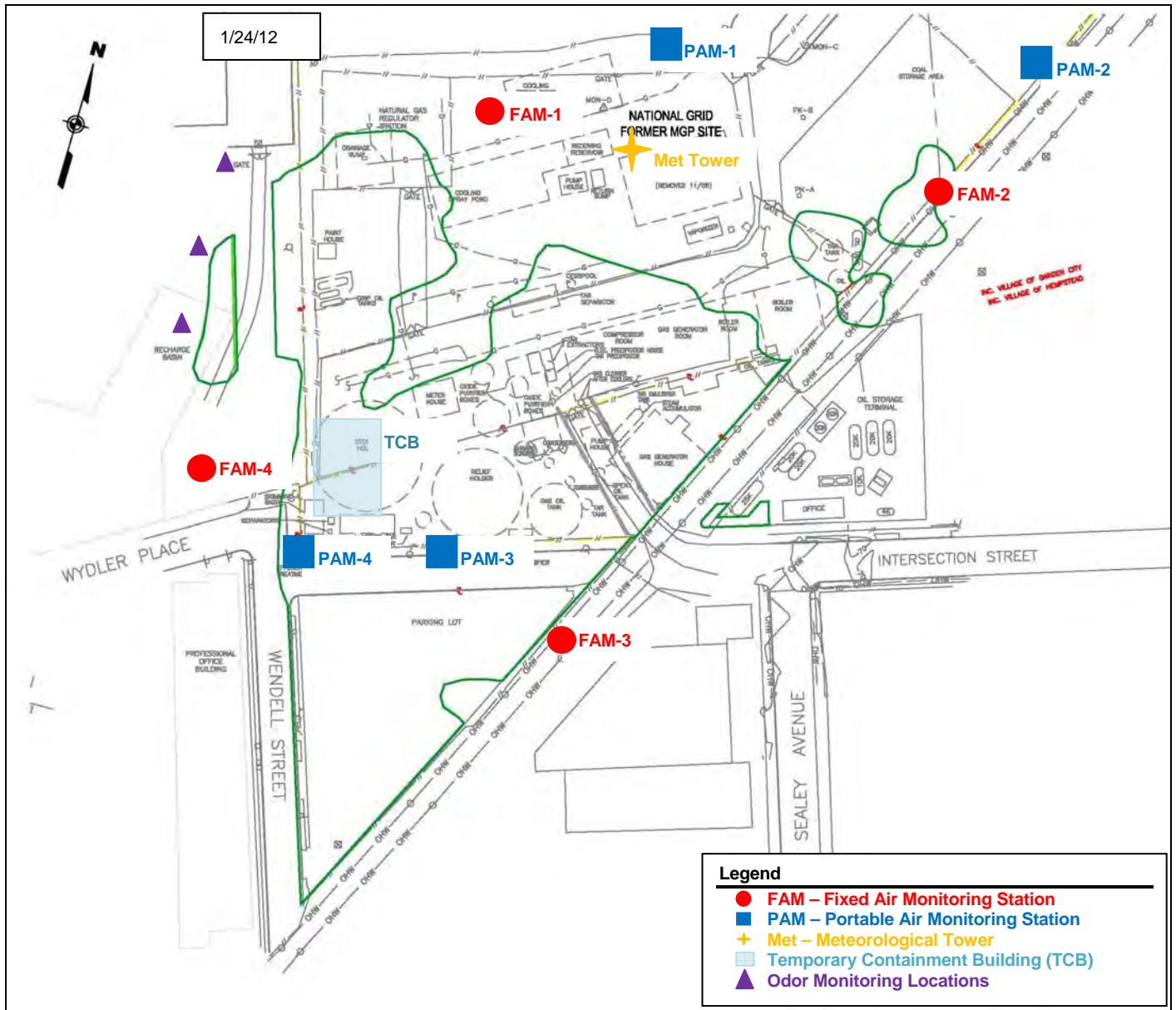


Figure 3: Site Map



Legend

- FAM – Fixed Air Monitoring Station
- PAM – Portable Air Monitoring Station
- ★ Met – Meteorological Tower
- TCB – Temporary Containment Building (TCB)
- ▲ Odor Monitoring Locations

Figure 4: Site Map

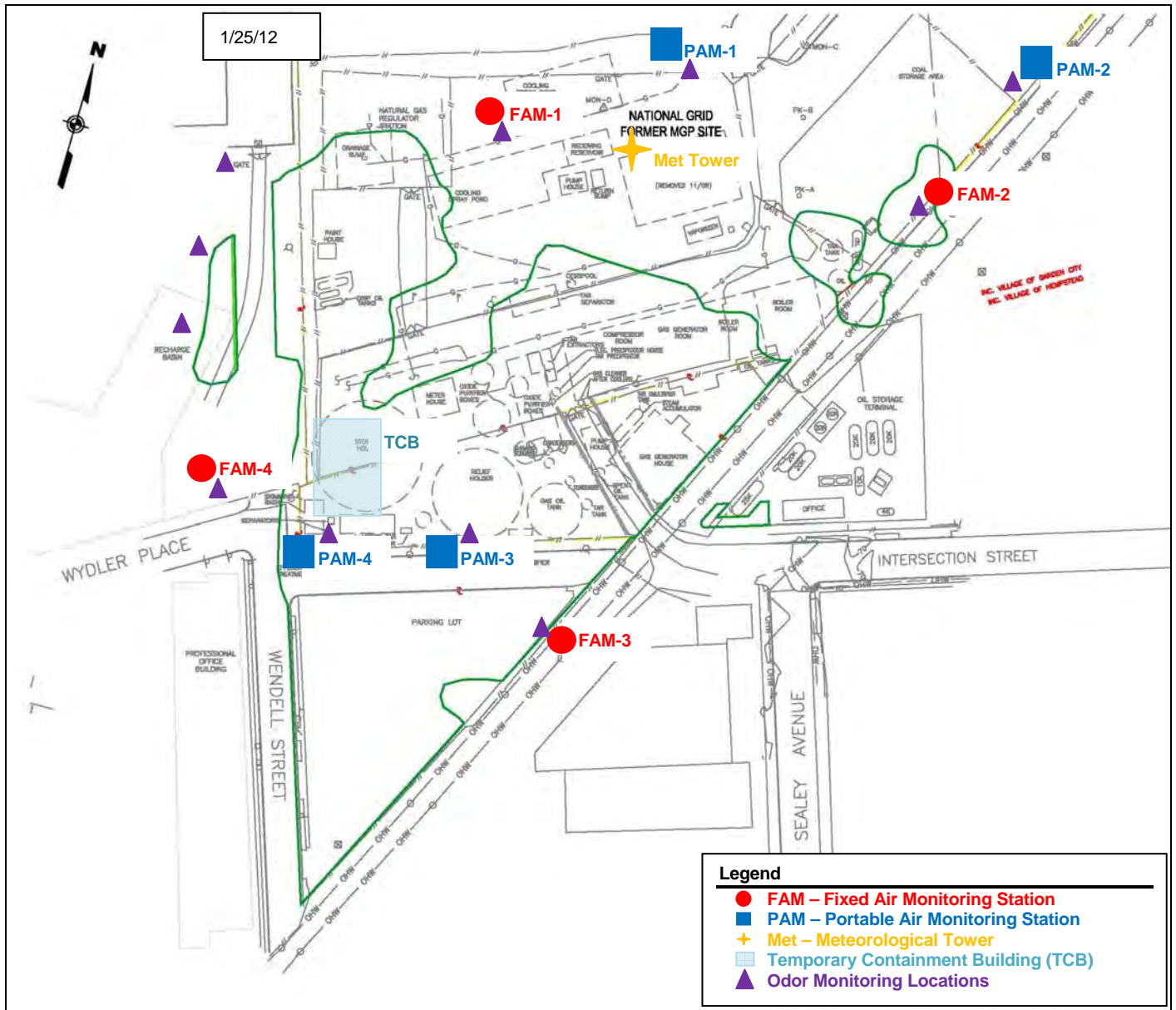
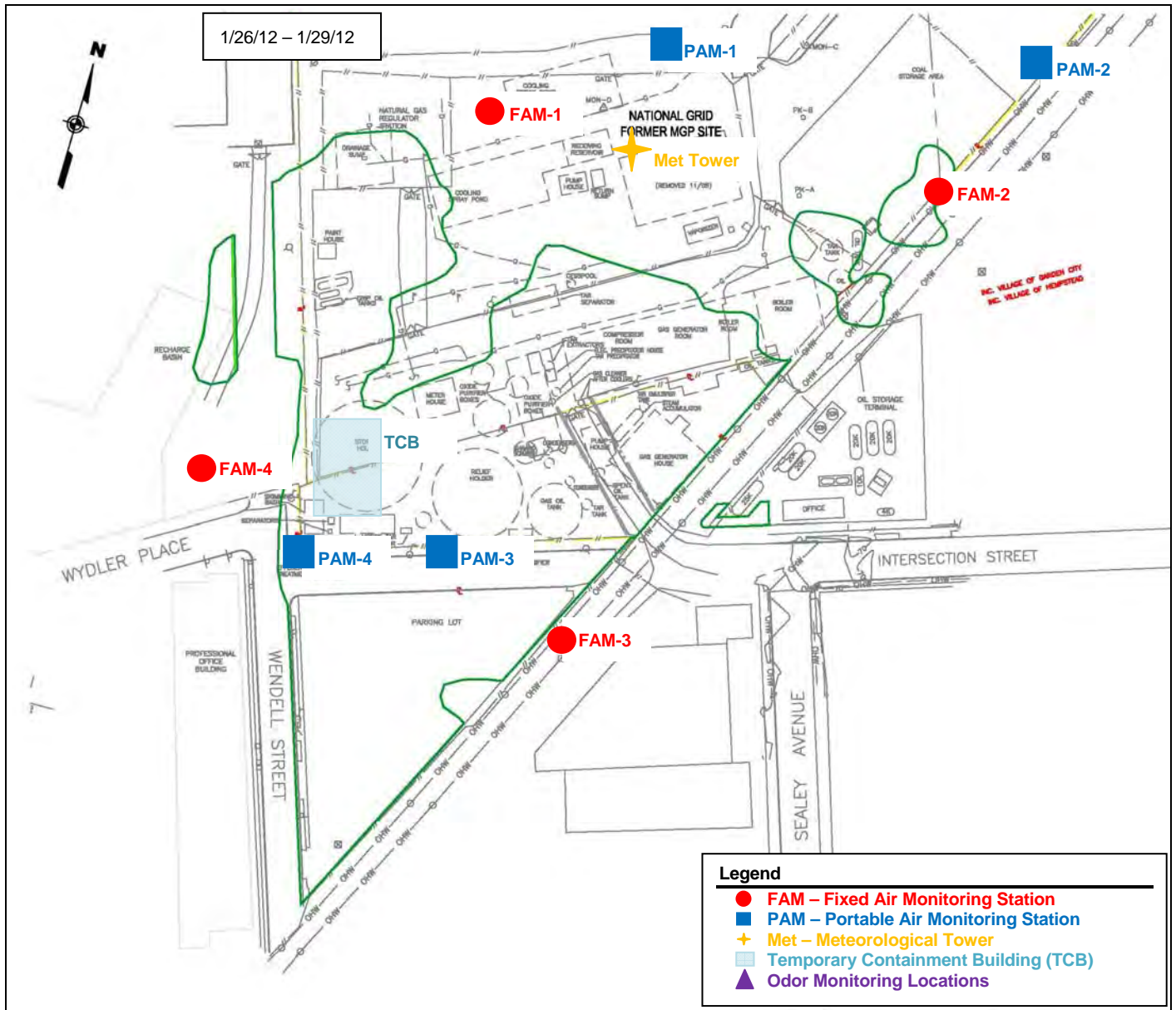


Figure 5: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 16 through January 22, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 1/16/12	16.4	0.1	16.6	0.3	18.6	0.1	9.8	0.1	23.1	0.2	27.8	0.1	16.0	0.1	12.1	0.5	NA	NA	NA
Tue 1/17/12	28.6	0.1	56.2	0.3	36.4	0.1	30.8	0.1	54.8	0.2	33.9	0.1	53.2	0.1	44.2	0.2	NA	NA	NA
Wed 1/18/12	16.6	0.1	26.4	0.1	18.6	0.1	16.8	0.1	22.2	0.1	7.7	0.1	26.0	0.1	24.0	0.4	NA	NA	NA
Thu 1/19/12	11.9	0.1	18.9	0.1	19.3	0.1	15.1	0.1	46.4	0.1	18.7	0.1	15.2	0.3	20.8	0.4	NA	NA	NA
Fri 1/20/12	19.2	0.1	31.5	0.1	23.8	0.1	19.6	0.1	28.0	0.1	13.6	0.1	45.0	0.1	13.4	0.2	NA	NA	NA
Sat 1/21/12	14.4	0.1	26.2	0.1	17.5	0.1	16.5	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 1/22/12	15.9	0.1	24.5	0.1	18.7	0.1	17.8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

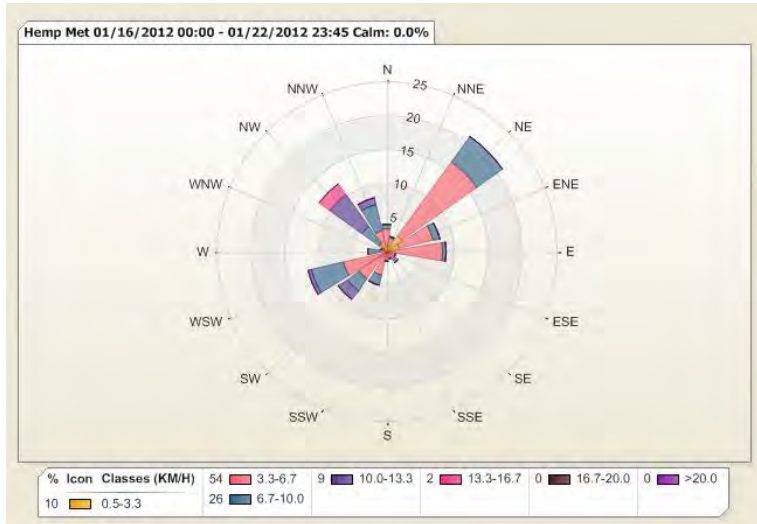
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

