



## Memo

Date: October 13, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 12, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Wednesday October 12, 2016 site work. Site work on this day included completion of the drilling and installation of the first of three new bedrock monitoring wells located at the north end of the BCP site and the start of drilling operations for the second bedrock well location at the south end of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Wednesday October 12, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities this week. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Wednesday 10/12/16 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the dust or VOC

concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/12/2016 CAMP monitoring event.

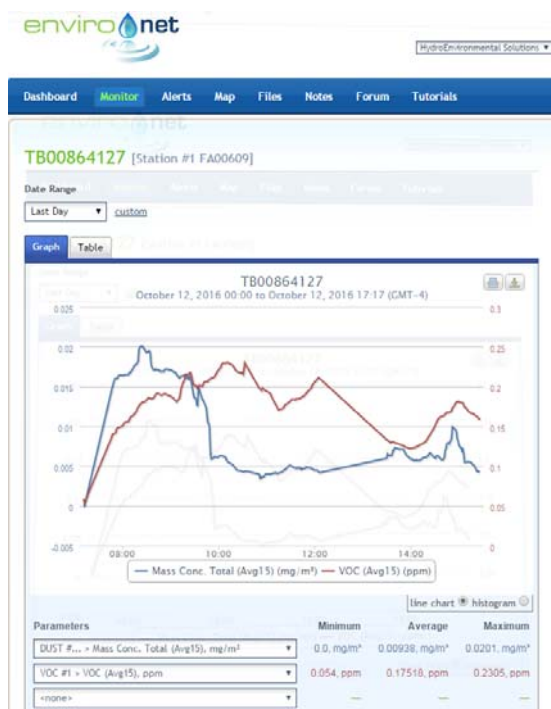
**Date: 10/12/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Hall Ave, (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.05	0.05	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.02	0.23	0.60	0.16	0.17
<b>Overall Ave.</b>	0.01	0.18	0.35	0.03	0.07
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0031	0.0000	0.0000	0.0041	0.0017
<b>Max. 15-min. Ave.</b>	0.0211	0.0201	0.0197	0.0182	0.0162
<b>Overall Ave.</b>	0.0098	0.0094	0.0055	0.0101	0.0070

## Environet CAMP Data Summary Graphs



10/12/16 – Station #3 (Upwind)



10/12/16 – Station #1 (Downwind)

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10/12/16 – Station #4 (Downwind)



10/12/16 – Station #2 (Near Buildings)

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10/12/16 – Station #5 (Morgan Street)



## Memo

Date: October 13, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 13, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Thursday October 13, 2016 site work. Site work on this day included continuation of the drilling operations at the second bedrock monitoring well location at the south end of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Thursday October 13, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities this week. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Thursday 10/13/16 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the dust or VOC

concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/13/2016 CAMP monitoring event.

**Date: 10/13/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.05	0.09	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.16	0.30	0.58	0.29	0.15
<b>Overall Ave.</b>	0.10	0.21	0.40	0.07	0.04
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0085	0.0107	0.0047	0.0107	0.0105
<b>Max. 15-min. Ave.</b>	0.0387	0.0449	0.0423	0.0424	0.0421
<b>Overall Ave.</b>	0.0195	0.0222	0.0183	0.0215	0.0205

## Environet CAMP Data Summary Graphs



10/13/16 – Station #3 (Upwind)



10/13/16 – Station #1 (Downwind)



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Summary of CAMP Results (10/13/16)  
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10/13/16 – Station #4 (Downwind)



10/13/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
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October 13, 2016

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10/13/16 – Station #5 (Morgan Street)



## Memo

Date: October 17, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 14, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Friday October 14, 2016 site work. Site work on this day included continuation of the drilling operations at the second bedrock monitoring well location at the south end of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Friday October 14, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Friday 10/14/16 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the dust or VOC

concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/14/2016 CAMP monitoring event.

**Date: 10/14/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.06	0.16	0.33	0.02	0.00
<b>Max. 15-min. Ave.</b>	0.15	0.24	0.45	0.17	0.03
<b>Overall Ave.</b>	0.11	0.21	0.39	0.08	0.00
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0000	0.0000	0.0000 *	0.0008	0.0001
<b>Max. 15-min. Ave.</b>	0.0102	0.0094	0.0047	0.0064	0.0470
<b>Overall Ave.</b>	0.0026	0.0029	0.0008	0.0021	0.0022

\* Dust meter at Station #4 dropped to just below 0.0000 mg/m<sup>3</sup> at the end of the sampling event.

