



Memo

Date: October 07, 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
Week of September 26 through September 30, 2016

HydroEnvironmental Solutions (HES) mobilized to the site on September 27, 2016 to begin the investigations activities outlined in their Investigation and Remedial Design work scope letter dated September 23, 2016. In accordance with the scope, HES is performing the Remedial Action Work Plan (RAWP) pre-characterization soil sampling, monitoring well installation and sampling, and soil vapor extraction (SVE) system pilot testing.

This memorandum was prepared by HDR to provide a review of the Community Air Monitoring Plan (CAMP) implementation during the first week of site work (9/27 – 9/30 2016). Subsequent memoranda will be furnished to the Village as site work continues.

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 these RAWP pre-characterization sampling 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. HES is using a TSI DustTrak II to measure particulate concentrations in the size range of 0 to 10 microns (referred to as PM₁₀ size range). A RAE Systems MiniRAE 3000 Photoionization Detector (PID) is used to measure total VOCs. The CAMP stations are portable, weather resistant enclosures that house the two monitoring devices. The stations are mounted on tripods that can be moved around the site to different work areas as needed to monitor the work being conducted. HES is monitoring on site wind direction to site the CAMP stations.

The data collected at each CAMP station is transmitted to a secure website (Environet) for data storage, management, and archiving. Measurements are collected from the dust and VOC meters every minute and transmitted via a cellular modem to the Environet site. The data is available on the Environet site for review by HES, NYSDEC, and HDR.

HES has set up “alerts” that will trigger a text message and an email to HES staff if a 15-minute average dust or VOC concentration reaches a certain level at any CAMP station. For the VOC measurements, the HES staff will receive an alert notification if a total VOC 15-minute average concentration on the PID is 5.2 ppm or greater. Ambient background total VOC concentrations measured at the site before site activities commenced were 0.2 ppm. The NYSDEC CAMP protocols require a work stoppage and implementation of corrective action if total VOC concentrations on the PID are 5 ppm or greater above background ambient conditions. For the dust measurements, the HES staff will receive an alert notification if a 15-minute average dust concentration is 100 $\mu\text{g}/\text{m}^3$ (or 0.100 mg/m^3) or greater at a downwind location when compared against the upwind location, in accordance with the RAWP.

HES has water and vapor/odor suppressant foam available on site in the event there is a release of dust or VOCs from site activities. During this reporting period, water and foam have not been required. There were no visible dusts or noticeable odors released from the work activities this week. “At hole” air monitoring also occurs with separate instruments.

HES has provided HDR and NYSDEC access to the Environet site. HDR reviews the CAMP data on the Environet site several times a day during site activities. We have included screen shots of the 15-minute average dust and VOC concentration graphs for the site for this reporting period (9/27 – 9/30) during site work activities from the Environet site at the back of this memorandum.

HDR and/or NYSDEC personnel were on site all four days during the site activities (9/27 – 9/30). During these four days of site activity, there were no exceedances of the CAMP alert triggers at any of the four CAMP stations. None of the dust or VOC concentrations approached the action levels requiring a work stoppage or corrective measures.

Below are summary tables for each CAMP monitoring event for this period.

Date: 9/27/16

Camp Data	Upwind (Sta. 3)	Downwind (Sta. 1)	Downwind (Sta. 4)	Buildings (Sta. 2)
VOCs (ppm)				
Min. 15-min. Ave.	0.00	0.00	0.00	N/A
Max. 15-min. Ave.	0.67	0.39	0.36	N/A
Overall Ave.	0.10	0.24	0.23	N/A
Dust (mg/m³)				
Min. 15-min. Ave.	0.0012	0.0071	0.0000	0.0061
Max. 15-min. Ave.	0.0192	0.0140	0.0174	0.0170
Overall Ave.	0.0053	0.0092	0.0038	0.0084

N/A: Data not available. VOC meter would not transmit data to modem. Moved Sta.4 closer to building when it was determined that the VOC data was not being transmitted to Environet site.