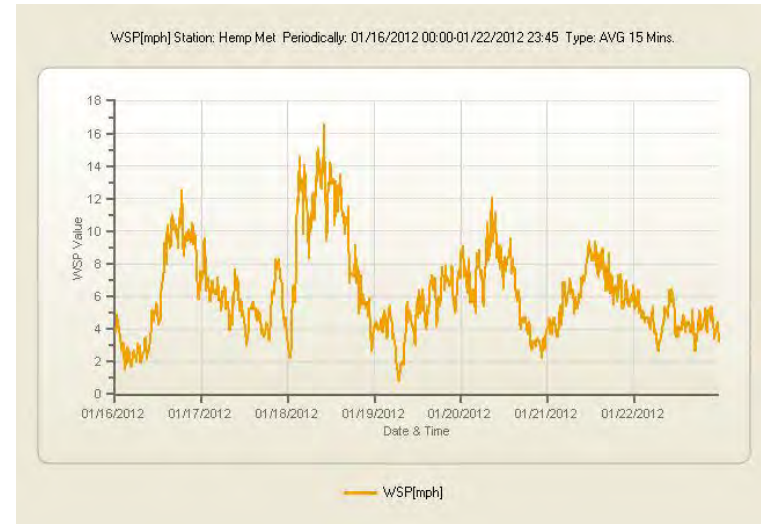
	Site Activities
Mon 1/16/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil/debris from TCB (15 trucks); •Repaired door fabric on TCB; •Worked on RUSMAR foamer; and •Routine air monitoring.
Tue 1/17/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil/debris from TCB (8 trucks); •Installed road crossing for water supply to Frac tank; •Installed grounding rod for fuel storage tank; •Installed new vibrators for silos in batch plant; and •Routine air monitoring.
Wed 1/18/12	<ul style="list-style-type: none"> •Started to install temporary panels in gas regulator station; •Drilled trial DSM column; •Installed mufflers to backup alarms on equipment; and •Routine air monitoring.
Thu 1/19/12	<ul style="list-style-type: none"> •Excavated soil and debris south of TCB; •Cut cutter down by two feet; •Continued to install fence panels in GRS and removed the permanent fence inside; and •Routine air monitoring.
Fri 1/20/12	<ul style="list-style-type: none"> •Excavated soil/debris south of the TCB and moved inside TCB for future load out; •Performed test column outside of treatment limits; •Installed new temporary fence in Gas Regulator Station and removed existing fence located in excavation limits; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 1/21/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/22/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

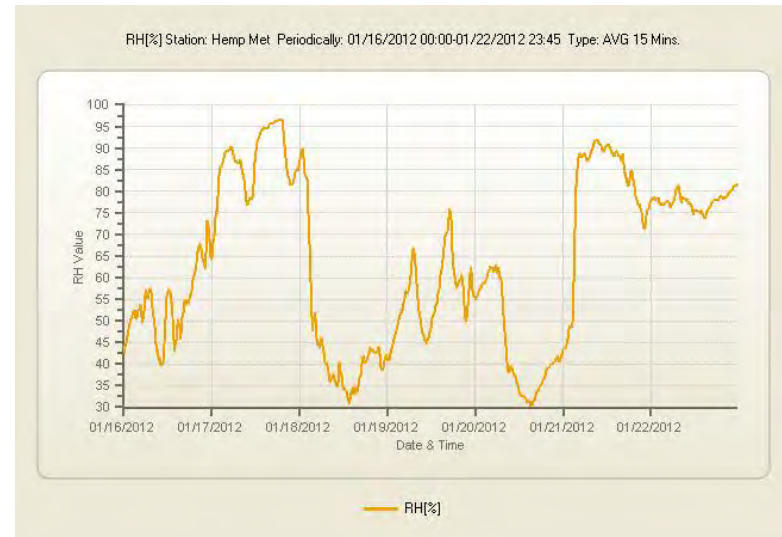
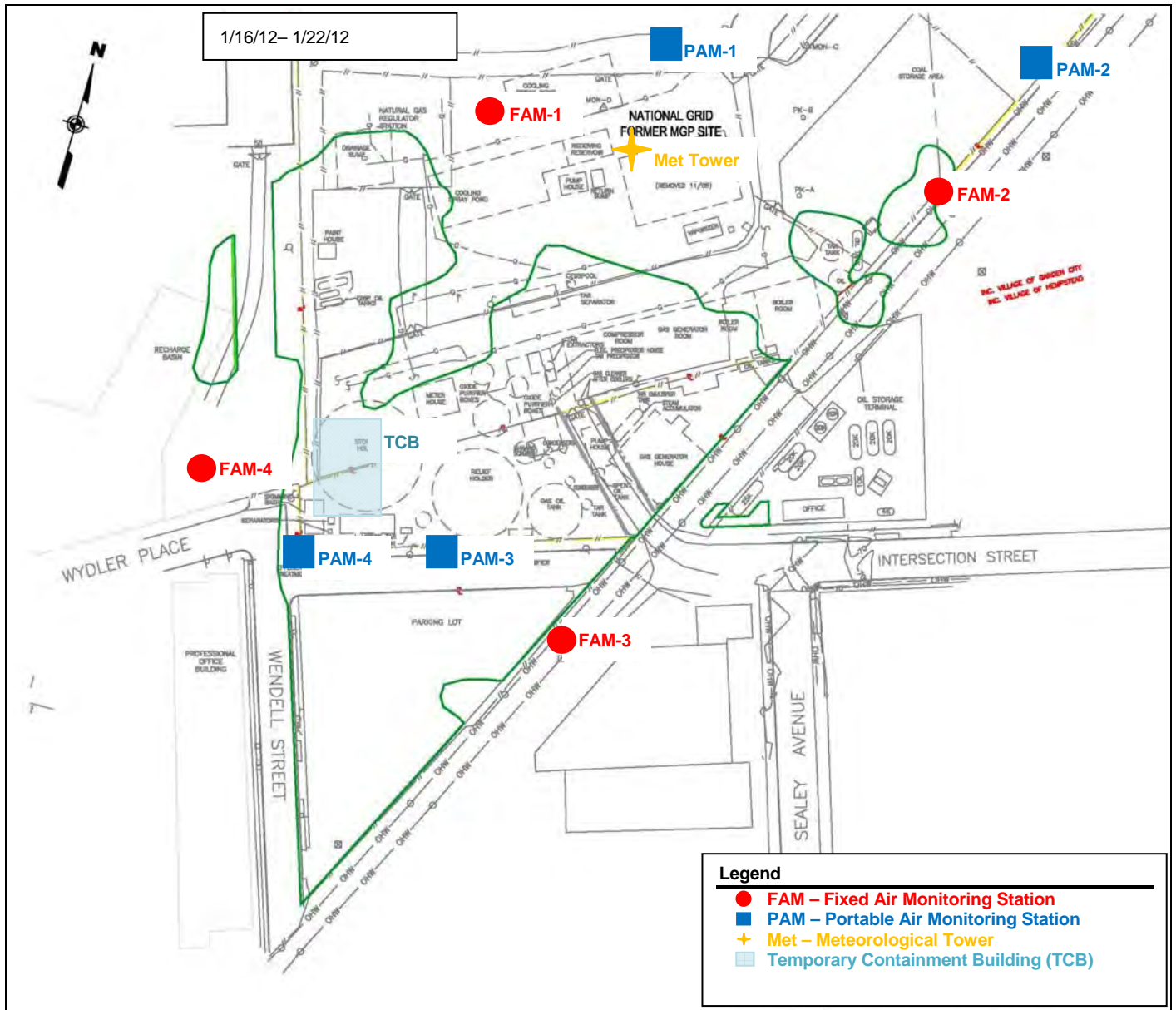


Figure 2: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 9 through January 15, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Response and Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2 and 3:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 1/9/12	19.6	0.1	31.5	0.1	17.0	0.1	24.6	0.1	23.8	0.1	26.9	0.2	24.9	0.2	13.6	0.5	NA	NA	NA
Tue 1/10/12	56.7	0.1	95.2	0.1	63.8	0.1	60.2	0.1	46.6*	0.2	73.6	0.1	77.5	0.2	76.9	0.3	NA	NA	NA
Wed 1/11/12	50.6	0.1	84.1	0.1	66.1	0.1	54.7	0.1	77.8	0.3	69.1	0.2	67.6	0.2	85.8	0.3	NA	NA	NA
Thu 1/12/12	51.5	0.1	87.2	0.1	59.8	0.1	59.3	0.1	70.7	0.1	9.8	0.1	12.0	0.1	29.7	0.2	NA	NA	NA
Fri 1/13/12	54.2	0.1	92.6	0.2	64.7	0.1	62.6	0.1	66.2	0.3	50.0	0.1	36.3	0.1	14.4	0.3	NA	NA	NA
Sat 1/14/12	17.4	0.1	23.0	0.1	20.1	0.1	17.9	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 1/15/12	13.0	0.1	15.6	0.1	13.5	0.1	10.8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). 																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

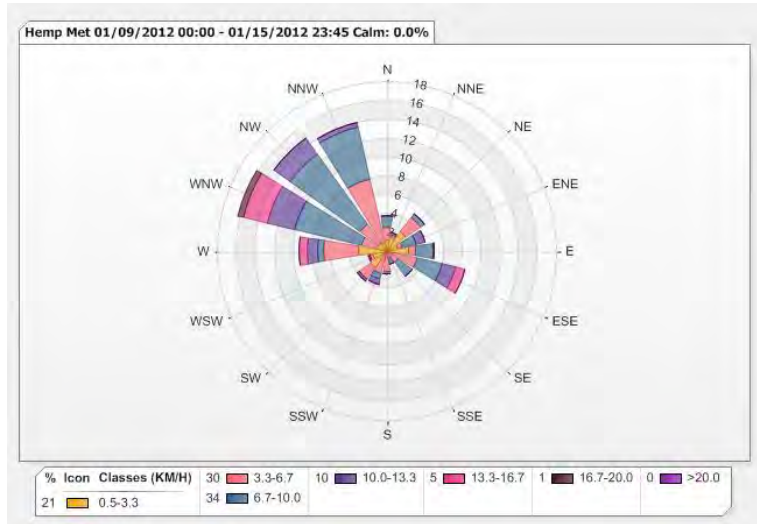
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

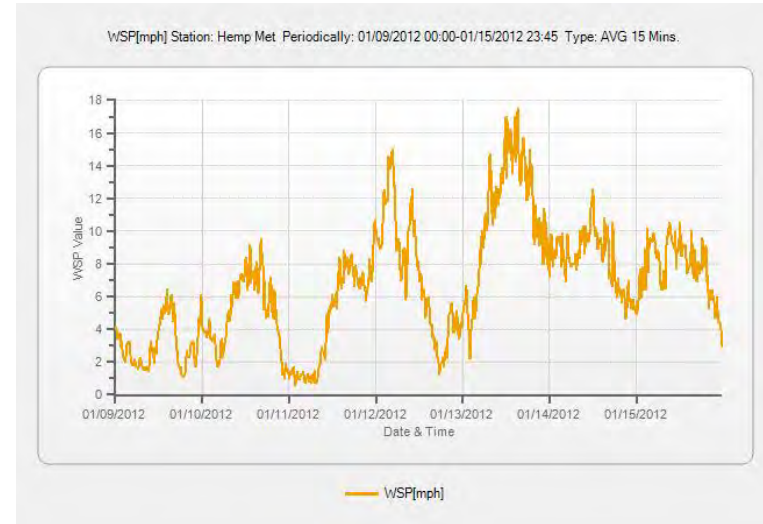
	Site Activities
Mon 1/9/12	<ul style="list-style-type: none"> •Conducted pre-dig and prepared test column for deep soil mixing (DSM); •Established exclusion zone and installed temporary fence panels/signs; •Began test program DSM; and •Routine air monitoring.
Tue 1/10/12	<ul style="list-style-type: none"> •Continued pre-dig and prepared 2nd test column area for DSM; •Broke concrete and stockpiled soils/debris; •Began drilling 2nd test column; •Test program put on hold because of power issues with the Delmag; and •Routine air monitoring.
Wed 1/11/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil/debris from temporary containment building (TCB) (26 trucks); •Completed installation of fabric privacy screening on east fenceline; •Started to build clean soil staging area on the west side of the site; and •Routine air monitoring.
Thu 1/12/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil/debris from TCB (16 trucks); •Conducting maintenance on the augers for the Delmag; •Inspected the storm water and fabric fencing and performed repairs and maintenance as necessary; •Replace filter in TIGG units; and •Routine air monitoring.
Fri 1/13/12	<ul style="list-style-type: none"> •Performed loadout and disposal of soil/debris from TCB (16 trucks); •Performed maintenance on TIGG units; •Installed scale covers for the batch plant; •Collected integrated VOC samples; and •Routine air monitoring.
Sat 1/14/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/15/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Summaries

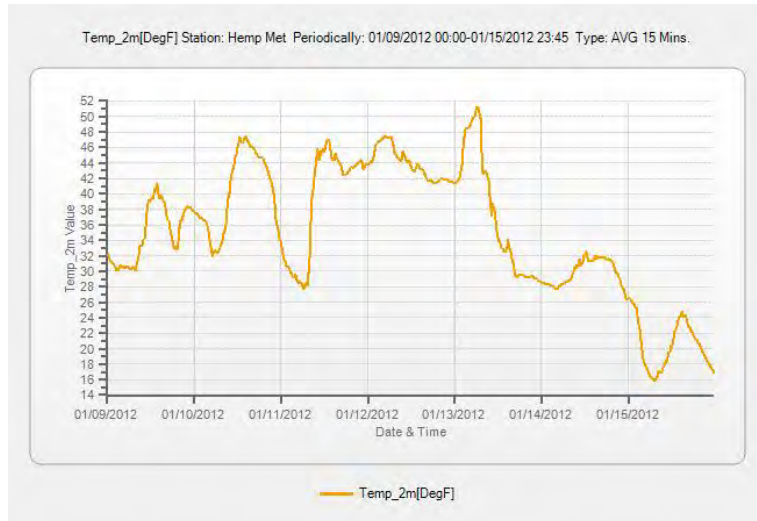
Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