## EnviroNet CAMP Data Summary Graphs



10/14/16 – Station #3 (Upwind)



10/14/16 – Station #1 (Downwind)



10/14/16 – Station #4 (Downwind)



10/14/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/14/16)  
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10/14/16 – Station #5 (Morgan Street)



## Memo

Date: October 17, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 17, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Monday October 17, 2016 site work. Site work on this day included the start of drilling operations for the third bedrock well location at the south-center section of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Monday October 17, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

NYSDEC staff was on-site on Monday 10/17/16 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the dust or VOC

concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/17/2016 CAMP monitoring event.

**Date: 10/17/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.00	0.00	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.23	0.47	0.49	0.05	0.14
<b>Overall Ave.</b>	0.12	0.26	0.34	0.02	0.02
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0231	0.0257	0.0000	0.0251	0.0211
<b>Max. 15-min. Ave.</b>	0.0462	0.0596	0.0574	0.0527	0.0487
<b>Overall Ave.</b>	0.0317	0.0368	0.0313	0.0345	0.0340



## Environet CAMP Data Summary Graphs



10/17/16 – Station #3 (Upwind)



10/17/16 – Station #1 (Downwind)



10/17/16 – Station #4 (Downwind)



10/17/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/17/16)  
October 17, 2016

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10/17/16 – Station #5 (Morgan Street)



## Memo

Date: October 19, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 18, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Tuesday October 18, 2016 site work. Site work on this day included the start of drilling operations for the third bedrock well location at the south-center section of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Tuesday October 18, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

NYSDEC staff was on-site on Tuesday, October 18, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the

dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/18/2016 CAMP monitoring event.

**Date: 10/18/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.05	0.01	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.41	0.27	0.08	0.29	2.86 *
<b>Overall Ave.</b>	0.21	0.38	0.05	0.15	0.08
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0000	0.0367	0.0000	0.0322	0.0291
<b>Max. 15-min. Ave.</b>	0.0855	0.0931	0.0759	0.0840	0.1126
<b>Overall Ave.</b>	0.0551	0.0633	0.0504	0.0557	0.0627

\* At 1206 there was a PID reading of 19.6 ppm for VOCs at the off-site location (Station 5) which caused the 15-min average of 2.86 ppm for this interval at this location. The 15-minute average was below the action limit for the CAMP program. HES staff was not at this location during this interval. The CAMP stations on site were at background concentrations for VOCs and dusts during this interval. It is possible this reading was caused by activities at one of the businesses along Marbledale Road below the monitor station location.

## Environet CAMP Data Summary Graphs



10/18/16 – Station #3 (Upwind)



10/18/16 – Station #1 (Downwind)



10/18/16 – Station #4 (Downwind)



10/18/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/18/16)  
October 19, 2016

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10/17/16 – Station #5 (Morgan Street)



## Memo

Date: October 21, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 19, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Wednesday October 19, 2016 site work. Site work on this day included the continuation of drilling operations for the third bedrock well location at the south-center section of the BCP site, and coring activities at the bedrock well location at the south end of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Wednesday October 19, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Wednesday, October 19, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the

dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/19/2016 CAMP monitoring event.

**Date: 10/19/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.14	0.07	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.21	0.30	0.54	0.23	0.26
<b>Overall Ave.</b>	0.16	0.26	0.41	0.08	0.06
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0110	0.0117	0.0046	0.0116	0.0084
<b>Max. 15-min. Ave.</b>	0.0400	0.0461	0.0453	0.0420	0.0374
<b>Overall Ave.</b>	0.0239	0.0264	0.0206	0.0251	0.0225



## Environet CAMP Data Summary Graphs



10/19/16 – Station #3 (Upwind)



10/19/16 – Station #1 (Downwind)



10/19/16 – Station #4 (Downwind)



10/19/16 – Station #2 (Near Buildings)



10/19/16 – Station #5 (Morgan Street)



## Memo

Date: October 21, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 20, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Thursday October 20, 2016 site work. Site work on this day included the continuation of drilling operations for the bedrock well location at the south end of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Thursday October 20, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Thursday, October 20, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the

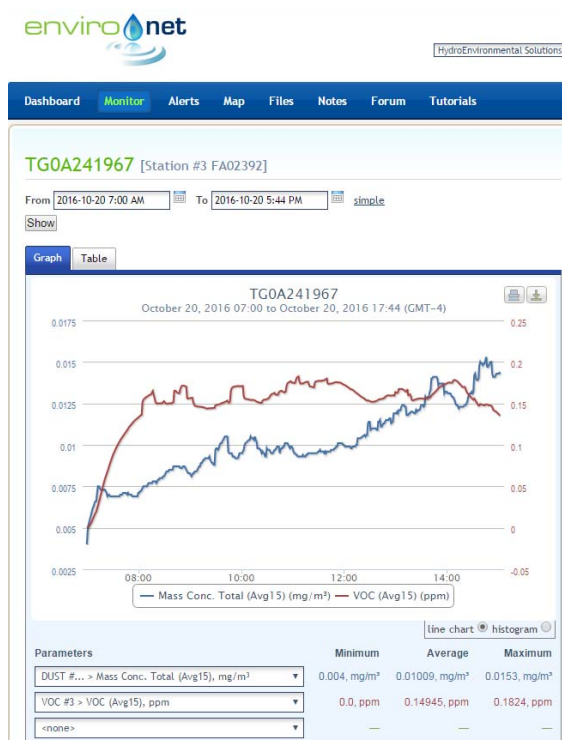
dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/20/2016 CAMP monitoring event.