Date: 9/28/16

Camp Data	Upwind (Sta. 3)	Downwind (Sta. 1)	Downwind/Buildings (Sta. 4)	Buildings (Sta. 2)
VOCs (ppm)				
Min. 15-min. Ave.	0.00	0.17	0.04	N/A
Max. 15-min. Ave.	0.06	0.30	0.33	N/A
Overall Ave.	0.01	0.24	0.26	N/A
Dust (mg/m³)				
Min. 15-min. Ave.	0.0000	0.0121	0.0009	N/A
Max. 15-min. Ave.	0.0376	0.0727	0.0547	N/A
Overall Ave.	0.0143	0.0296	0.0143	N/A

N/A: Data not available. VOC meter would not transmit data to modem. Equipment vendor took station to shop for repairs (wiring issue). Moved Sta.4 closer the building area for this event.

Date: 9/29/16

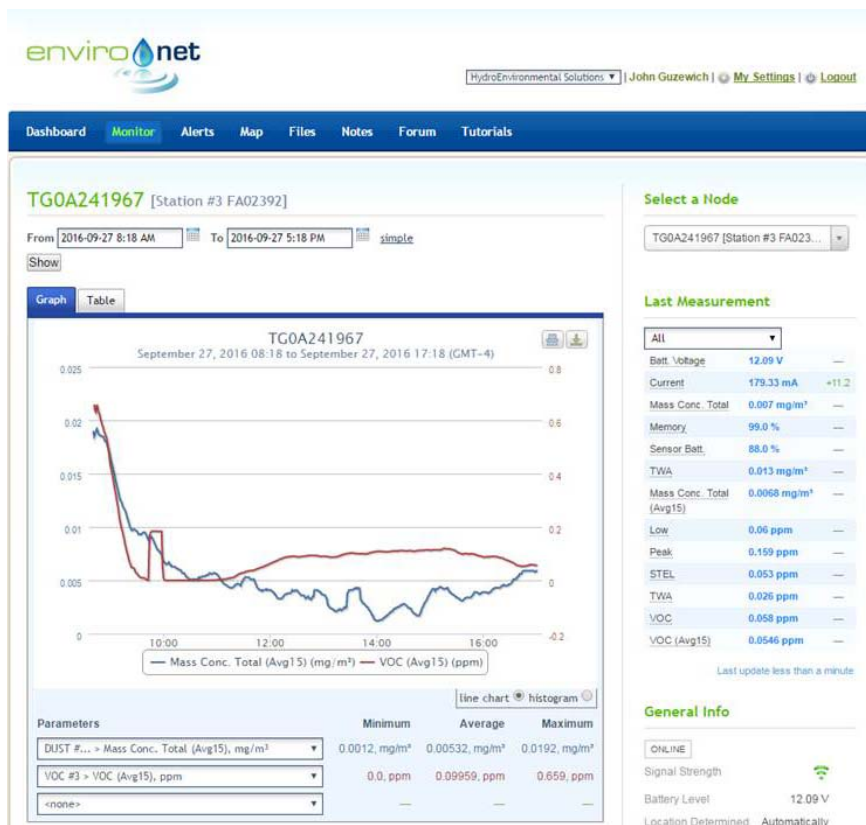
Camp Data	Upwind (Sta. 3)	Downwind (Sta. 1)	Downwind (Sta. 4)	Buildings (Sta. 2)
VOCs (ppm)				
Min. 15-min. Ave.	0.00	0.07	0.08	0.00
Max. 15-min. Ave.	0.08	0.66	0.78	0.09
Overall Ave.	0.04	0.25	0.32	0.00
Dust (mg/m³)				
Min. 15-min. Ave.	0.0000	0.0000	0.0016	0.0049
Max. 15-min. Ave.	0.0112	0.0145	0.0172	0.0227
Overall Ave.	0.0051	0.0084	0.0052	0.0072