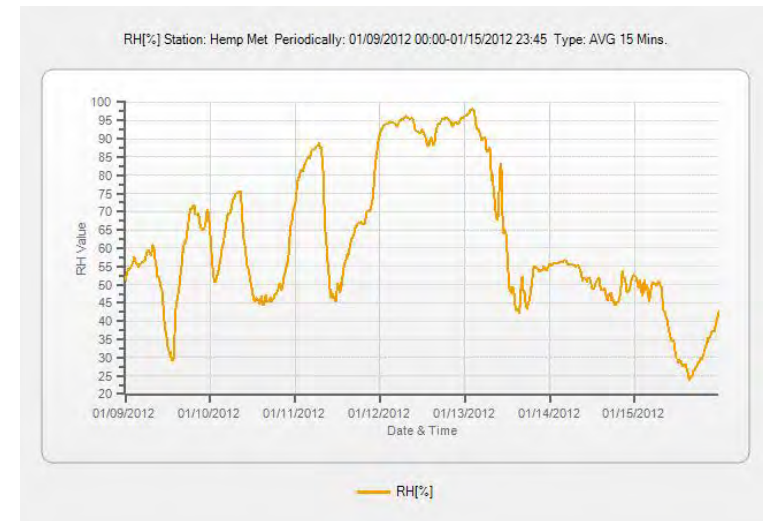


Figure 2: Site Map

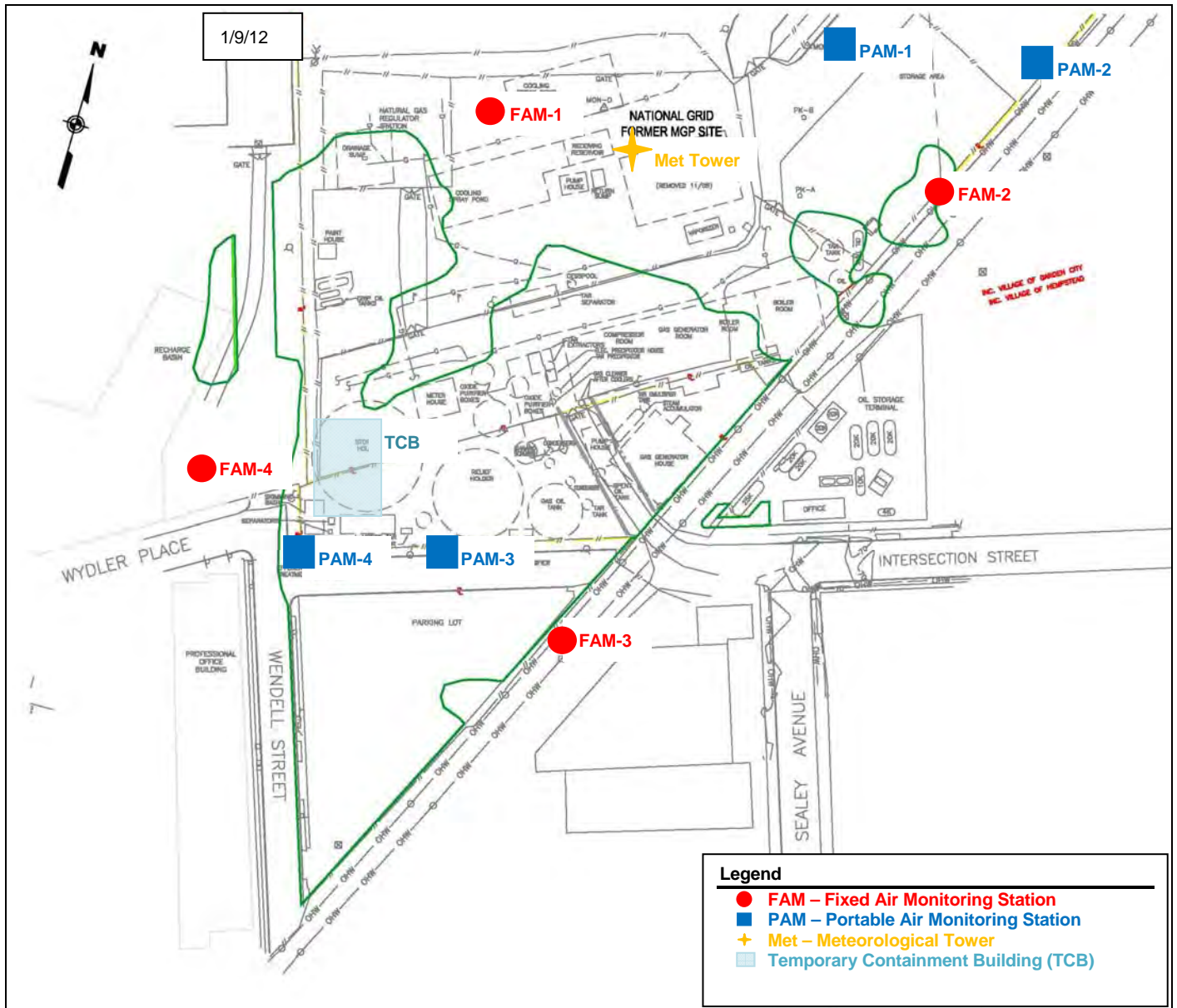
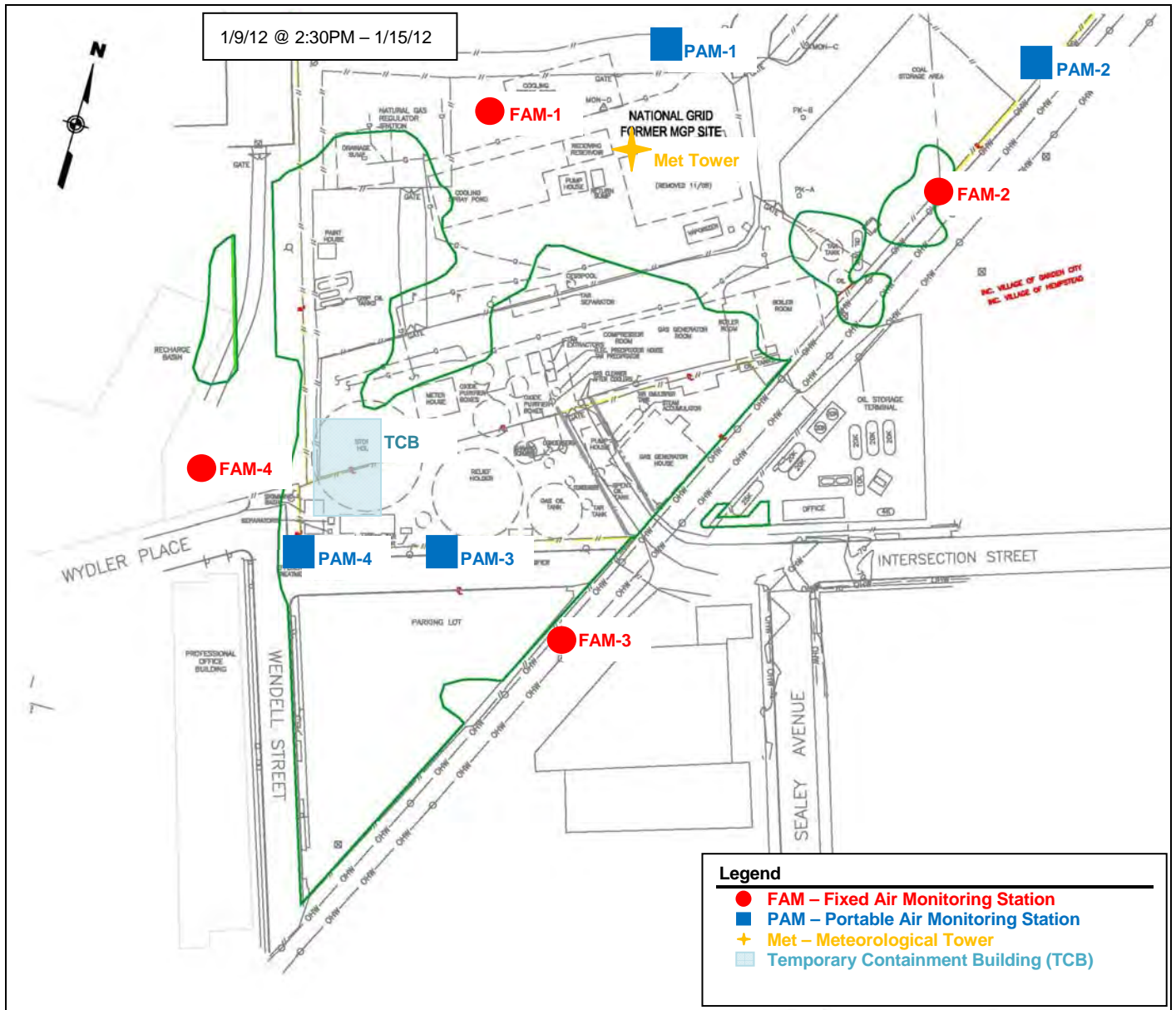


Figure 3: Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	January 2 through January 8, 2012

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. This data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached. The purpose of the Alert and Response limits are to help manage the Site and prevent concentrations above the Action Limits.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. There was one period of PM₁₀ concentrations greater than the Response Limit. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** Concentrations above the Action Limits; and
- **Table 4:** Concentrations above the Response Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
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Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ Ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm Alert Limits: PM₁₀ = 100 µg/m³ / TVOC = 5.0 ppm)</i>																			
Mon 1/2/12	18.5	0.1	23.0	0.3	19.4	0.1	19.5	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA	NA	NA
Tue 1/3/12	13.1	0.1	13.7	0.2	17.0	0.1	11.8	0.1	47.4	0.1	6.6	0.3	19.2	0.2	65.0	0.5	NA	NA	NA
Wed 1/4/12	23.8	0.1	34.6	0.1	24.6	0.1	98.8*	0.1	58.8	0.1	20.4	0.2	34.1	0.5	103.1*	0.7	NA	NA	NA
Thu 1/5/12	38.4	0.1	80.4	0.1	43.2	0.1	41.1	0.3	94.3	0.2	42.0	0.1	42.3	0.2	37.8	0.3	NA	NA	NA
Fri 1/6/12	43.6	0.1	75.7	0.1	49.2	0.1	47.5	0.4	83.3	0.2	67.8	0.1	49.0	0.2	35.4	0.4	NA	NA	NA
Sat 1/7/12	37.4	0.1	67.5	0.1	41.6	0.1	38.3	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 1/8/12	7.4	0.1	12.0	0.1	8.7	0.1	8.0	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data * = Daily maximum adjusted concentrations initially measured above the Response or Action Limits that have been corrected for the background concentrations.</p> <ul style="list-style-type: none"> Highlighted concentrations remained above the Response or Action Limits after corrected for the background concentrations and were subject to further analysis based onsite activities and offsite activities (shown in Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ Site closed for New Year Holiday (no Site activities).</p>																			

Table 3: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: Concentrations Above the Response Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
PM ₁₀	Wed 1/4/12	PAM-4	8:30AM	8:43AM	14	100	NW 6.1 mph	NW 7.4 mph	FAM-4	112.1	9.0	103.1	Response	Response limit PM ₁₀ concentrations were likely related to general work and preparation activities associated with the tent relocation. Concentrations quickly dropped before operational controls could be implemented.
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

	Site Activities
Mon 1/2/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Tue 1/3/12	<ul style="list-style-type: none"> •Performed excavation and backfilling activities to bring Temporary Containment Building (TCB) to final grade; •Continued to assemble batch plant; •Continued to assemble Delmag; •Repaired fabric fence; and •Routine air monitoring.
Wed 1/4/12	<ul style="list-style-type: none"> •Dismantled tie downs and moved TCB 40 feet north; •Continued to assemble batch plant; •Continued to assemble Delmag; and •Routine air monitoring.
Thu 1/5/12	<ul style="list-style-type: none"> •Completed tie downs on TCB; •Continued to assemble batch plant; •Continued to assemble Delmag; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 1/6/12	<ul style="list-style-type: none"> •Began pre-dig and prepared test column areas for deep soil mixing (DSM); •Continued to assemble batch plant; •Continued to assemble Delmag; and •Routine air monitoring.
Sat 1/7/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 1/8/12	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Plots



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 26, 2011 – January 1, 2012

This ambient data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no TVOC or PM₁₀ concentrations greater than the Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum TVOC and PM₁₀ concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** PM₁₀ concentrations above the Action Limit; and
- **Table 4:** TVOC concentrations above the Response and Action Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units	Alert Limit	Response Limit	Action Limit	Site Condition			
				Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum TVOC and PM₁₀ and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
	<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm)</i>																		
Mon 12/26/11	25.4	0.1	52.2	0.1	28.8	0.1	27.1	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA	NA	NA
Tue 12/27/11	31.7	0.1	55.8	0.1	33.4	0.1	30.9	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA	NA	NA
Wed 12/28/11	7.3	0.4	8.1	0.2	7.7	0.1	7.9	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA	NA	NA
Thu 12/29/11	30.8	0.4	58.3	0.2	31.7	0.1	29.4	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA	NA	NA
Fri 12/30/11	39.3	0.1	75.0	0.2	54.2	0.1	40.1	0.1	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA ¹	NA	NA	NA
Sat 12/31/11	47.0	0.1	76.1	0.3	57.2	0.1	46.0	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 1/1/12	26.7	0.1	53.1	0.3	28.4	0.1	28.3	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Highlighted concentrations require further analysis based on background concentrations, onsite activities and offsite activities (See Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ Site closed for Christmas Break (no Site activities).</p>																			

Table 3: PM₁₀ Concentrations Above the Action Limit

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: TVOC Concentrations Above the Response and Action Limits

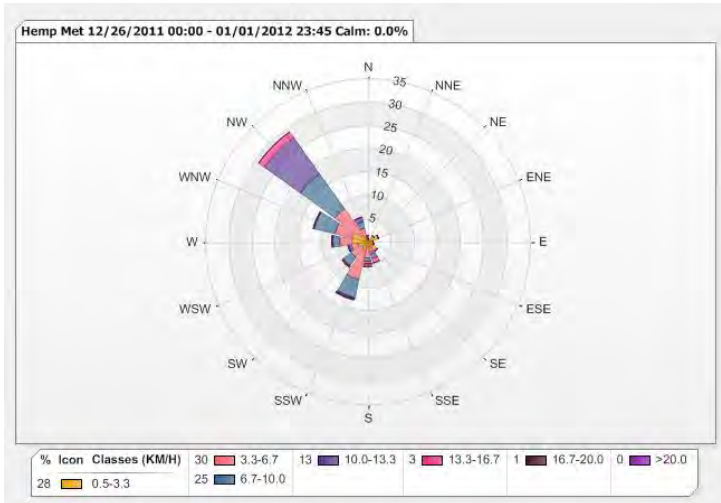
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response and/or Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

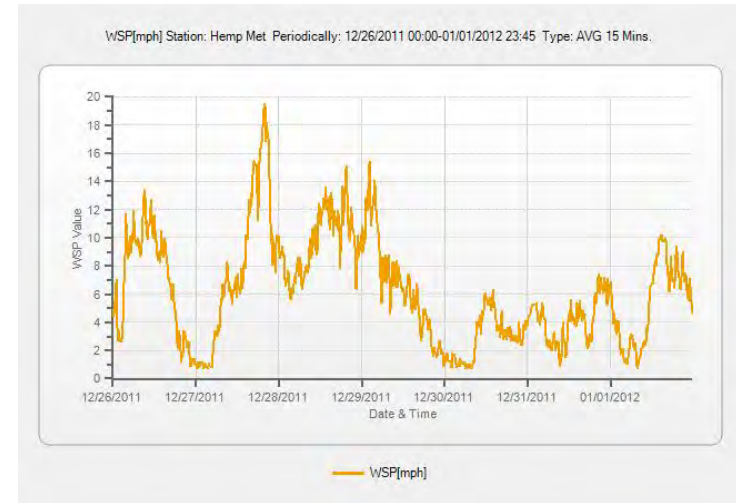
	Site Activities
Mon 12/26/11	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Tue 12/27/11	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Wed 12/28/11	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Thu 12/29/11	<ul style="list-style-type: none">•No Site activities;•Collected integrated VOC samples; and•Routine air monitoring.
Fri 12/30/11	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sat 12/31/11	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.
Sun 1/1/12	<ul style="list-style-type: none">•No Site activities; and•Routine air monitoring.