**Date: 10/20/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.07	0.15	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.18	0.29	0.46	0.04	0.02
<b>Overall Ave.</b>	0.15	0.23	0.40	0.01	0.00
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0040	0.0103	0.0062	0.0000	0.0008
<b>Max. 15-min. Ave.</b>	0.0153	0.0694	0.0142	0.0199	0.0161
<b>Overall Ave.</b>	0.0101	0.0258	0.0084	0.0107	0.0112

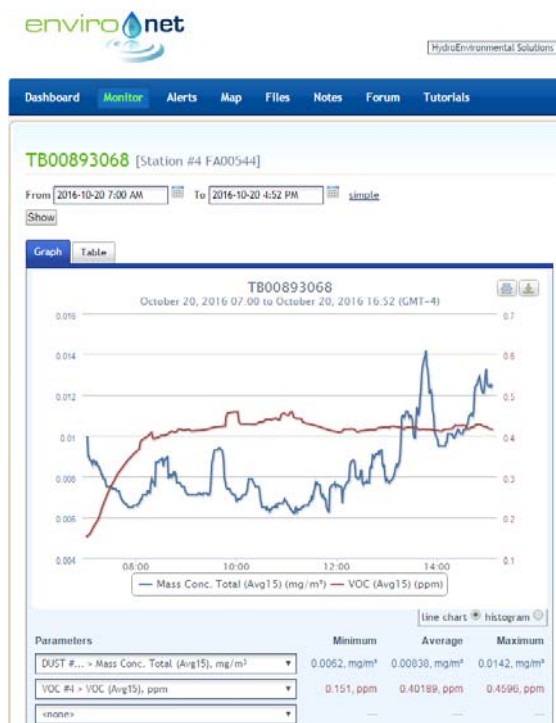
## Environet CAMP Data Summary Graphs



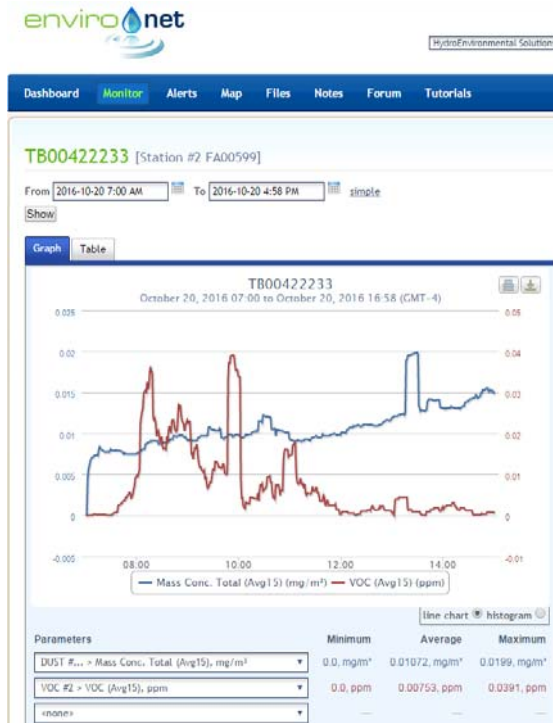
10/20/16 – Station #3 (Upwind)



10/20/16 – Station #1 (Downwind)



10/20/16 – Station #4 (Downwind)



10/20/16 – Station #2 (Near Buildings)



10/20/16 – Station #5 (Morgan Street)



## Memo

Date: October 24, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 21, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Friday October 21, 2016 site work. Site work on this day included the continuation of drilling operations for the bedrock well location in the middle section of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellevue Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Friday October 21, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Friday, October 21, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the

dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

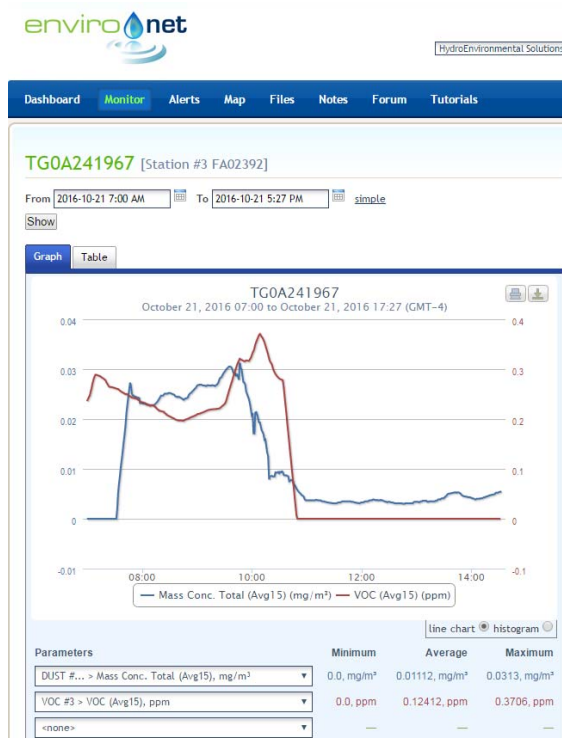
Below is a summary table for the 10/21/2016 CAMP monitoring event.

**Date: 10/21/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.20	0.25	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.37	0.29	0.63	0.15	0.00
<b>Overall Ave.</b>	0.12	0.27	0.54	0.05	0.00
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0000	0.0045	0.0000	0.0003	0.0003
<b>Max. 15-min. Ave.</b>	0.0313	0.0378	0.0390	0.0297	0.0297
<b>Overall Ave.</b>	0.0111	0.0169	0.0134	0.0126	0.0126



## Environet CAMP Data Summary Graphs



10/21/16 – Station #3 (Upwind)



10/21/16 – Station #1 (Downwind)



10/21/16 – Station #4 (Downwind)



10/21/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/21/16)  
October 24, 2016

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10/21/16 – Station #5 (Morgan Street)



## Memo

Date: October 25, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 24, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Monday October 24, 2016 site work. Site work on this day included the continuation of drilling activities (rock coring) for the bedrock well location in the middle section of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Monday October 24, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Monday, October 24, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the

dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/24/2016 CAMP monitoring event.

**Date: 10/24/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3) *</b>	<b>Downwind (Sta. 1) *</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5) *</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.19	0.20	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.00	0.35	0.38	0.06	0.04
<b>Overall Ave.</b>	0.00	0.24	0.27	0.02	0.01
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0058	0.0045	0.0000	0.0000	0.0009
<b>Max. 15-min. Ave.</b>	0.0176	0.0183	0.0173	0.0459	0.0371
<b>Overall Ave.</b>	0.0103	0.0074	0.0063	0.0115	0.0133

\* It should be noted that several of the CAMP meters were not functioning properly at the start of the monitoring event. The likely issue was moisture in the sample lines due to the rain last Friday and high humidity conditions today. The meter rental company was contacted and they brought replacement meters to the site at 1030. Station #5 (off-site location) was brought down to the site to replace downwind Station #1 from 0900 to 1100. Therefore the data from Station #5 between 0900 and 1100 were actually downwind readings on site. The replacement meters arrived at 1030 and were put in place by 1100. The upwind station (Station #3) and one of the downwind stations (Station #1) were not able to collect data until the replacement meters arrived at 1030. Dust and VOC concentration during this interval and throughout the monitoring event were very low. The meter rental company verified that the issue with the meters that were malfunctioning was water and/or moisture inside the meters.

## Environet CAMP Data Summary Graphs



10/24/16 – Station #3 (Upwind)



10/24/16 – Station #1 (Downwind)



10/24/16 – Station #4 (Downwind)



10/24/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/24/16)  
October 25, 2016

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10/24/16 – Station #5 (Morgan Street)



## Memo

Date: October 25, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 25, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Tuesday October 25, 2016 site work. Site work on this day included the continuation of drilling activities (well installation) for the bedrock well locations in the middle section and south end of the BCP site.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Tuesday October 25, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

NYSDEC staff was on-site on Tuesday, October 25, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the

dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/25/2016 CAMP monitoring event.

**Date: 10/25/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.07	0.11	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.00	0.24	0.34	0.16	0.00
<b>Overall Ave.</b>	0.00	0.21	0.30	0.09	0.00
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0040	0.0006	0.0000	0.0031	0.0027
<b>Max. 15-min. Ave.</b>	0.0091	0.0089	0.0105	0.0145	0.0080
<b>Overall Ave.</b>	0.0071	0.0052	0.0038	0.0066	0.0043