Date: 9/30/16

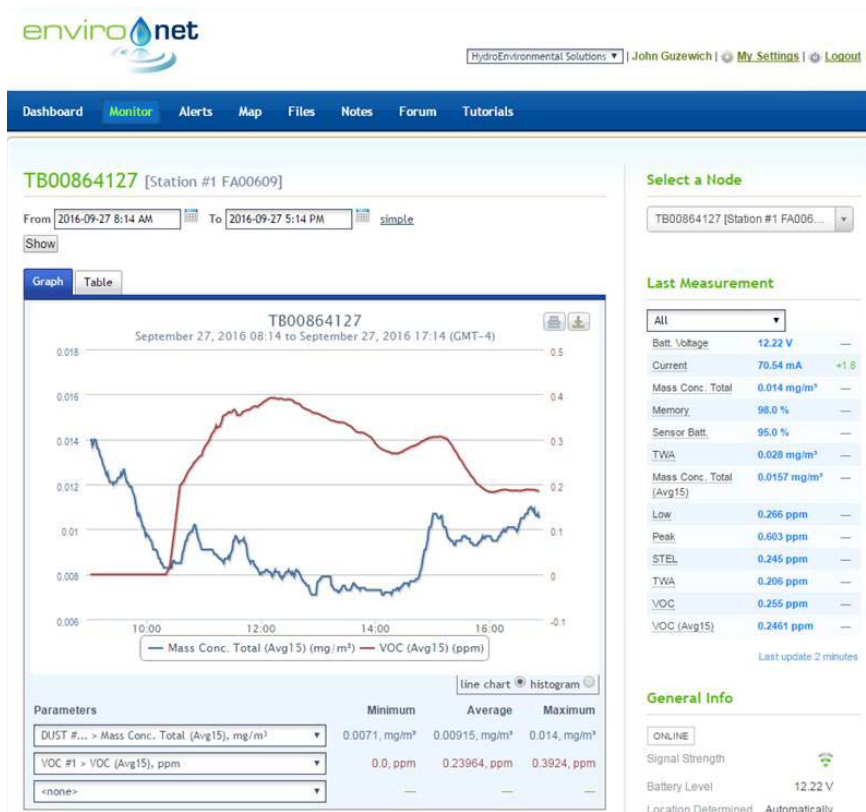
Camp Data	Upwind (Sta. 3)	Downwind (Sta. 1)	Downwind (Sta. 4)	Buildings (Sta. 2)
VOCs (ppm)				
Min. 15-min. Ave.	0.00	0.08	0.01	0.00
Max. 15-min. Ave.	0.04	0.27	0.03	0.02
Overall Ave.	0.0.03	0.24	0.01	0.00
Dust (mg/m³)				
Min. 15-min. Ave.	0.0062	0.0080	0.0057	0.0074
Max. 15-min. Ave.	0.0082	0.0206	0.0109	0.0212
Overall Ave.	0.0070	0.0123	0.0251	0.0099

Note: A fifth CAMP Station (Sta. 5) located east of the BCP site along Morgan Street was activated on 10/6/2016.