Figure 1: Weekly Meteorological Plots

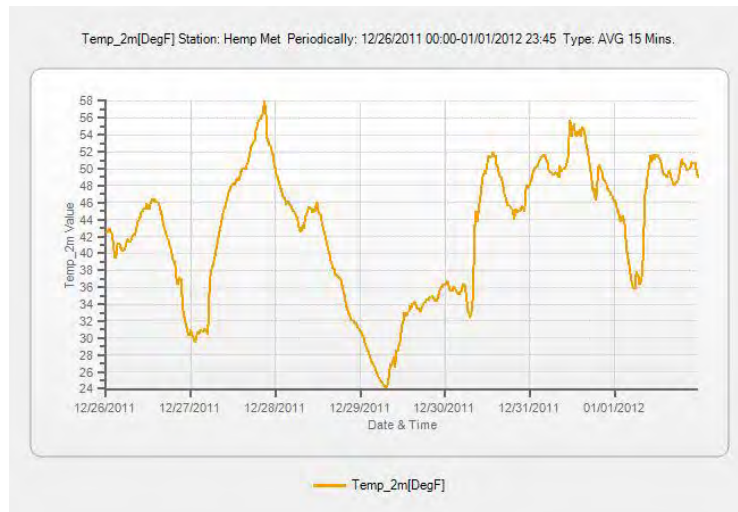
Wind Rose:



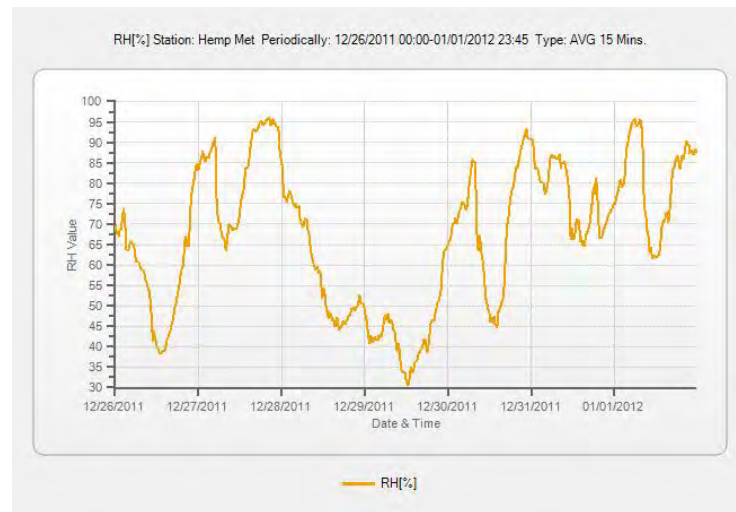
Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 19 – December 25, 2011

This ambient data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to specific the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – TVOC, PM₁₀, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** PM₁₀ concentrations above the Action Limit; and
- **Table 4:** TVOC concentrations above the Response and Action Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum TVOC and PM₁₀ and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
	<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm)</i>																		
Mon 12/19/11	49.0	0.1	132.3	0.1	129.8	0.1	49.0	0.2	137.2	0.2	77.0	0.1	79.4 ¹	0.1	78.9	0.5	NA	NA	NA
Tue 12/20/11	31.4	0.2	63.2	0.1	36.0	0.1	35.1	0.2	14.0	0.1	19.7	0.2	26.5	0.2	23.9	0.8	NA	NA	NA
Wed 12/21/11	31.4	0.2	56.3	0.1	35.2	0.1	33.0	0.1	79.5	0.1	55.4	0.1	50.3	0.2	52.6	0.6	NA	NA	NA
Thu 12/22/11	48.5	0.1	84.3	0.1	56.1	0.2	55.3	0.1	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA	NA	NA
Fri 12/23/11	25.8	0.1	56.1	0.1	33.2	0.1	33.7	0.1	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA	NA	NA
Sat 12/24/11	90.1	0.1	143.3	0.1	105.9	0.1	90.4	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 12/25/11	76.1	0.1	119.8	0.1	77.7	0.1	81.9	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM₁₀ = Respirable Particulate Matter (µg/m³)

TVOC = Total Volatile Organic Compounds (ppm)

Nap = Naphthalene

NA = Not Applicable, air monitoring not required per CAMP, unless otherwise noted.

ND = No Data

- Highlighted concentrations require further analysis based on background concentrations, on Site activities and off Site activities (See **Table 3** and **4**).
- FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured.
- PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM).

¹ PAM-2 PM₁₀ was found to be invalid on 12/19/11 between 9:24AM and 3:55PM because of an instrument malfunction (lost connection to data logger). Instrument connection was restored on Tuesday, December 20, 2011 during the morning start up and calibration.

² Site was closed on December 22 and December 23, 2011 for the Christmas Holiday (no Site activities).

Table 3: PM₁₀ Concentrations Above the Action Limit

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: TVOC Concentrations Above the Response and Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response and/or Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

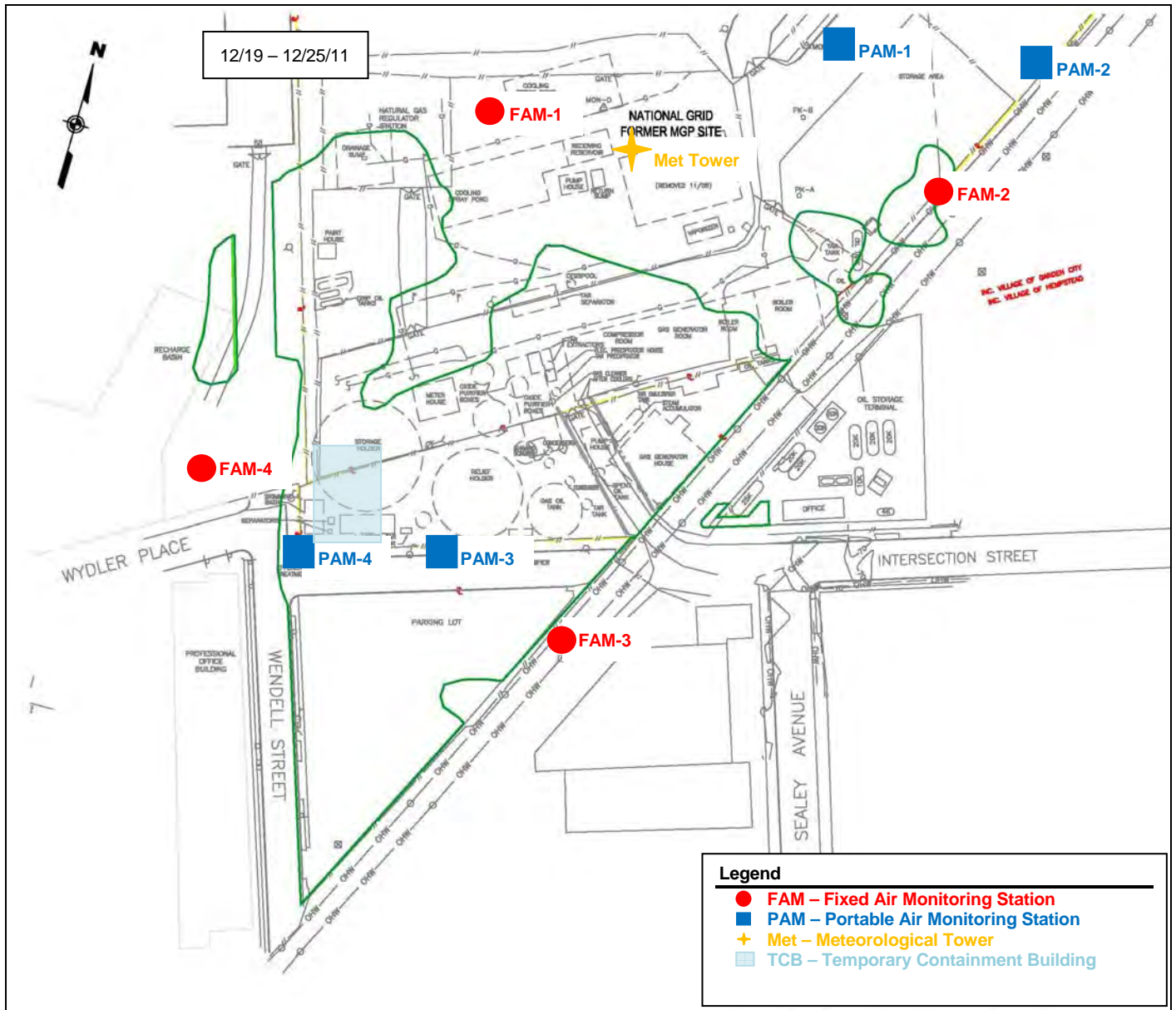
Table 5: Weekly Site Activities

	Site Activities
Mon 12/19/11	<ul style="list-style-type: none"> •Performed disposal of soil and debris from the temporary containment building (TCB); •Started to bring TCB to grade, preparing for 1' clean fill; •Continued to assemble the batch plant; and •Routine air monitoring.
Tue 12/20/11	<ul style="list-style-type: none"> •Performed excavation and backfilling activities to bring TCB to final grade; •Continued to assemble the batch plant; •Received delivery of the Delmag; •Changed out TIGG filters; and •Routine air monitoring.
Wed 12/21/11	<ul style="list-style-type: none"> •Performed excavation and backfilling activities to bring TCB to final grade; •Continued to assemble the batch plant; •Started to assemble the Delmag; •Integrated VOC sample collected; and •Routine air monitoring.
Thu 12/22/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Fri 12/23/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sat 12/24/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/25/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Plots



Figure 2: Weekly Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 12 – December 18, 2011

This ambient data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to specific the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – PM₁₀, TVOC, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** PM₁₀ concentrations above the Action Limit; and
- **Table 4:** TVOC concentrations above the Response and Action Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum PM₁₀ and TVOC and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor		
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm	
	<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm)</i>																			
Mon 12/12/11	60.1	0.2	117.4 ¹	0.2 ¹	67.6	0.2	66.0	0.4	79.6	0.2	59.6	0.2	59.9	0.1	69.0	0.4	NA	NA	NA	
Tue 12/13/11	54.1	0.1	142.4	0.1	58.5	0.1	58.0	0.2	74.9	0.4	59.2	0.1	68.7	0.4	63.2	0.2	NA	NA	NA	
Wed 12/14/11	48.8	0.1	87.5	0.2	55.1	0.1	51.0	0.1	84.7	0.2	69.3	0.1	69.6	0.4	68.9	0.2	NA	NA	NA	
Thu 12/15/11	24.7	0.1	46.7	0.2	31.9	0.1	27.1	0.1	72.0	0.1	33.9	0.1	25.0	0.2	24.9	0.2	NA	NA	NA	
Fri 12/16/11	23.2	0.1	42.0	0.1	26.3	0.1	26.4	0.1	26.2	0.1	21.2	0.1	22.9	0.1	9.1	0.1	NA	NA	NA	
Sat 12/17/11	9.9	0.1	12.0	0.1	11.4	0.1	10.8	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Sun 12/18/11	56.2	0.1	97.3	0.1	75.4	0.1	64.3	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable, air monitoring not required per CAMP, unless otherwise noted. ND = No Data</p> <ul style="list-style-type: none"> Highlighted concentrations require further analysis based on background concentrations, on Site activities and off Site activities (See Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ FAM-2 PM₁₀ and TVOC data was not collected on 12/12/11 between 12:00AM and 9:35AM because of a power failure caused by a tripped circuit breaker. Power was restored to FAM-2 upon returning to the Site on Monday, December 12, 2011.</p>																				

Table 3: PM₁₀ Concentrations Above the Action Limit

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: TVOC Concentrations Above the Response and Action Limits

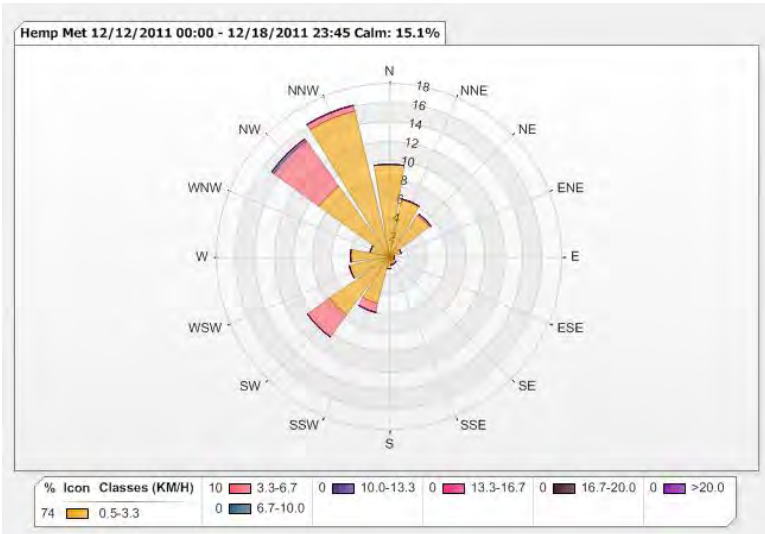
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response and/or Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

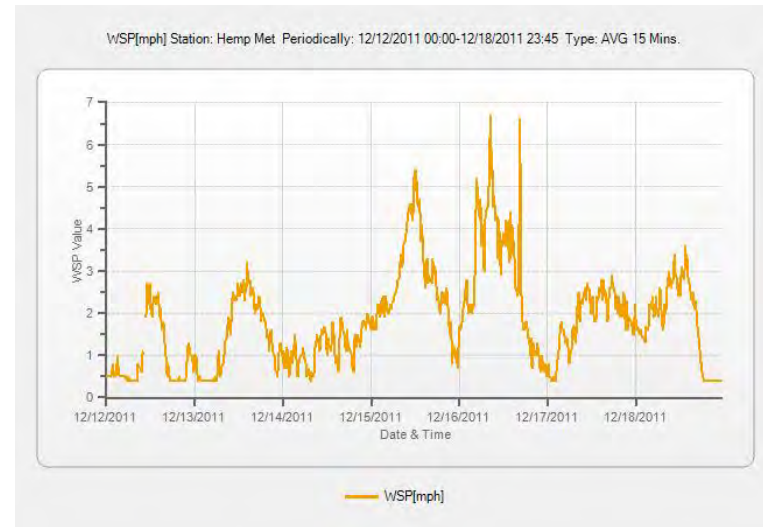
	Site Activities
Mon 12/12/11	<ul style="list-style-type: none"> •Preformed excavation activities; •Preformed trucking T&D; •Worked on installing primary power to the Site; •Received delivery and began set up of DSM Batch Plant and associated equipment; and •Routine air monitoring.
Tue 12/13/11	<ul style="list-style-type: none"> •Preformed excavation activities; •Preformed trucking T&D; •Worked on installing primary power to the Site; •Received delivery and began set up of DSM Batch Plant and associated equipment; and •Routine air monitoring.
Wed 12/14/11	<ul style="list-style-type: none"> •Preformed excavation activities; •Preformed trucking T&D; •Worked on installing primary power to the Site; •Received delivery and began set up of DSM Batch Plant and associated equipment; and •Routine air monitoring.
Thu 12/15/11	<ul style="list-style-type: none"> •Preformed excavation activities; •Preformed trucking T&D; •Worked on installing primary power to the Site; •Received delivery and began set up of DSM Batch Plant and associated equipment; •Collected integrated VOC samples; and •Routine air monitoring.
Fri 12/16/11	<ul style="list-style-type: none"> •Preformed excavation activities; •Preformed trucking T&D; •Worked on installing primary power to the Site; •Received delivery and began set up of DSM Batch Plant and associated equipment; and •Routine air monitoring.
Sat 12/17/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/18/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Plots