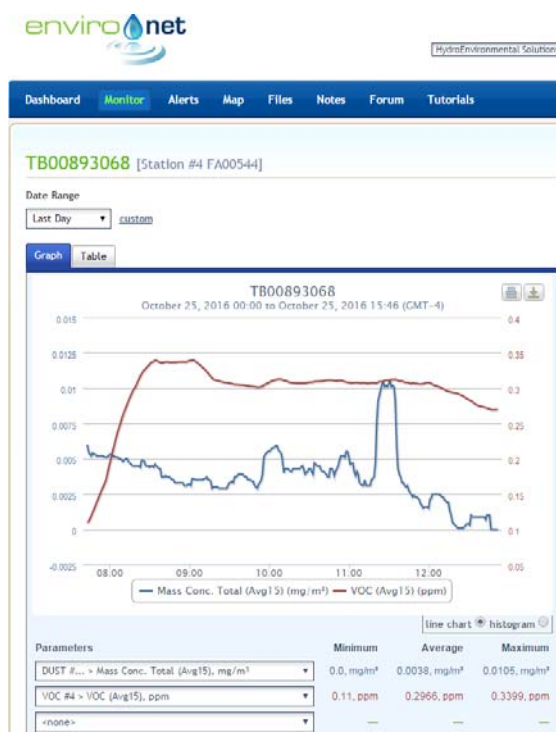
## Environet CAMP Data Summary Graphs



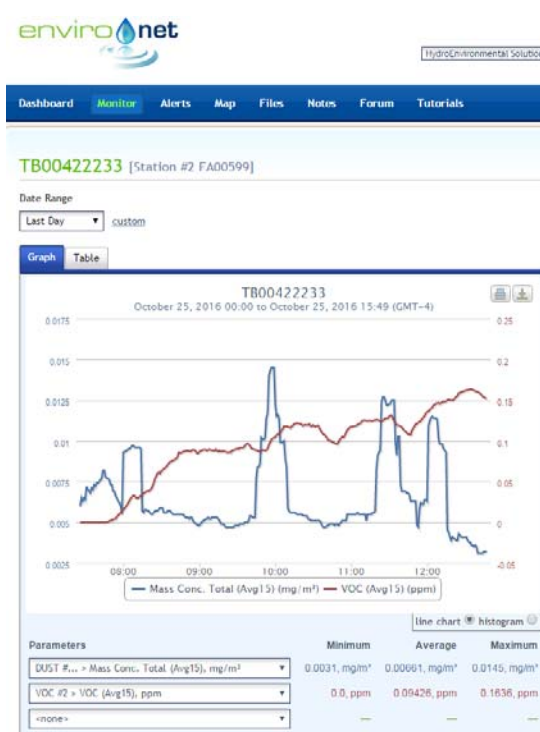
10/25/16 – Station #3 (Upwind)



10/25/16 – Station #1 (Downwind)



10/25/16 – Station #4 (Downwind)



10/25/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/25/16)  
October 25, 2016

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10/25/16 – Station #5 (Morgan Street)



# Memo

Date: October 28, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 26, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Wednesday October 26, 2016 site work. Site work on this day included probe installation of the vacuum monitoring points associated with the soil vapor extraction (SVE) system pilot test. Work was conducted with a direct-push technology (DPT) rig.

It should be noted that NYSDEC's subcontractor has begun "off-site" work along the east side of Marbledale Road across from the quarry area. The subcontractor is conducting CAMP monitoring (VOCs and Dust). The CAMP data collected by NYSDEC's subcontractor is not included in this summary.

## DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Wednesday October 26, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

NYSDEC staff was on-site on Wednesday, October 26, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities. None of the dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

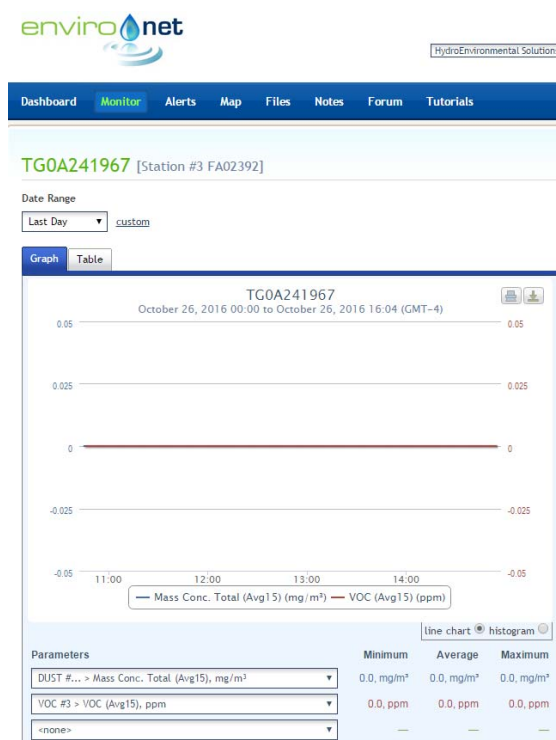
Below is a summary table for the 10/26/2016 CAMP monitoring event.