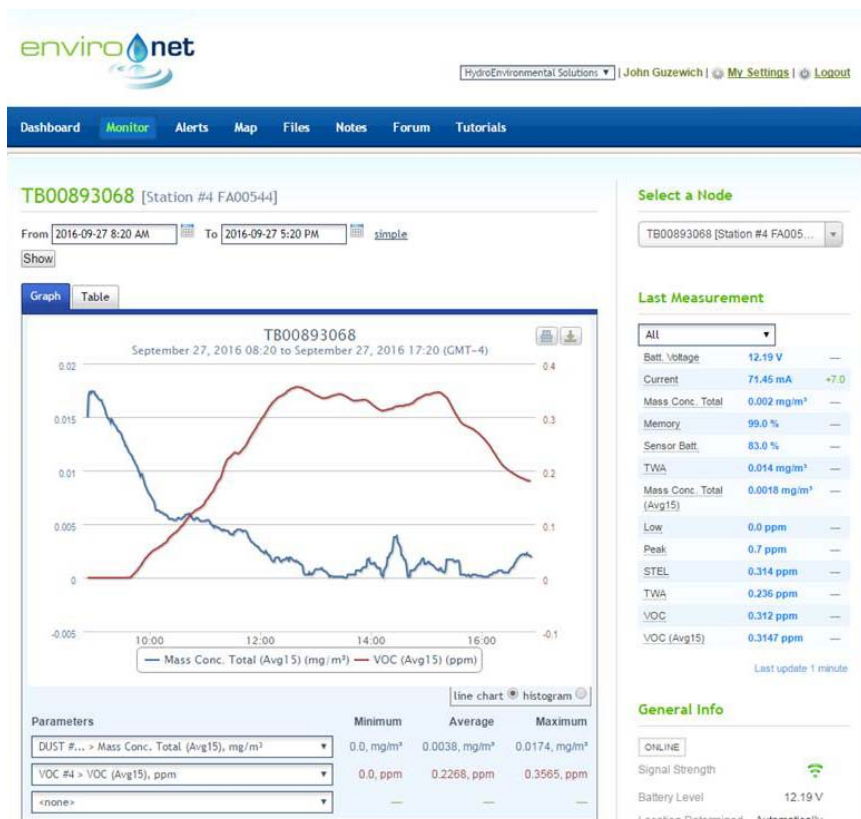
Environet CAMP Data Graphs



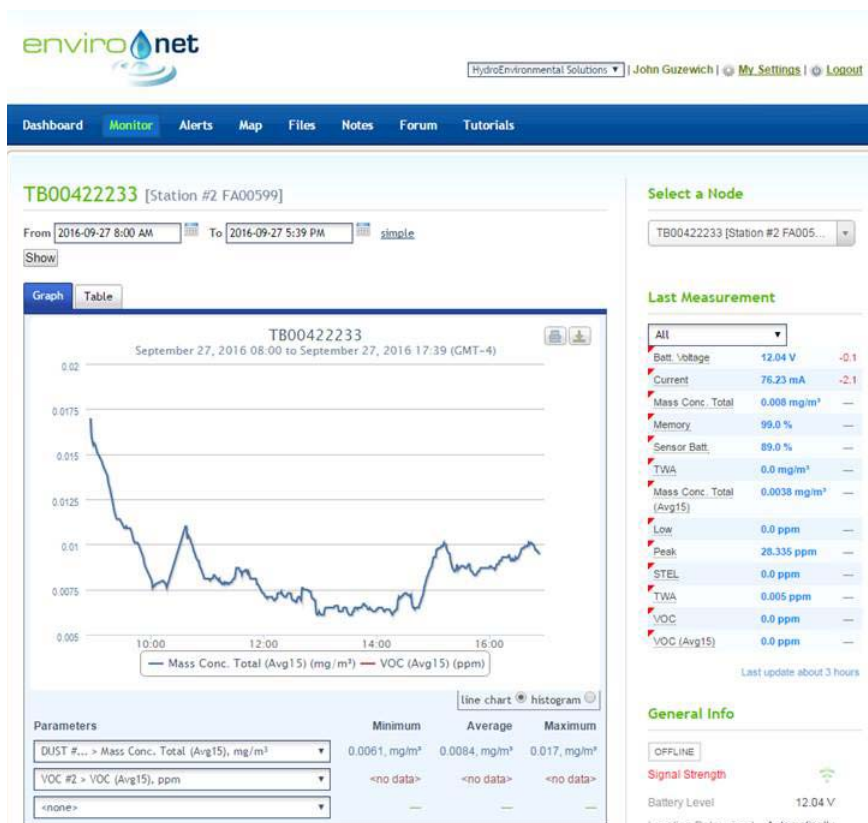
9/27/16 – Station #3 (Upwind)



9/27/16 – Station #1 (Downwind)



9/27/16 – Station #4 (Downwind)