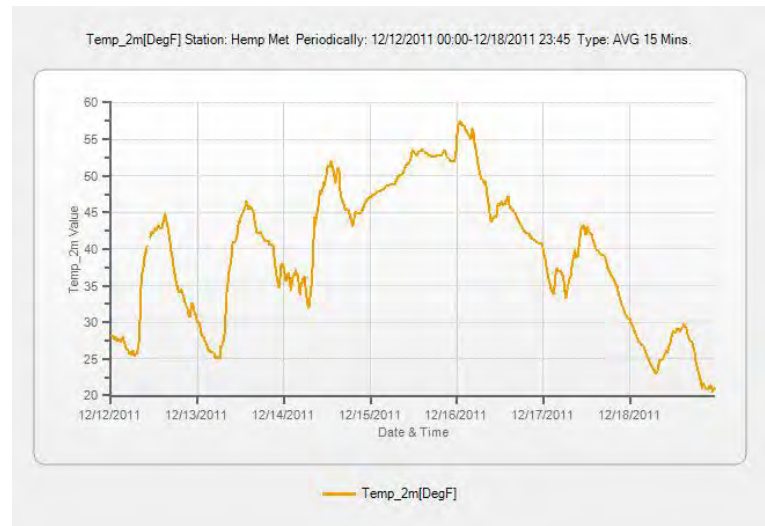
Wind Rose:



Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):

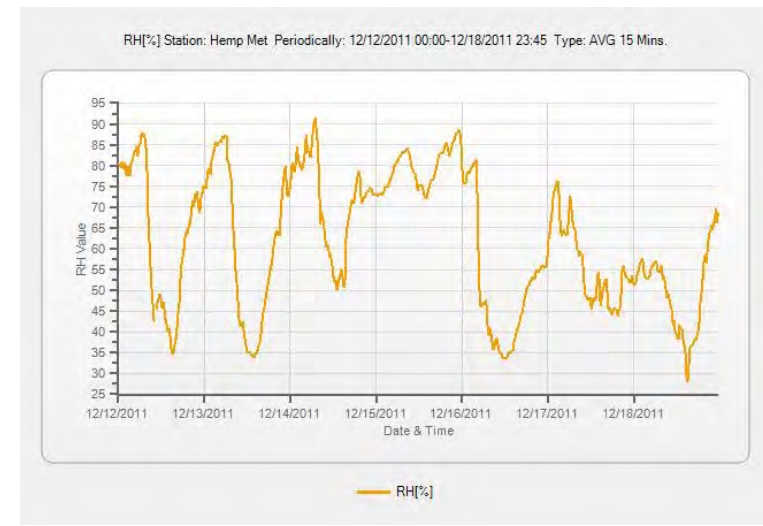
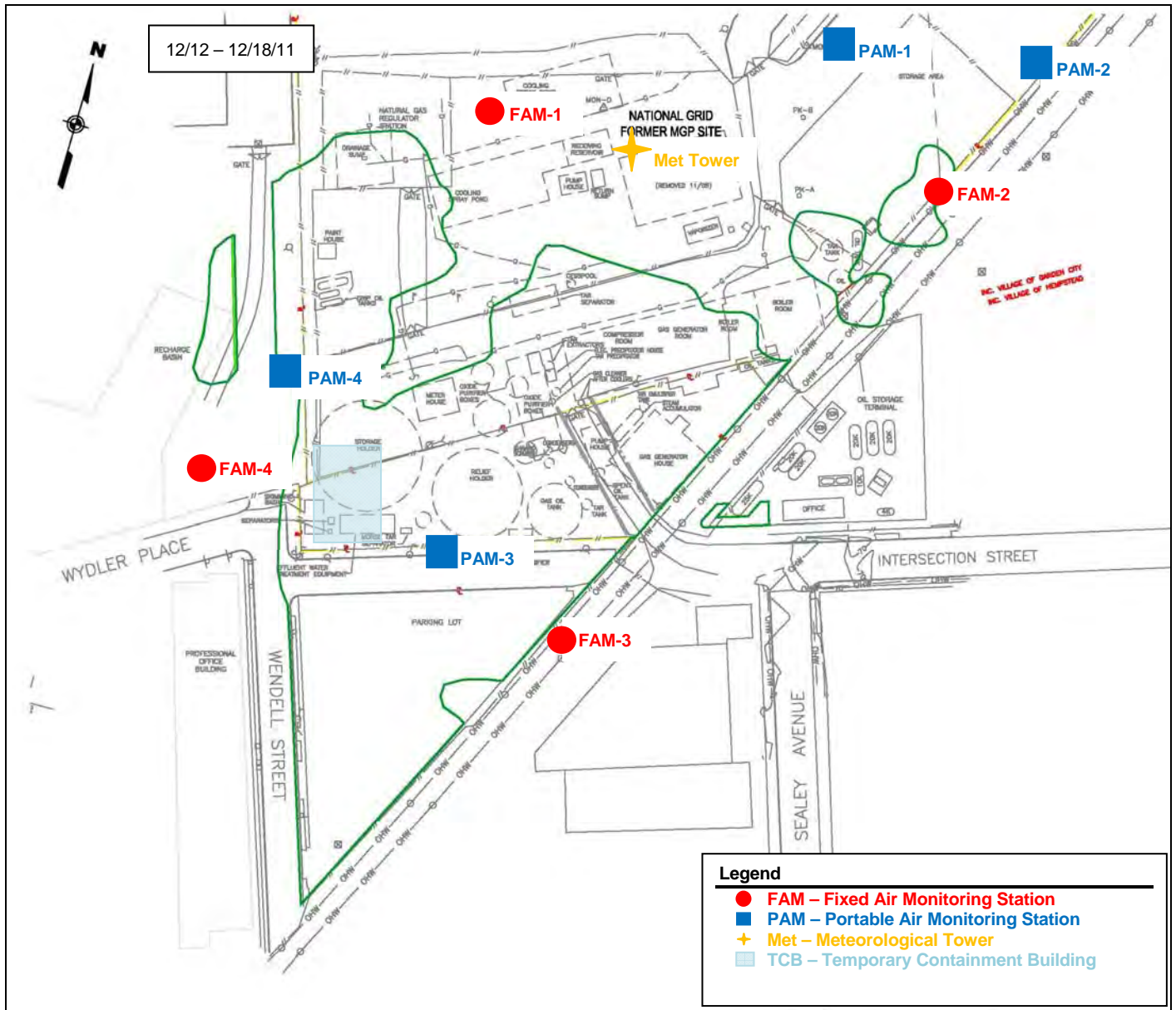


Figure 2: Weekly Site Map



Weekly Air Monitoring Summary

Client:	National Grid
Location:	Hempstead Intersection Street Former MGP Site, Hempstead, NY
Period:	December 5 – December 11, 2011

This ambient data summary report includes both tabular information and written discussions summarizing the ambient air-quality data collected during the report period in accordance with the Hempstead project CAMP (September 2011).

Introduction

Engineering controls, dust suppression, and odor suppression are used as necessary throughout the daily work activities. Community air monitoring data is reviewed and compared to the NYSDEC/NYSDOH Action Limits. In order to manage the Site more effectively National Grid has employed more conservative Alert and Response Limits to help mitigate fugitive emissions before the Action Limits are reached.

- **Table 1:** Site specific Alert, Response and Action Limits and the corresponding Site conditions.

Real-Time Air Monitoring Summary – PM₁₀, TVOC, Odor Intensity, Naphthalene, and HCN

Continuous real-time air monitoring for PM₁₀ and TVOC was conducted upwind and downwind of the work area along the Site perimeter at four (4) FAM stations and four (4) PAM stations. The intent of the real-time air monitoring program is to provide an early detection of short-term emissions and potential off Site migration of remediation related PM₁₀ and TVOCs. The real-time perimeter air monitoring system consists of FAM stations and PAM stations, supplemented by routine periodic/as-needed hand-held and observational air monitoring; one (1) meteorological tower; and one (1) central computer system and alarm notification system.

During the report period there were no PM₁₀ or TVOC concentrations greater than the Action Limits. The results of the real-time air monitoring are presented in the following tables:

- **Table 2:** Weekly real-time maximum PM₁₀ and TVOC concentrations and periodic hand-held naphthalene, odor intensity, and HCN concentrations summary;
- **Table 3:** PM₁₀ concentrations above the Action Limit; and
- **Table 4:** TVOC concentrations above the Response and Action Limits.

Weekly Site Activities, Meteorological Observations, and Site Maps

Additional information related to the air monitoring activities during the report period is included in the following table and figures:

- **Table 5:** Weekly Site activities summary;
- **Figure 1:** Weekly meteorological summaries; and
- **Figure 2:** Daily/weekly Site map(s).

Table 1: Site Specific Alert, Response, and Action Limits and the Corresponding Site Conditions

Target – units				Site Condition			
	Alert Limit	Response Limit	Action Limit	Operational Condition	Alert Condition (Above Background ¹)	Response Condition (Above Background ¹)	Action Condition (Above Background ¹)
TVOC (PID) – ppm	3.7	5.0	25.0	$[C_{avg}] \leq 3.7$	$3.7 < [C_{avg}] \leq 5.0$	$5.0 < [C_{avg}] \leq 25.0$	$[C_{avg}] > 25.0$
Benzene (GC) – ppm	NA	NA	1.0	$[C_{avg}] \leq 1.0$	NA	NA	$[C_{avg}] > 1.0$
PM ₁₀ – µg/m ³	NA	100	150	$[C_{avg}] \leq 100$	NA	$100 < [C_{avg}] \leq 150$	$[C_{avg}] > 150$
OI ² – n-butanol scale	NA	NA	3	OI ≤ 3 and No Odor Complaints	NA	NA	OI > 3 or Odor Complaints
Odor (naphthalene) – µg/m ³ ppm	NA	NA	440 0.084	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$	NA	NA	$[C_{avg}] \leq 440$ $[C_{avg}] \leq 0.084$
HCN – ppm	Odor Threshold ³ [0.6]	1.0	2.5	$[C_{avg}] \leq 0.6$	$0.6 < [C_{avg}] \leq 1.0$ (meter) and $[C] < 1.0$ (DT)	$1.0 < [C_{avg}] \leq 2.5$ (meter) and $[C] < 2.5$ (DT)	$[C_{avg}] > 2.5$ (meter) and and $[C] \geq 2.5$ (DT)
<p>Definitions:</p> <p>TVOC = Total Volatile Organic Compounds PID = Photoionization Detector GC = Gas Chromatograph PM₁₀ = Respirable Particulate Matter ppm = Parts per million volume µg/m³ = Micrograms per cubic meter [C] = Concentration of target collected from a discrete sample [C_{avg}] = 15-minute average concentration of target DT = Dräger Tubes OI = Odor Intensity based on the n-butanol scale adapted from ASTM E544-99. Odor measurements made over a 15-minute interval. NA = Not applicable, odor intensity will be either an Operational Level or Action Level; there is no Alert and/or Response Limit and there is no Alert Limit for PM₁₀.</p> <p>Notes:</p> <p>¹ Background is defined as the current upwind concentration. Background concentrations will be used to calculate the actual Property contributions to TVOCs and PM₁₀ during the final evaluation of the Site conditions shown in Table 3 and 4. ² OI observations are based on the n-butanol scale. ³ HCN odor threshold is understood to mean that if the characteristic HCN bitter almond odor is detected (olfactory sensitivity ~ 0.6) this could provide an indication of HCN. Accordingly, HCN monitoring will be performed if the almond odor is detected.</p>							

Table 2: Weekly Real-Time Maximum TVOC and PM₁₀ and Periodic Hand-Held Naphthalene, Odor intensity, and HCN Concentration Summary

	FAM-1		FAM-2		FAM-3		FAM-4		PAM-1		PAM-2		PAM-3		PAM-4		HCN	Odor	
	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	PM ₁₀ µg/m ³	TVOC ppm	HCN ppm	Odor (0-8)	Nap ppm
	<i>Maximum 15-Minute Average Concentrations (Action Limits: PM₁₀ = 150 µg/m³ / TVOC = 25 ppm / Naphthalene = 0.084 ppm / Odor Intensity = 3 / HCN = 1 ppm)</i>																		
Mon 12/5/11	49.2 ¹	0.2	88.9	0.3	56.3	0.1	51.0	0.1	100.3	0.1	90.4	0.6	61.6	0.1	79.6	0.1	NA	NA	NA
Tue 12/6/11	19.3	0.1	39.6	0.1	44.8	0.1	21.2	0.1	30.1	0.1	26.5	0.2	22.9	0.1	24.7	0.7	NA	NA	NA
Wed 12/7/11	21.0	0.1	29.9	0.1	24.0	0.1	22.7	0.1	58.6	0.1	52.5	0.2	42.5	0.6	44.2	0.4	NA	NA	NA
Thu 12/8/11	26.4	0.1	54.1	0.1	27.6	0.1	26.4	0.2	55.8	0.5	21.4	0.1	24.6	0.2	15.0	0.3	NA	NA	NA
Fri 12/9/11	43.9	0.2	80.2 ²	0.1 ²	47.3	0.1	46.9	0.2	89.6	0.2	83.6	0.2	54.2	0.2	55.8	0.3	NA	NA	NA
Sat 12/10/11	28.7	0.3	ND ²	ND ²	32.4	0.1	31.7	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sun 12/11/11	47.7	0.3	ND ²	ND ²	65.0	0.2	62.5	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Highlighted concentrations require further analysis based on background concentrations, onsite activities and offsite activities (See Table 3 and 4). FAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute 24-hour and 7-days per week. Additionally, during periods of TVOC concentrations greater than the Action Limit 15-minute average benzene, toluene, ethylbenzene and xylenes are measured. PAM stations collect average 15-minute PM₁₀ and TVOC concentrations updated every one minute during periods of Site activities (estimated to be Monday – Friday between 7AM and 4PM). <p>¹ FAM-1 PM₁₀ data was found to be invalid between 12/5/11 12:00AM and 9:22AM because of a poor connection between the instrument and the datalogger. The connection was repaired upon returning to the Site on Monday, December 5, 2011.</p> <p>² FAM-2 PM₁₀ and TVOC data was not collected between 12/9/11 8:05PM and 12/11/11 11:59PM because of a power failure caused by a tripped circuit breaker. Power was restored to FAM-2 upon returning to the Site on Monday, December 12, 2011.</p>																			

Table 3: PM₁₀ Concentrations Above the Action Limit

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 4: TVOC Concentrations Above the Response and Action Limits

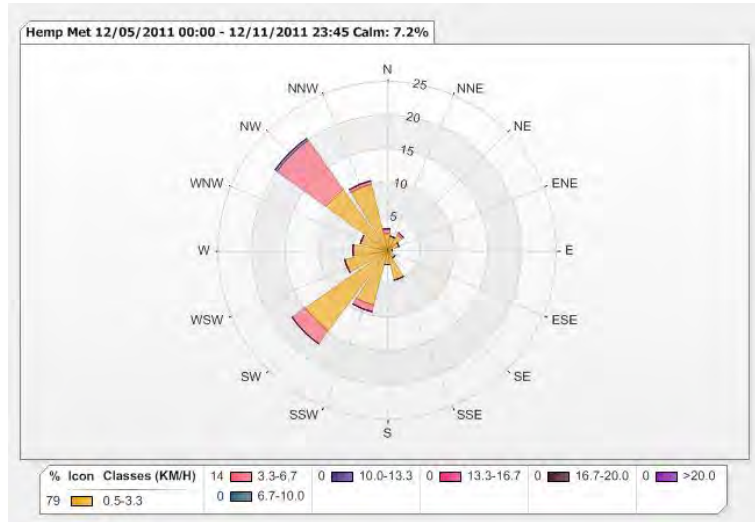
Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Response and/or Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. – Background Conc.	Site Condition	Comments
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>FAM = Fixed Air Monitoring Station PAM = Portable Air Monitoring Station PM₁₀ = Respirable Particulate Matter (µg/m³) TVOC = Total Volatile Organic Compounds (ppm) Nap = Naphthalene VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph) NA = Not Applicable ND = No Data</p> <ul style="list-style-type: none"> Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable. 														