**Date: 10/26/16**

<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.06	0.05	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.00	0.19	0.28	0.15	0.00
<b>Overall Ave.</b>	0.00	0.18	0.22	0.11	0.00
<b>Dust (mg/m<sup>3</sup>)</b>					
<b>Min. 15-min. Ave.</b>	0.0000	0.0021	0.0000 *	0.0001	0.0003
<b>Max. 15-min. Ave.</b>	0.0000	0.0076	0.0131	0.0060	0.0040
<b>Overall Ave.</b>	0.0000	0.0043	0.0000 *	0.0020	0.0013

\* Station #4 dust monitor was reading slightly below zero for much of the day.

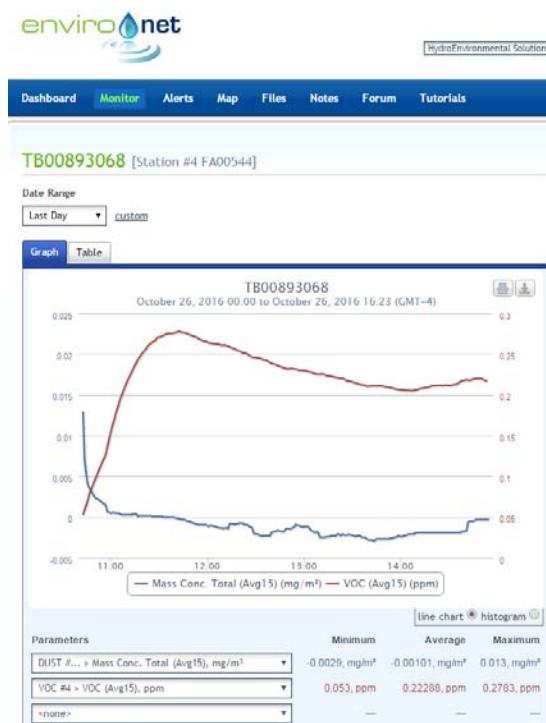
## Environet CAMP Data Summary Graphs



10/26/16 – Station #3 (Upwind)



10/26/16 – Station #1 (Downwind)



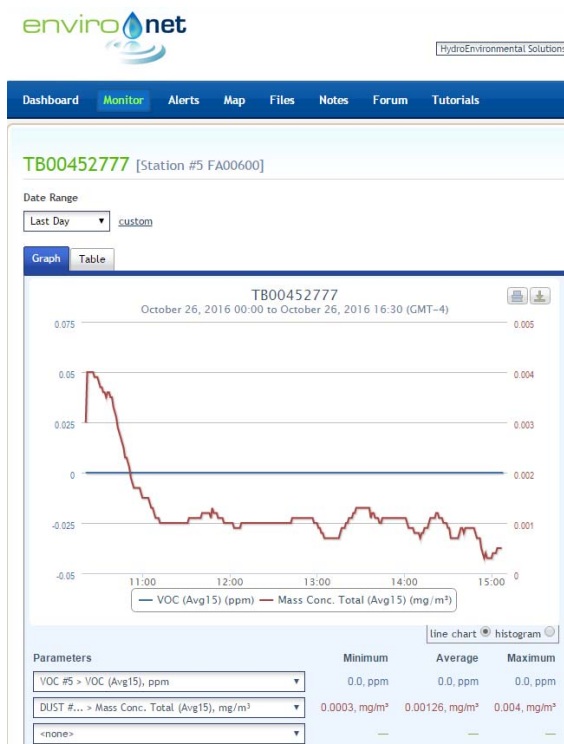
10/26/16 – Station #4 (Downwind)



10/26/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/26/16)  
October 28, 2016

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10/26/16 – Station #5 (Morgan Street)



## Memo

Date: October 28, 2016

Project: BCP Site # C360143

To: Village of Tuckahoe

From: John Guzewich, HDR

Subject: Summary of CAMP Results During Site Investigation Activities  
109-125 Marbledale Road  
Tuckahoe, New York  
October 27, 2016

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during Thursday October 27, 2016 site work. Site work on this day included probe installation of the vacuum monitoring points associated with the soil vapor extraction (SVE) system pilot test. Work was conducted with a direct-push technology (DPT) rig.

It should be noted that NYSDEC's subcontractor has begun "off-site" work along the east side of Marbledale Road across from the quarry area. The subcontractor is conducting CAMP monitoring (VOCs and Dust). The CAMP data collected by NYSDEC's subcontractor is not included in this summary.