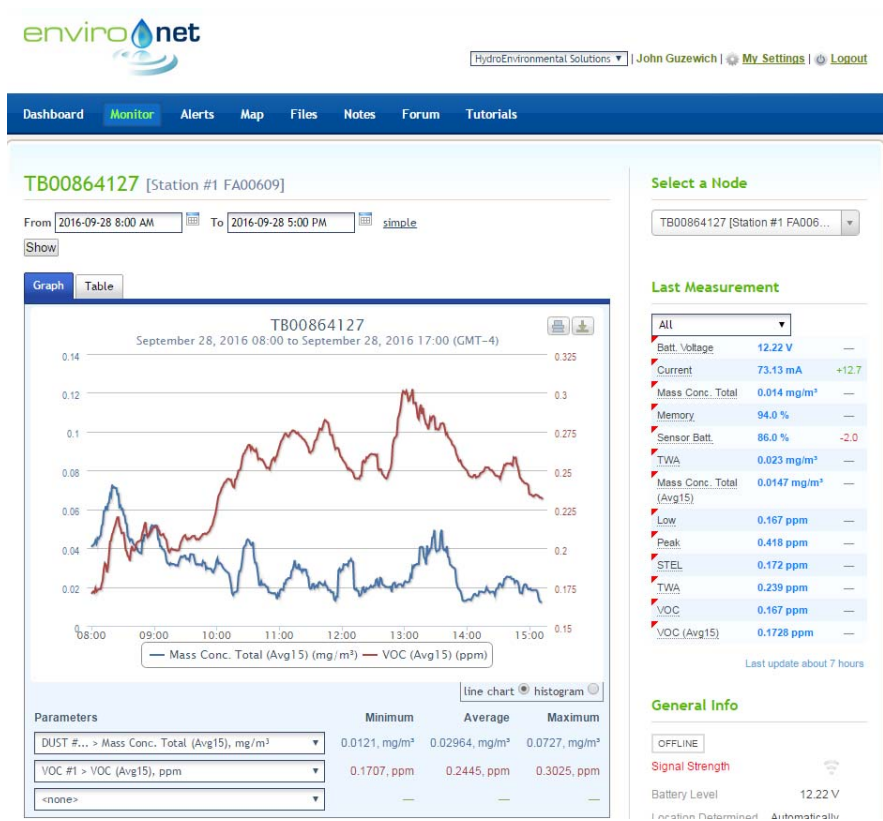


9/27/16 – Station #2 (Near Buildings)

Note: VOC monitor not communicating with modem in this station.



9/28/16 – Station #3 (Upwind)



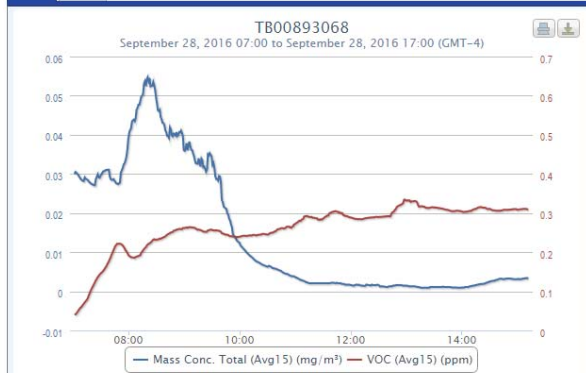
9/28/16 – Station #1 (Downwind)

TB00893068 [Station #4 FA00544]

From 2016-09-28 7:00 AM To 2016-09-28 5:00 PM simple

Show

Graph Table



Parameters	Minimum	Average	Maximum
DUST #... > Mass Conc. Total (Avg15), mg/m³	0.0009, mg/m³	0.01427, mg/m³	0.0547, mg/m³
VOC #4 > VOC (Avg15), ppm	0.041, ppm	0.26201, ppm	0.3344, ppm
<none>	—	—	—

Select a Node

TB00893068 [Station #4 FA00544]

Last Measurement

All		
Batt. Voltage	12.26 V	—
Current	72.48 mA	+5.3
Mass Conc. Total	0.019 mg/m³	—
Memory	95.0 %	—
Sensor Batt.	82.0 %	—
TWA	0.022 mg/m³	—
Mass Conc. Total (Avg15)	0.0136 mg/m³	—
Low	0.0 ppm	—
Peak	0.554 ppm	—
STEL	0.311 ppm	—
TWA	0.333 ppm	—
VOC	0.314 ppm	—
VOC (Avg15)	0.311 ppm	—