Table 5: Weekly Site Activities

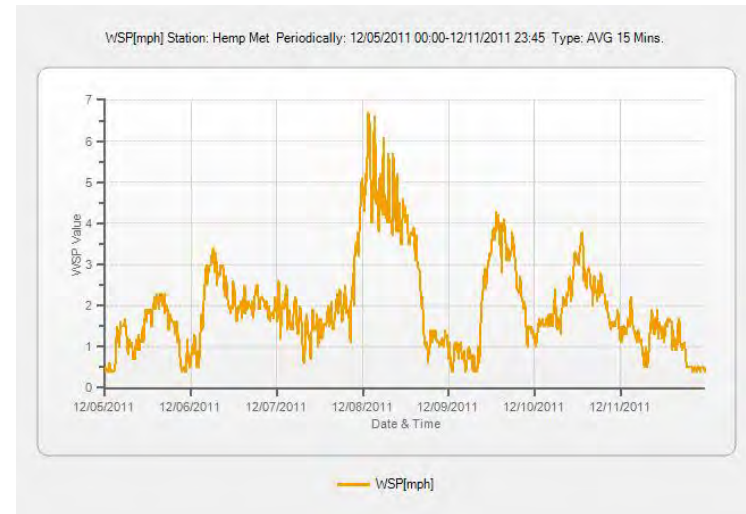
	Site Activities
Mon 12/5/11	<ul style="list-style-type: none"> •Constructed the temporary containment building (TCB); •Performed excavation activities; •Performed loading and trucking T&D; and •Routine air monitoring.
Tue 12/6/11	<ul style="list-style-type: none"> •Constructed the TCB; •Performed excavation activities; •Performed loading and trucking T&D; •Collected integrated VOC samples; and •Routine air monitoring.
Wed 12/7/11	<ul style="list-style-type: none"> •Constructed the TCB; •Performed excavation activities; •Performed loading and trucking T&D; and •Routine air monitoring.
Thu 12/8/11	<ul style="list-style-type: none"> •Constructed the TCB; •Performed excavation activities; •Performed loading and trucking T&D; and •Routine air monitoring.
Fri 12/9/11	<ul style="list-style-type: none"> •Constructed the TCB; •Performed excavation activities; •Performed loading and trucking T&D; and •Routine air monitoring.
Sat 12/10/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.
Sun 12/11/11	<ul style="list-style-type: none"> •No Site activities; and •Routine air monitoring.

Figure 1: Weekly Meteorological Plots

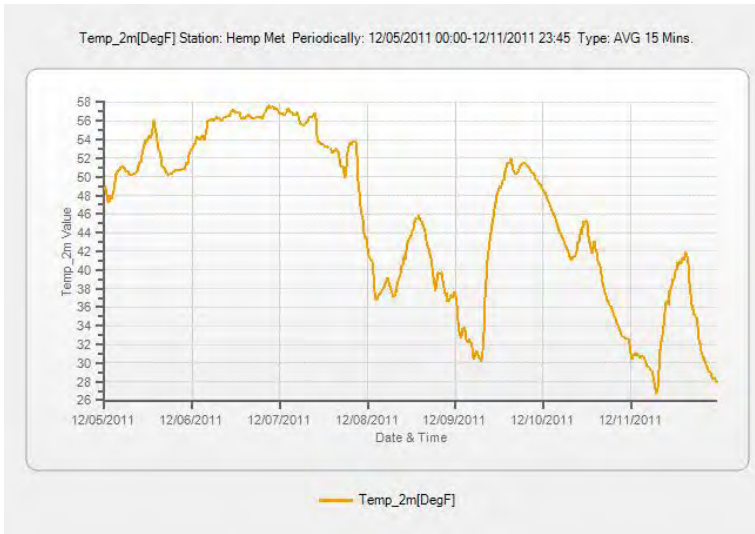
Wind Rose:



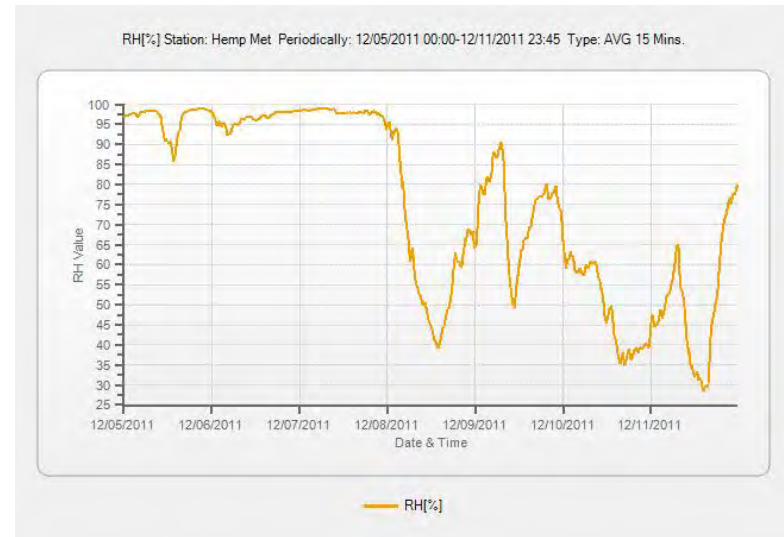
Wind Speed (mph):



Temperature (°F):



Relative Humidity (%):



Appendix E

Exceedance Log - PM₁₀ Monitoring

Table E-1: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. - Background Conc.	Site Condition	Comments
PM10	Tue 4/10/12	PAM-2	9:18AM	9:32AM	15	150	WNW 6.5 mph	WNW 6.4 mph	PAM-1	241.6	16.3	225.3	Action	Elevated PM10 concentrations were caused by Site activities (including the use of shovels, heavy equipment and power tools) in close proximity to PAM-2. Watering was implemented and concentrations remained below the Response and Action Limits for the remainder of the day.
PM10	Wed 4/11/12	PAM-4	1:37PM	1:44PM	8	150	NNW 6.9 mph	-	PAM-2	181.2	15.5	165.7	Action	Elevated PM10 concentrations were caused by excavation activities. Concentrations quickly dropped below the Response Limit once work was completed. Watering was implemented and concentrations remained below the Response and Action Limits for the remainder of the day.
PM10	Mon 4/16/12	PAM-1	1:07PM	1:08PM	2	150	SSW 6.7 mph	-	FAM-4	151.3	50.6	100.7	Response	Elevated PM10 concentrations were caused by truck traffic and excavation activities in the vicinity of PAM-1. Water was applied and concentrations quickly dropped below the Response Limit.
PM10	Sat 5/19/12	FAM-3	8:52AM	9:06AM	15	150	NE 4.9 mph	-	FAM-2	301.6	8.2	293.4	Action	Elevated PM10 concentrations were caused by off-site asphalt patch work and sealing in the POB parking lot adjacent to the fence line in the vicinity of FAM-3.
PM10	Thu 6/21/12	PAM-3	11:26AM 11:30AM	-- 11:36AM	8	150	N 6.9 mph	N 6.9 mph	FAM-1	156.1	50.4	105.7	Response	Elevated PM10 concentrations were caused by atmospheric conditions (high humidity) as well as excavation and truck load-outs during the day.
PM10	Tue. 7/3/12	PAM-4	1:52PM	1:57PM	6	150	WSW 5.7 mph	SSW 4.1 mph	PAM-2	156.9	24.0	132.9	Action	Elevated PM10 concentrations were caused by drill rig activity and pad movement. Watering was implemented and levels quickly dropped to normal levels
PM10	Fri.	FAM-1	1:55PM	2:11PM	17	150	NNW	NW	PAM-1	416.2	23.0	393.2	Action	Elevated PM10 concentrations were

Table E-1: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. - Background Conc.	Site Condition	Comments
	7/27/12						6.4 mph	5.4 mph						caused by a worker smoking near FAM-1.
PM10	Fri. 7/27/12	FAM-1	4:21PM 5:14PM	5:03PM 5:18PM	48	150	NW 3.5 mph	WSW 4.8 mph	FAM-3	270.5	9.8	260.7	Action	Elevated PM10 concentrations were caused by an unknown source. Work had concluded for the day.
PM10	Fri 9/21/12	PAM-1	10:05AM	10:42AM	38	150	E 5.3 mph	ESE 5.2 mph	PAM-3	986.0	1.5	984.5	Operational	Elevated PM10 concentrations were caused by landscaping activities (weed-whacking and leaf-blowing) off-Site in the vicinity of PAM-1.
PM10	Wed 2/6/13	PAM-3	10:47 AM 11:25 AM	10:58 AM 11:38 AM	26	150.0	NW 8.2 mph	WNW 9.1 mph	PAM-1	209.2	28.6	180.6	Action	Open excavation activity in area. Operator was directed to stop and let the dust clear.
PM10	Mon 2/11/13	FAM-2	2:48 PM	2:55 PM	8	150.0	W 2.6 mph	WSW 3.1 mph	PAM-1	178.5	21.3	157.2	Action	Excavation activity in area. Operations were stopped until concentrations returned below the Action Limit.
PM10	Mon 2/18/13	FAM-2	8:23 AM 8:30 AM	8:25 AM 8:32 AM	6	150.0	NW 10.6 mph	NW 11.9 mph	FAM-4	186.4	5.2	181.2	Action	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Action Limit and Bio Solve spraying was relocated.
PM10	Wed 2/20/13	FAM-2	8:24 AM	8:34 AM	11	150.0	WNW 12.9 mph	NW 10.5 mph	FAM-1	175.0	8.4	166.6	Action	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Action Limit and Bio Solve spraying was relocated.
PM10	Thu 2/21/13	FAM-2	8:13 AM	8:16 AM	4	150.0	NW 10.7 mph	WNW 14.9 mph	FAM-1	164.8	2.6	162.2	Action	Excavation activity and Bio Solve spraying in area. Operations were stopped until concentrations returned below the Action Limit and Bio Solve spraying was relocated.
PM10	Sat 2/23/13	FAM-2	4:54 AM 5:26 AM 5:46 AM 7:05 AM	5:06 AM 5:29 AM 6:01 AM 7:19 AM	66	150.0	ESE 5.9 mph	ESE 9.0 mph	FAM-3	214.0	1.1	212.9	Action	Elevated concentrations occurred during non-work hours (no Site activities). An off-site, unidentified source is suspected based on the wind direction at the time.

Table E-1: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. - Background Conc.	Site Condition	Comments
			7:51 AM 8:10 AM	8:00 AM 8:17 AM										
PM10	Tue 4/9/13	PAM-3	12:46PM 12:59PM	12:53PM 1:01PM	11	150	NW 13.3 mph	WNW 13.4 mph	PAM-1	222.9	19.1	203.8	Action	Elevated concentrations were caused by dust from load-out. Surrounding area was watered and concentrations were reduced.
PM10	Wed 4/10/13	FAM-3	8:25AM	8:39AM	15	150	ENE 2.3 mph	NNE 4.0 mph	FAM-2	275.9	12.3	263.6	Action	Elevated concentrations were caused by off-site concrete breaking in area.
PM10	Tue 5/7/13	PAM-2	3:20 PM	3:40 PM	21	150	SSE 9.0 mph	SE 7.8 mph	FAM-4	221.8	6.1	215.7	Action	Elevated concentrations were caused by equipment movement and load out in the vicinity. Watering was performed and concentrations were reduced to operational levels.
PM10	Fri 5/17/13	PAM-4	8:35 AM	8:48 AM	14	150	N 5.2mph	NNW 5.5mph	FAM-1	219.0	3.8	215.2	Action	Elevated PM10 concentrations were caused by excavation activities (rolling and compressing surface) along the south fence line. Work was stopped and watering was implemented until concentrations were reduced to Operational Levels.
PM10	Mon 6/17/13	PAM-1	10:37AM	10:46AM	10	150	W 5.6 mph	WNW 5.6 mph	PAM-3	191.1	26.5	164.6	Action	Elevated concentrations were caused by backfilling activities coupled with equipment traffic in the Oswego area. Watering was implemented and concentrations dropped.
PM10	Wed 6/26/13	PAM-4	9:10AM	9:19AM	10	150	NW 6.4 mph	NW 6.4 mph	FAM-4	167.0	17.5	149.5	Response	Elevated concentrations were caused by equipment traffic in the area of PAM-4. Water truck dispensed water and concentrations were reduced to operational levels.
PM10	Thu 6/27/13	FAM-1	1:34AM	1:46AM	13	150	Var	Var	FAM-4	193.2	53.8	139.4	Response	No Site activity, cause for elevated concentrations unknown.
PM10	Thu 7/4/13	FAM-1	9:47PM	10:48PM	62	150	SSW 4.8 mph	SSW 4.2 mph	FAM-3	189.5	44.8	144.7	Response	No Site activity, cause for elevated concentrations unknown.