### DATA EVALUATION AND INTERPRETATIONS

In accordance with the RAWP, a CAMP is required during site activities involving soil disturbance activities. HES is conducting CAMP monitoring during the current RAWP pre-characterization sampling, well installation, and other activities. In accordance with the RAWP four monitoring stations (upwind, two downwind, and a location between the work area and the nearest occupied building) are set up on-site to collect particulate (Dust) and volatile organic compound (VOC) measurements. In addition, HES has installed a 5<sup>th</sup> CAMP monitoring station off-site between the site and the Waverly Early Childhood Center. The CAMP station was situated on Morgan Street, near the intersection of Bellew Ave. for this monitoring event.

Details of the CAMP monitoring procedures and the monitoring equipment used to conduct the CAMP are included in previous data summary memoranda.

Water and vapor/odor suppressant foam are available on-site in the event there is a release of dust or VOCs from site activities. On Thursday October 27, 2016, neither water nor foam were required. There were no visible dusts or noticeable odors released from the work activities for this event. "At hole" air monitoring also occurred with separate instruments.

HDR staff was on-site on Thursday, October 27, 2016 to observe drilling and CAMP monitoring activities. During this monitoring event there were no exceedances of the CAMP alert triggers at any of the five CAMP stations during site activities.

It should be noted that Dust monitors were not deployed at the CAMP stations during this event due to the rain that was falling. Rain minimizes the potential for dust to be released and also moisture can damage the Dust meters. None of the VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below is a summary table for the 10/27/2016 CAMP monitoring event.

**Date: 10/27/16**

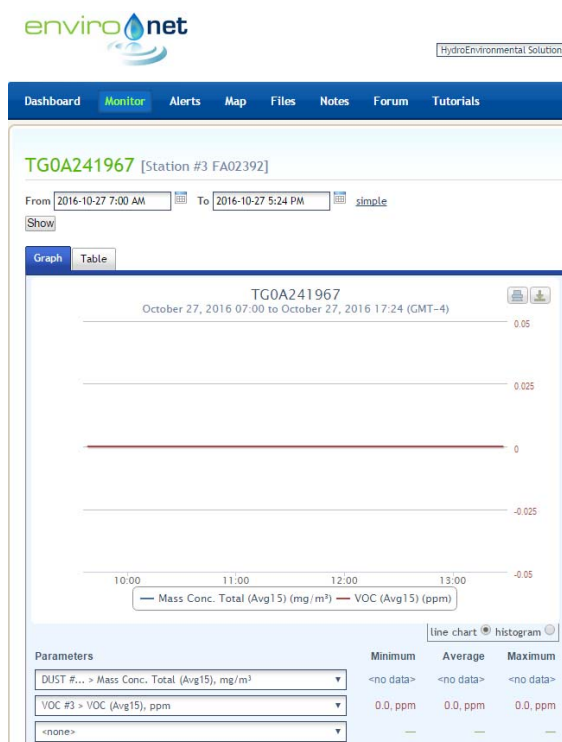
<b>Camp Data</b>	<b>Upwind (Sta. 3)</b>	<b>Downwind (Sta. 1)</b>	<b>Downwind (Sta. 4)</b>	<b>Buildings (Sta. 2)</b>	<b>Morgan Str. (Sta. 5)</b>
<b>VOCs (ppm)</b>					
<b>Min. 15-min. Ave.</b>	0.00	0.02	0.02	0.00	0.00
<b>Max. 15-min. Ave.</b>	0.00	0.31	0.44	0.11	0.00
<b>Overall Ave.</b>	0.00	0.22	0.31	0.01	0.00
<b>Dust (mg/m<sup>3</sup>) *</b>					
<b>Min. 15-min. Ave.</b>	NC	NC	NC	NC	NC-
<b>Max. 15-min. Ave.</b>	NC	NC	NC	NC	NC
<b>Overall Ave.</b>	NC	NC	NC	NC	NC

NC – Not Collected

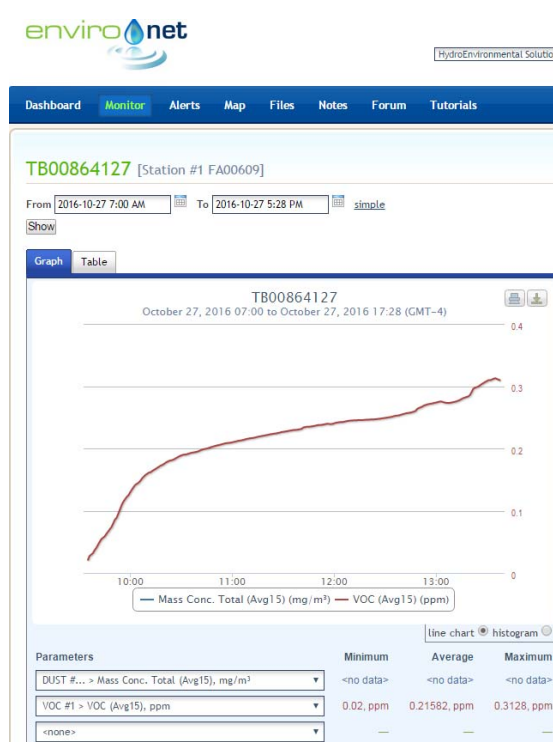
\* The CAMP Dust monitors were not deployed due to the rain during the site activities on 10/27/16.