Last update about 7 hours

General Info

OFFLINE

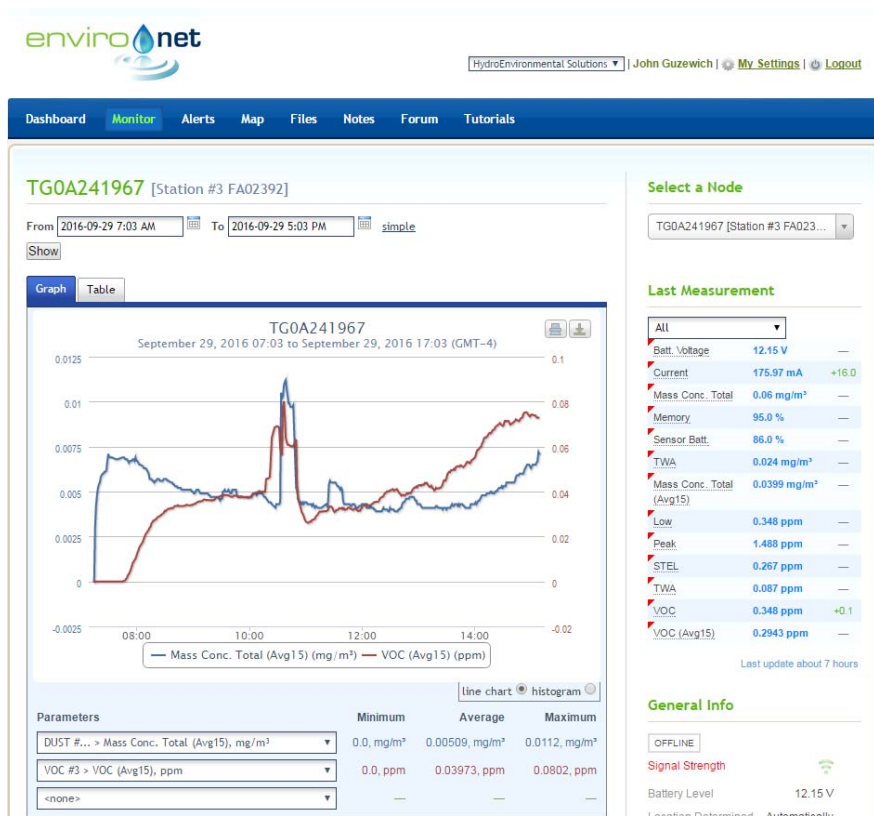
Signal Strength

Battery Level 12.26 V

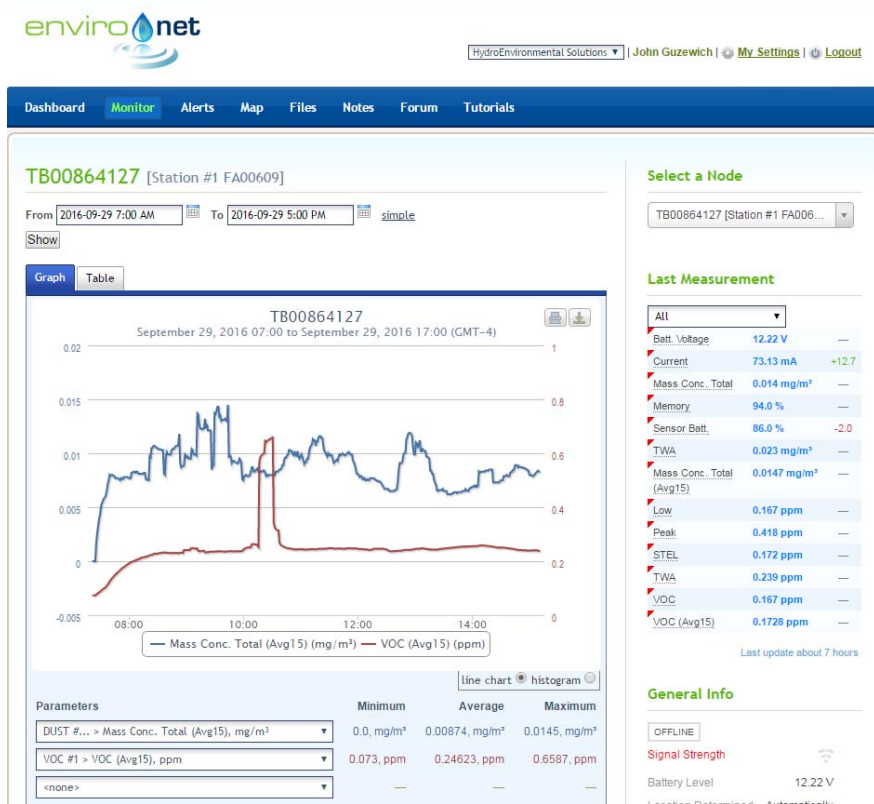
Location Determined: Automatically

9/28/16 – Station #4 (Near Buildings)

Note: Station #2 was returned to equipment rental company for repairs today, Station #4 was moved to the Near Building location.