Table E-1: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. - Background Conc.	Site Condition	Comments
PM10	Fri 7/5/13	FAM-1	12:37AM	12:52AM	16	150	SW 2.6 mph	SW 2.7 mph	FAM-3	201.0	17.6	183.4	Action	No Site activity, cause for elevated concentrations unknown.
PM10	Tue 8/13/13	PAM-1	7:42AM	7:59AM	18	150	S 3.0 mph	S 3.3 mph	FAM-3	226.7	13.7	213.0	Action	Elevated Concentrations caused by excavators in area Excavators moved and concentrations returned to operational levels.
PM10	Tue 8/20/13	FAM-1	12:43AM	6:30AM	348	150	W 3.6 mph	Var.	FAM-3	373.2	91.2	282.0	Action	Elevated concentrations caused by atmospheric conditions (high relative humidity). No Site activities were ongoing during this overnight period.
PM10	Mon 10/7/13	PAM-3	2:39PM	2:51PM	13	150	SSW 15.1mph	SSW 18.1mph	FAM-2	173.4	10.6	162.8	Action	Elevated concentrations were caused by watering that was implemented in the NE area and the wind caused mist from the water truck to blow into PAM unit.
PM10	Sat 10/26/13	FAM-3	2:08PM	2:16PM	9	150	W 10.0 mph	WSW 11.7 mph	FAM-4	197.9	3.8	194.1	Action	Elevated concentrations were caused by an unknown offsite source.
PM10	Mon 10/28/13	FAM-3	1:14PM 4:26PM 6:18PM	1:38PM 4:31PM 6:30PM	44	150	W 8.5 mph	VAR	FAM-4	263.1	5.0	258.1	Action	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near FAM unit.
PM10	Mon 10/28/13	PAM-1	1:45PM	-	1	150	W 8.6 mph	W 8.6 mph	FAM-4	150.4	4.9	145.5	Response	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near PAM unit.
PM10	Tues 10/29/13	FAM-3	1:42PM 3:11PM 4:00PM	1:54PM 3:24PM 4:13PM	41	150	NNE 4.5 mph	NNE 4.1 mph	PAM-1	206.2	14.7	191.5	Action	Elevated concentrations were caused by FORD employees' excavation activity at the offsite FORD property located near FAM unit.

Table E-1: Concentrations Above the Action Limits

Parameter	Date	Station	Start Time	End Time	Duration (Mins)	Action Limit	Wind Conditions Start	Wind Conditions End	Location of Background Conc.	Max Elevated Conc.	Background Conc.	Max Conc. - Background Conc.	Site Condition	Comments
PM10	Mon 11/11/13	PAM-4	1:47PM 2:49PM	2:01PM 3:01PM	28	150	WSW 7.4mph	WSW 8.6mph	FAM-4	249.0	2.5	246.5	Action	Elevated concentrations were caused by heavy traffic and shallow excavation in POB parking lot near PAM-4 unit.
PM10	Sat 11/23/13	FAM-3	4:14AM	4:24AM	11	150	NW 10.8mph	NNW 9.3mph	FAM-4	175.4	2.3	173.1	Action	Elevated concentrations occurred over the weekend when routine Site activities were not being conducted. The source is unknown.
PM10	Fri 12/20/13	PAM-4	11:27AM	11:40AM	14	150	SW 9.3 mph	WSW 8.9 mph	FAM-4	198.2	9.4	188.8	Action	The elevated concentrations were caused by paving in the POB Lot.
PM10	Sat 12/21/13	PAM-4	12:11PM 1:10PM	12:25PM 1:22PM	28	150	S 5.5 mph	S 6.5 mph	FAM-1	252.9	4.6	248.3	Action	The elevated concentrations were caused by a combination of traffic and the use of a leaf blower in the POB Lot.

Notes:

FAM = Fixed Air Monitoring Station

PAM = Portable Air Monitoring Station

PM10 = Respirable Particulate Matter ($\mu\text{g}/\text{m}^3$)

VAR = Variable winds (wind direction changed more than 180 degrees between consecutive measurements and/or wind speeds less than 3.0 mph)

NA = Not Applicable

ND = No Data

Background concentrations are determined using the current upwind concentrations unless winds are determined to be variable.

Appendix F

Summary of Meteorological Results

Figure F-1: Wind Rose (12/2/11 – 12/5/11) (Baseline)

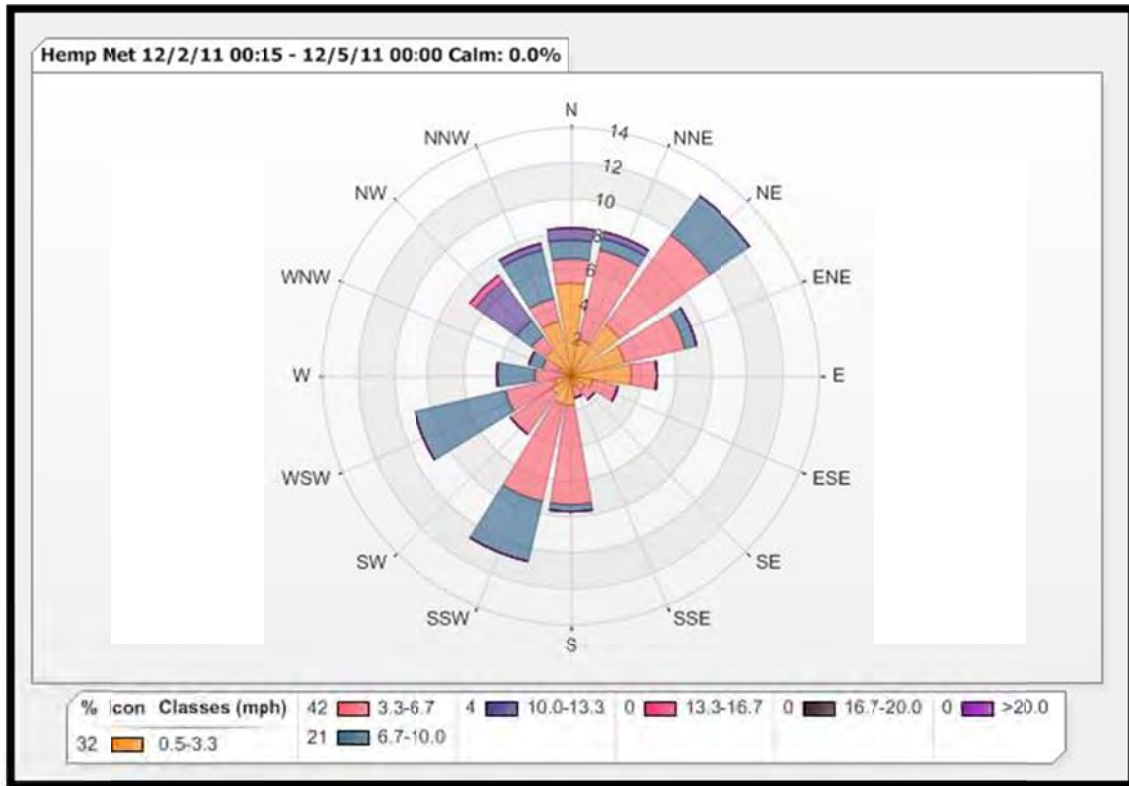


Figure F-2: Wind Rose (12/6/11 – 12/31/12) (Operational Phase)

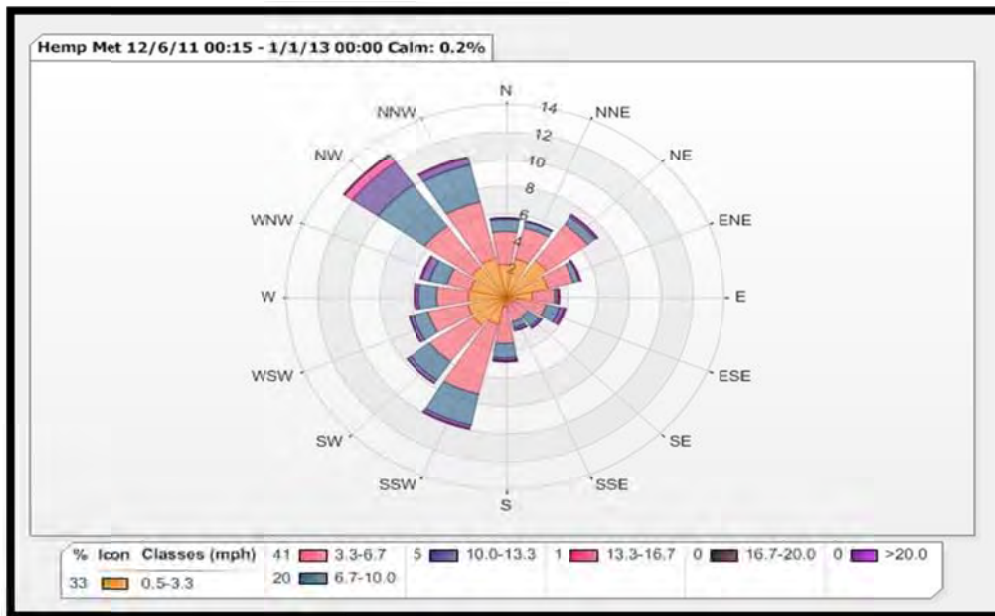


Figure F-3: Wind Rose (1/1/13 – 12/22/13) (Operational Phase)

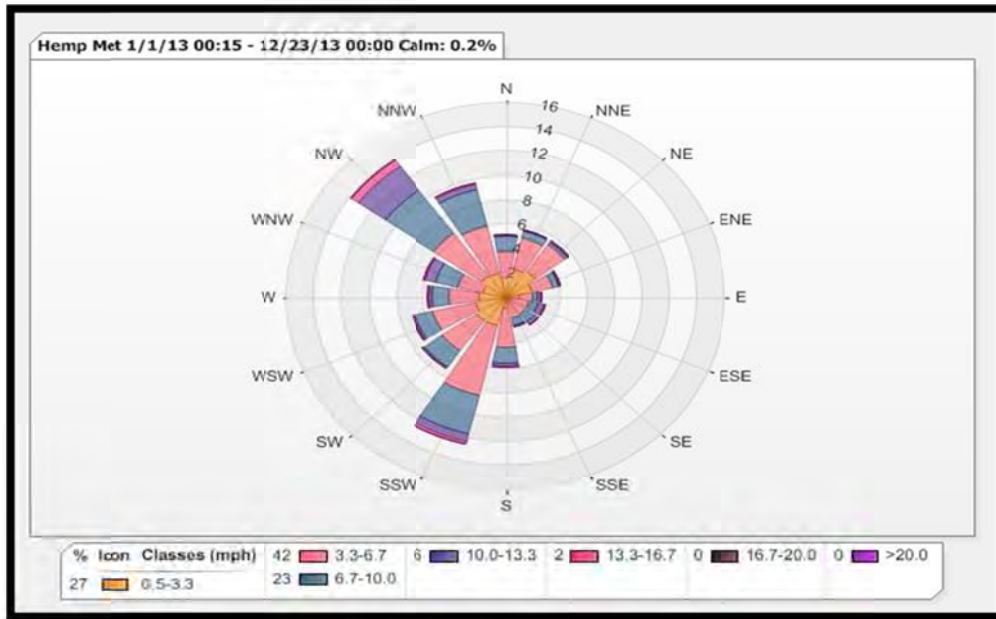


Figure F-4: Temperature (12/2 – 12/5/11) (Baseline)

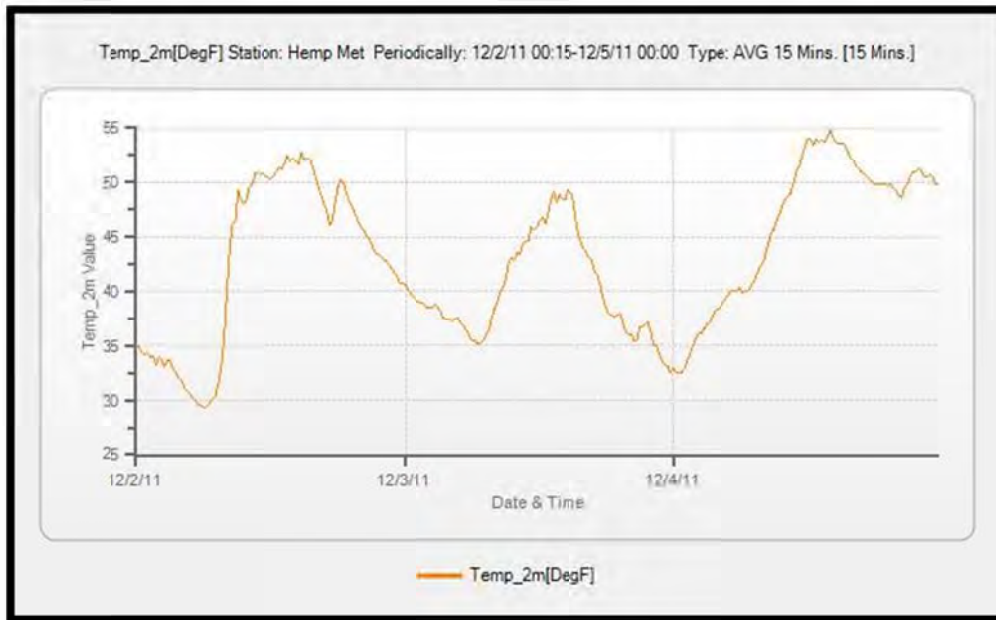


Figure F-5: Temperature (12/6/11 – 12/31/12) (Operational Phase)

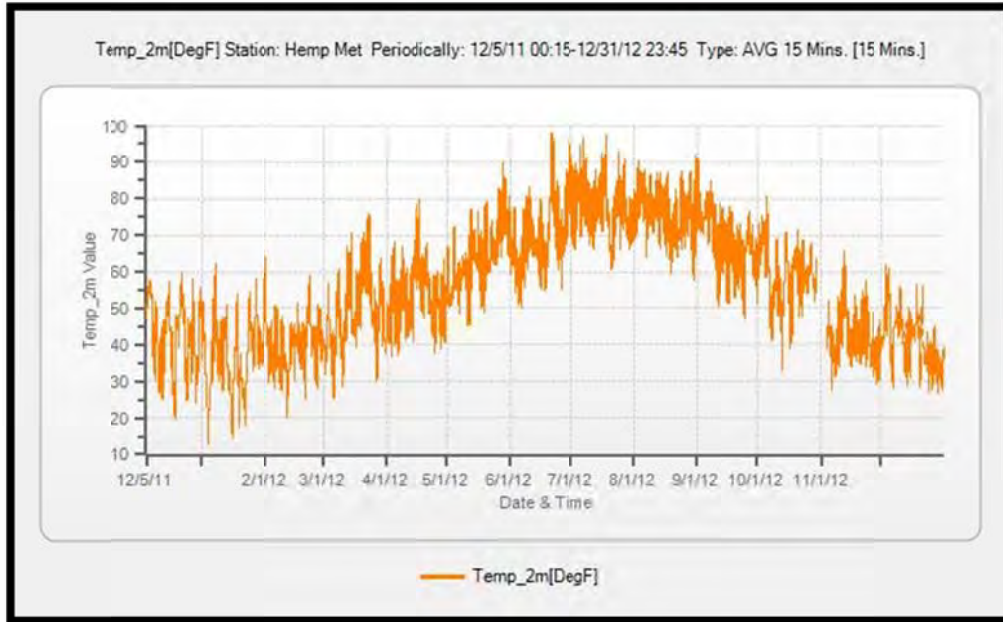


Figure F-6: Temperature (1/1/13 – 12/22/13) (Operational Phase)