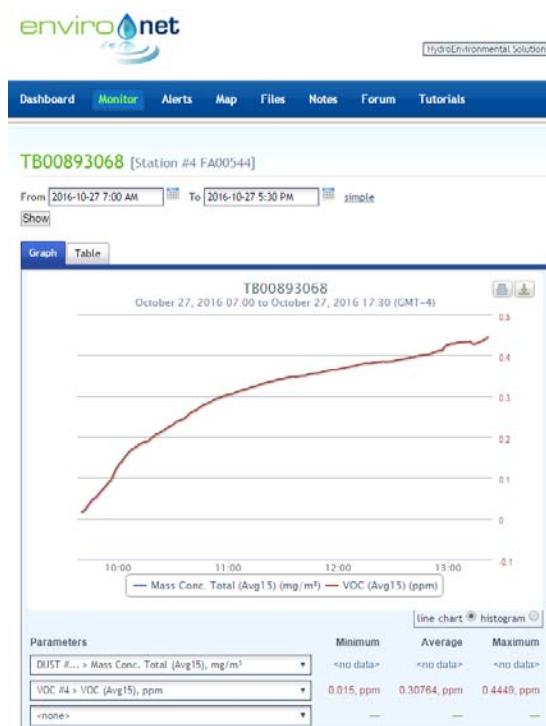
## Environet CAMP Data Summary Graphs



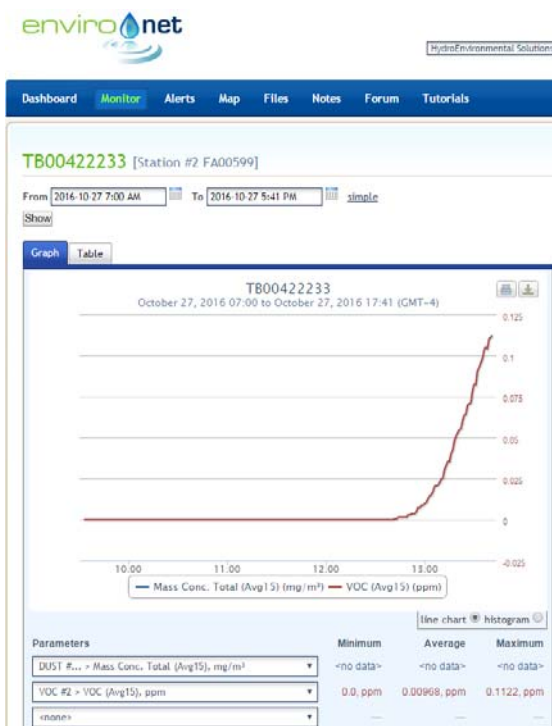
10/27/16 – Station #3 (Upwind)



10/27/16 – Station #1 (Downwind)



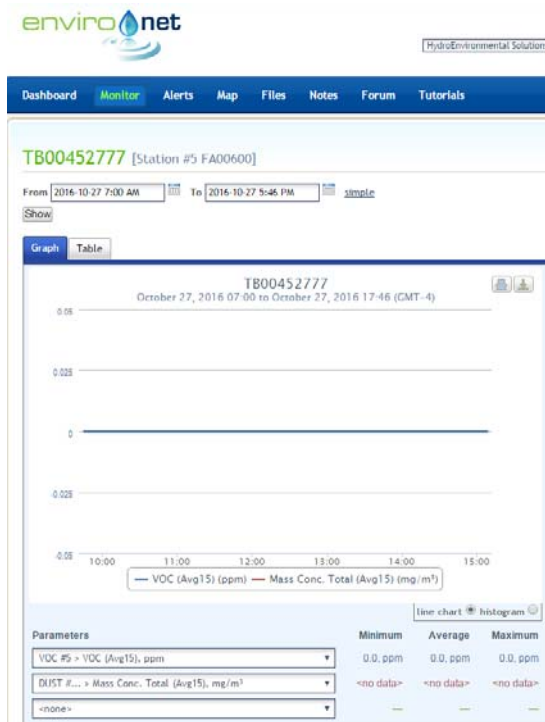
10/27/16 – Station #4 (Downwind)



10/27/16 – Station #2 (Near Buildings)

Marbledale Road BCP Site  
Summary of CAMP Results (10/27/16)  
October 28, 2016

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10/27/16 – Station #5 (Morgan Street)