9/29/16 – Station #3 (Upwind)

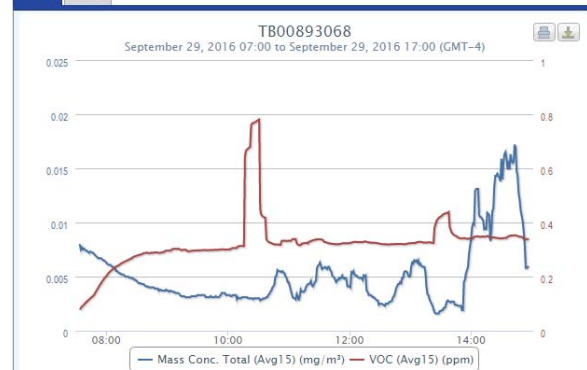


9/29/16 – Station #1 (Downwind)

TB00893068 [Station #4 FA00544]

From To [simple](#)
[Show](#)

Graph Table



Parameters	Minimum	Average	Maximum
DUST #... > Mass Conc. Total (Avg15), mg/m³	0.0016, mg/m³	0.00523, mg/m³	0.0172, mg/m³
VOC #4 > VOC (Avg15), ppm	0.079, ppm	0.32385, ppm	0.7807, ppm
<none>	—	—	—

Select a Node

TB00893068 [Station #4 FA005...

Last Measurement

All		
Batt. Voltage	12.26 V	—
Current	72.48 mA	+5.3
Mass Conc. Total	0.019 mg/m³	—
Memory	95.0 %	—
Sensor Batt.	82.0 %	—
TWA	0.022 mg/m³	—
Mass Conc. Total (Avg15)	0.0136 mg/m³	—
Low	0.0 ppm	—
Peak	0.554 ppm	—
STEL	0.311 ppm	—
TWA	0.333 ppm	—
VOC	0.314 ppm	—
VOC (Avg15)	0.311 ppm	—

Last update about 7 hours

General Info

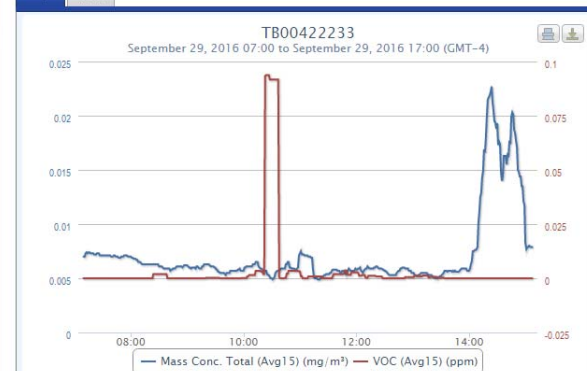
OFFLINE
Signal Strength
Battery Level 12.26 V
Location Determined Automatically

9/29/16 – Station #4 (Downwind)

TB00422233 [Station #2 FA00599]

From To [simple](#)
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Graph Table



Parameters	Minimum	Average	Maximum
DUST #... > Mass Conc. Total (Avg15), mg/m³	0.0049, mg/m³	0.0072, mg/m³	0.0227, mg/m³
VOC #2 > VOC (Avg15), ppm	0.0, ppm	0.00343, ppm	0.0937, ppm
<none>	—	—	—

Select a Node

TB00422233 [Station #2 FA005...

Last Measurement

All		
Batt. Voltage	11.99 V	—
Current	98.58 mA	+28.7
Mass Conc. Total	0.017 mg/m³	—
Memory	95.0 %	—
Sensor Batt.	87.0 %	—
TWA	0.028 mg/m³	—
Mass Conc. Total (Avg15)	0.0194 mg/m³	—
Low	0.0 ppm	—
Peak	67.554 ppm	—
STEL	0.243 ppm	—
TWA	0.203 ppm	—
VOC	0.241 ppm	—
VOC (Avg15)	0.2427 ppm	—

Last update about 7 hours

General Info

OFFLINE
Signal Strength
Battery Level 11.99 V
Location Determined Automatically

9/29/16 – Station #2 (Near Buildings)

TG0A241967 [Station #3 FA02392]

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[Graph](#) | [Table](#)


Select a Node

Last Measurement

All		
Batt. Voltage	12.36 V	—
Current	158.66 mA	-8.5
Mass Conc. Total	0.01 mg/m³	—
Memory	94.0 %	—
Sensor Batt.	85.0 %	—
TWA	0.033 mg/m³	—
Mass Conc. Total (Avg15)	0.0137 mg/m³	—
Low	0.145 ppm	—
Peak	1.102 ppm	—
STEL	0.15 ppm	—
TWA	0.108 ppm	—
VOC	0.144 ppm	—
VOC (Avg15)	0.15 ppm	—