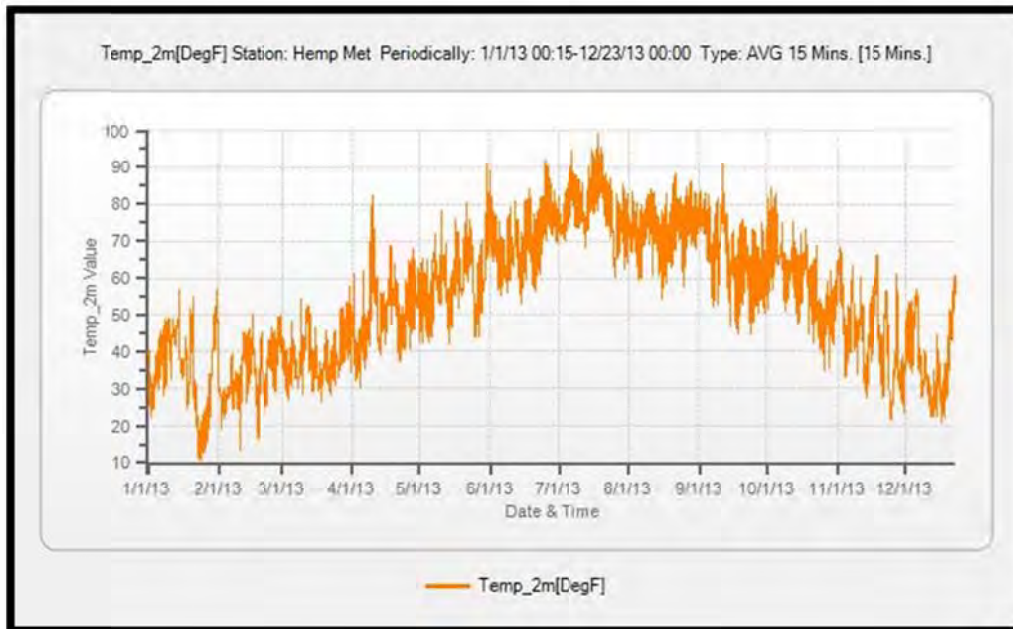


Figure F-7: RH (12/2 – 12/5/11) (Baseline)

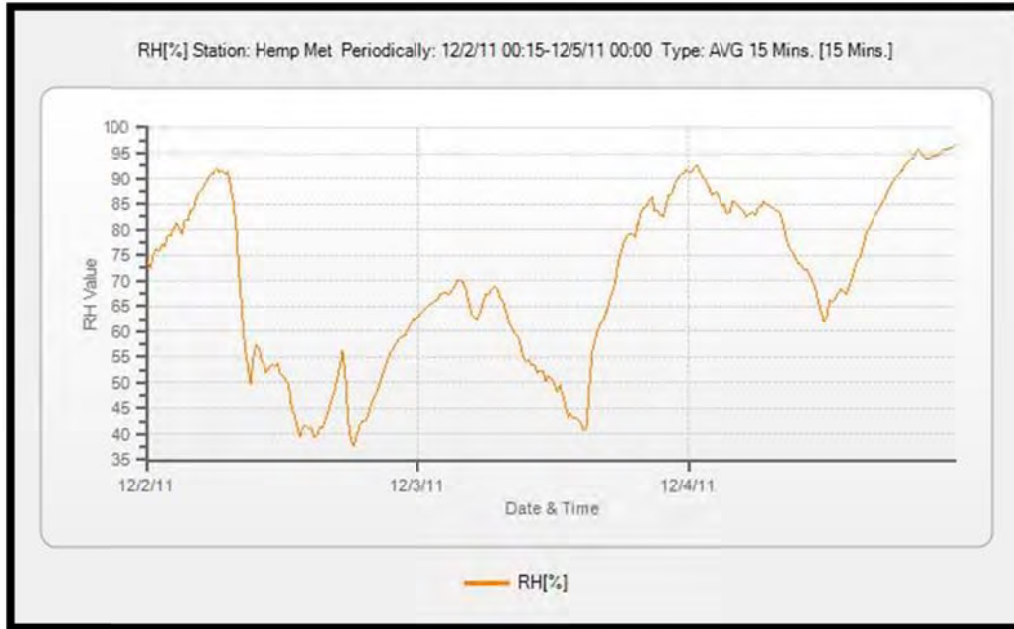


Figure F-8: RH (12/6/11 – 12/31/12) (Operational Phase)

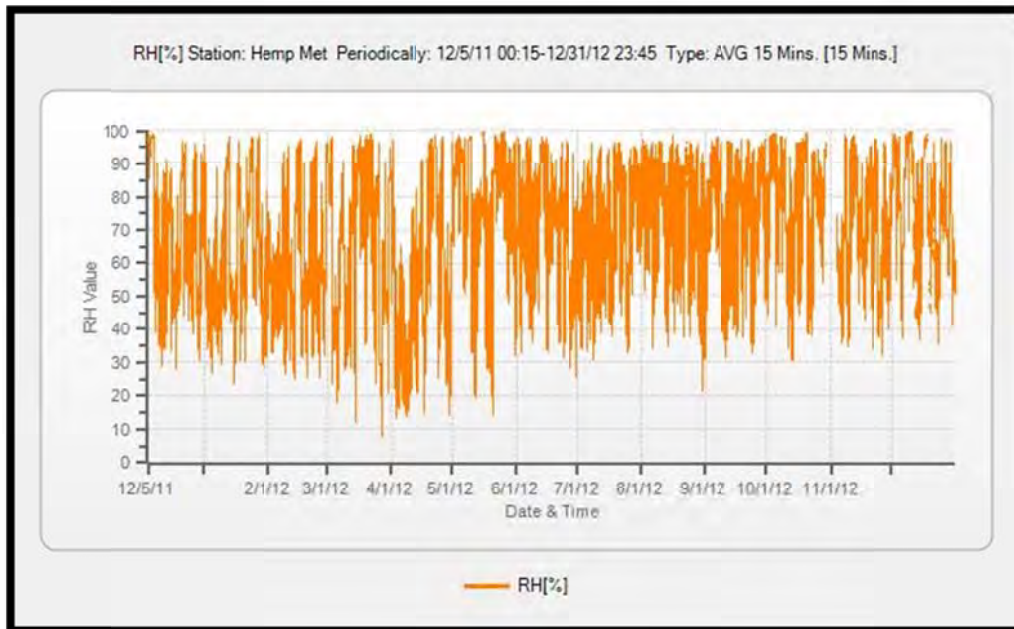
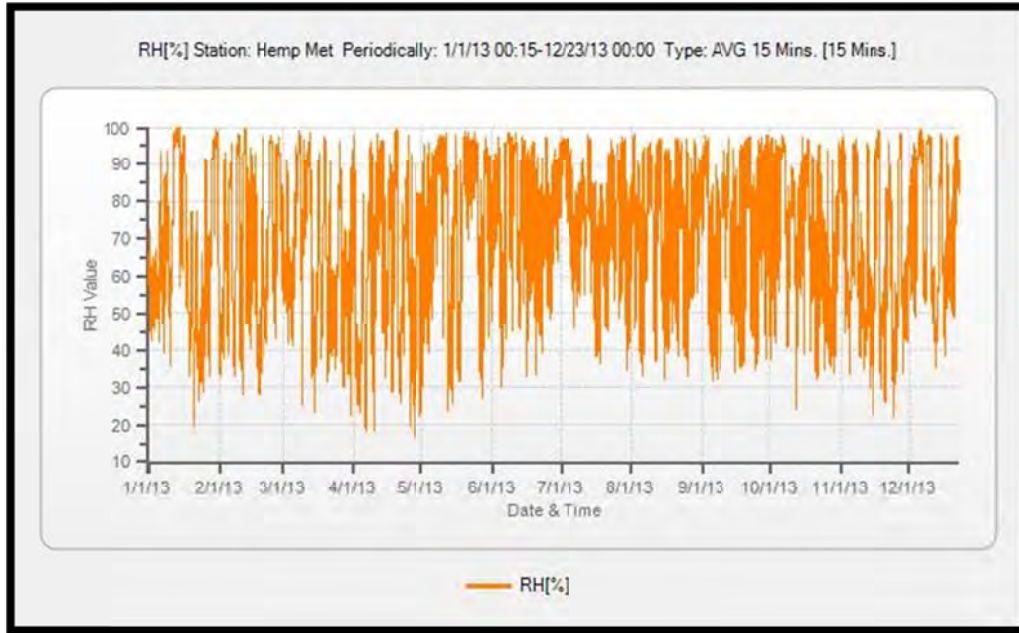


Figure F-9: RH (1/1/13 – 12/22/13) (Operational Phase)



Appendix G

Integrated VOC Results

Table G-1 Summary of Constituent-Specific Results – Fixed Monitoring Location 1 (ppb)

Date	MGP Constituents of Interest					
	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Naphthalene
July 2012	0.13	0.56	0.09	0.18	0.09	0.08
August 2012	0.13	0.48	0.09	0.18	0.09	0.16
September 2012	0.16	0.63	0.09	0.18	0.09	0.24
October 2012	0.21	0.61	0.09	0.18	0.09	0.13
November 2012	0.28	0.50	0.09	0.18	0.09	0.08
December 2012	0.48	1.18	0.20	0.50	0.20	0.25
January 2013	0.24	0.42	0.09	0.21	0.09	0.28
February 2013	0.13	0.25	0.09	0.18	0.09	0.18
March 2013	0.29	0.52	0.09	0.18	0.09	0.13
April 2013	0.13	0.32	0.09	0.18	0.09	0.08
May 2013	0.13	0.59	0.09	0.23	0.09	0.19
June 2013	0.13	0.28	0.09	0.18	0.09	0.08
July 2013	0.13	0.31	0.09	0.18	0.09	0.10
August 2013	0.19	0.81	0.19	0.41	0.20	0.37
September 2013	0.20	0.72	0.09	0.18	0.09	0.08
October 2013	0.13	0.52	0.09	0.18	0.09	0.08
November 2013	0.22	0.87	0.20	1.42	0.42	0.08
December 2013	0.21	0.58	0.09	0.18	0.09	0.08
Average	0.19	0.56	0.11	0.29	0.12	0.15

Table G-2 Summary of Constituent-Specific Results – Fixed Monitoring Location 2 (ppb)

Date	MGP Constituents of Interest					
	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Naphthalene
July 2012	0.25	0.52	0.09	0.18	0.09	0.21
August 2012	0.13	0.50	0.09	0.18	0.09	0.16
September 2012	---	---	---	---	---	---
October 2012	---	---	---	---	---	---
November 2012	0.82	1.16	0.67	0.87	0.34	0.80
December 2012	0.36	0.59	0.19	0.32	0.14	0.16
January 2013	0.26	0.47	0.09	0.18	0.09	0.44
February 2013	1.42	1.07	0.27	0.53	0.21	0.50
March 2013	---	---	---	---	---	---
April 2013	0.13	0.50	0.09	0.18	0.09	1.05
May 2013	0.20	2.26	0.17	0.33	0.14	0.31
June 2013	0.13	0.77	0.09	0.18	0.09	0.08
July 2013	---	---	---	---	---	---
August 2013	0.13	0.23	0.09	0.18	0.09	0.15
September 2013	0.13	3.03	0.26	0.69	0.25	0.21
October 2013	0.20	0.83	0.09	0.32	0.14	0.19
November 2013	0.38	1.37	0.22	0.72	0.26	0.08
December 2013	0.13	0.26	0.09	0.18	0.09	0.08
Average	0.33	0.97	0.18	0.36	0.15	0.31

Notes:

--- Samples not collected during this period

Table G-3 Summary of Constituent-Specific Results – Fixed Monitoring Location 3 (ppb)

Date	MGP Constituents of Interest					
	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Naphthalene
July 2012	0.1	0.7	0.1	0.2	0.1	0.1
August 2012	---	---	---	---	---	---
September 2012	0.4	2.0	0.4	1.0	0.4	0.8
October 2012	0.4	2.8	0.3	0.5	0.2	0.3
November 2012	0.3	0.7	0.2	0.4	0.1	0.3
December 2012	---	---	---	---	---	---
January 2013	0.1	0.2	0.1	0.2	0.1	0.2
February 2013	0.2	0.5	0.1	0.2	0.1	0.2
March 2013	0.1	0.2	0.1	0.2	0.1	0.1
April 2013	0.2	0.9	0.2	0.4	0.1	0.2
May 2013	0.3	1.8	0.4	0.8	0.3	0.6
June 2013	0.1	0.6	0.1	0.2	0.1	0.1
July 2013	0.1	0.8	0.2	0.3	0.1	0.2
August 2013	0.7	3.4	0.6	1.9	0.8	1.1
September 2013	0.1	0.3	0.3	0.9	0.3	0.2
October 2013	---	---	---	---	---	---
November 2013	0.1	1.2	0.1	0.2	0.1	0.1
December 2013	0.4	1.5	0.2	0.5	0.2	0.1
Average	0.2	1.3	0.2	0.5	0.2	0.3

Notes:

--- Samples not collected during this period

Table G-4 Summary of Constituent-Specific Results – Fixed Monitoring Location 4 ($\mu\text{g}/\text{m}^3$)

Date	MGP Constituents of Interest					
	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Naphthalene
July 2012	0.13	0.62	0.09	0.18	0.09	0.38
August 2012	---	---	---	---	---	---
September 2012	---	---	---	---	---	---
October 2012	---	---	---	---	---	---
November 2012	---	---	---	---	---	---
December 2012	---	---	---	---	---	---
January 2013	---	---	---	---	---	---
February 2013	0.38	0.39	0.09	0.18	0.09	0.08
March 2013	---	---	---	---	---	---
April 2013	---	---	---	---	---	---
May 2013	0.35	1.64	0.30	0.75	0.30	0.58
June 2013	0.13	0.25	0.09	0.18	0.09	0.08
July 2013	0.13	0.41	0.09	0.18	0.09	0.08
August 2013	---	---	---	---	---	---
September 2013	0.13	0.32	0.09	0.18	0.09	0.08
October 2013	0.13	0.58	0.09	0.18	0.09	0.08
November 2013	---	---	---	---	---	---
December 2013	0.13	0.32	0.09	0.18	0.09	0.08
Average	0.23	0.64	0.16	0.30	0.14	0.23

Notes:

--- Samples not collected during this period

Appendix H

Data QC Documentation