Last update about 3 hours

General Info

OFFLINE

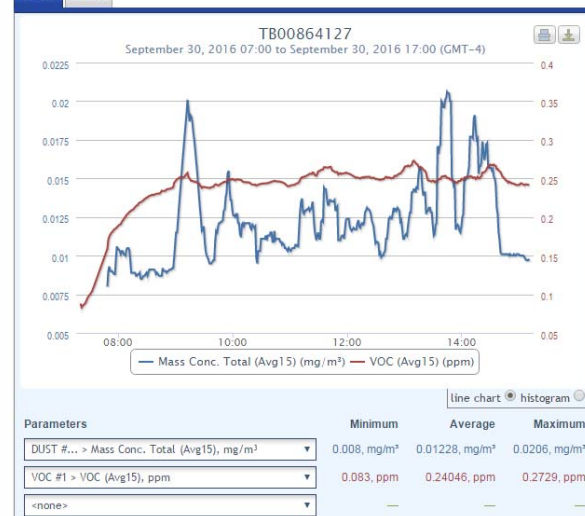
Signal Strength

Battery Level 12.36 V

Location Determined Automatically

9/30/16 – Station #3 (Upwind)

TB00864127 [Station #1 FA00609]

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[Graph](#) | [Table](#)


Select a Node

Last Measurement

All		
Batt. Voltage	12.22 V	—
Current	73.13 mA	+12.7
Mass Conc. Total	0.014 mg/m³	—
Memory	94.0 %	—
Sensor Batt.	86.0 %	-2.0
TWA	0.023 mg/m³	—
Mass Conc. Total (Avg15)	0.0147 mg/m³	—
Low	0.167 ppm	—
Peak	0.418 ppm	—
STEL	0.172 ppm	—
TWA	0.239 ppm	—
VOC	0.167 ppm	—
VOC (Avg15)	0.1728 ppm	—

Last update about 7 hours

General Info

OFFLINE

Signal Strength

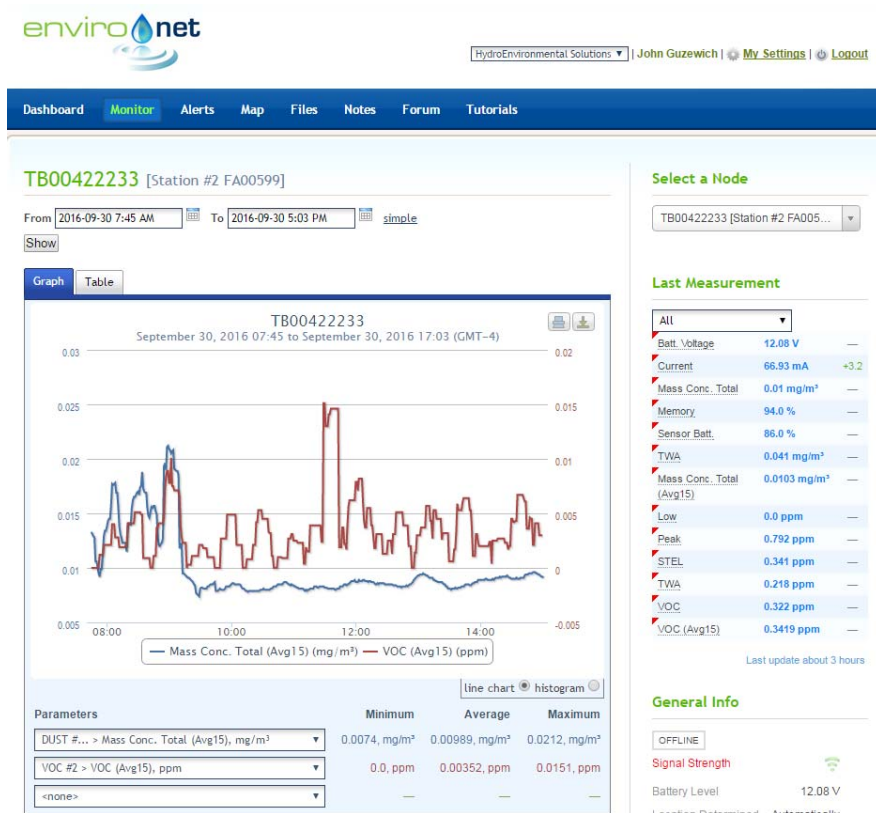
Battery Level 12.22 V

Location Determined Automatically

9/30/16 – Station #1 (Downwind)



9/30/16 – Station #4 (Downwind)



9/30/16 – Station #2 (Near Buildings)