

Site Monitoring

Groundwater monitoring is being performed on a quarterly basis, in accordance with the Site Management Plan (EA 2013)¹, to assess the performance of the remedy. The network of monitoring wells was installed to monitor both upgradient and downgradient groundwater conditions at the site. The onsite groundwater monitoring well networks and their trend graphs are shown in **Figures 2 and 3**. Offsite monitoring wells and their trend graphs are shown in **Figures 4 and 5**. The network of onsite and offsite wells were designed and installed throughout multiple phases of the remedial design. A total of 35 wells were installed including 17 monitoring well clusters of 1 shallow and 1 deep well. Deep wells were installed to a maximum of 90 feet (ft) below ground surface, which is the depth of the top of the clay confining layer. Shallow wells were installed to a maximum of 30 ft below ground surface. All wells were constructed with 10 ft of screen. Well locations were selected based on the soil boring and groundwater investigations which took place throughout the remedial design and field observations.

Groundwater Data Summary

Historical groundwater data from 2010 to 2018 were evaluated to determine reduction trends in contaminants of concern (COCs) and if asymptotic conditions are present within the aquifer. Trend graphs prepared for volatile organic compound concentrations in site groundwater are presented in **Figures 2, 3, 4, and 5**. Monitoring wells show a general decreasing trend across the site, and the groundwater plume is well defined.

CONCLUSIONS AND RECOMMENDATIONS

Analytical data to date has established the groundwater plume and produced reducing trends in COCs at the site. As a result, EA recommends modifying the quarterly groundwater sampling schedule. EA recommends to sample 9 monitoring wells that are used to evaluate the treatment system effectiveness on a quarterly basis. The selected monitoring wells are depicted on **Figures 6A and 6B**, and detailed as follows:

Onsite Monitoring Wells

- MW-1S/D (upgradient)
- MW-14S/D
- MW-15S/D.

Offsite Monitoring Wells

- MW-2S/D
- MW-3D.

It is recommended that during the second quarter of each year, an annual groundwater sampling event be completed at the 35 wells associated with the site.

¹ EA Engineering, P.C. and Its Affiliate EA Science and Technology (EA). 2013b. *National Heatset Printing Co. State Superfund Site. Suffolk County, Babylon, New York. Final Engineering Report. NYSDEC Site No. 152140.* August.



If you have any questions or require additional information, please do not hesitate to contact James Hayward at 315-565-6555.

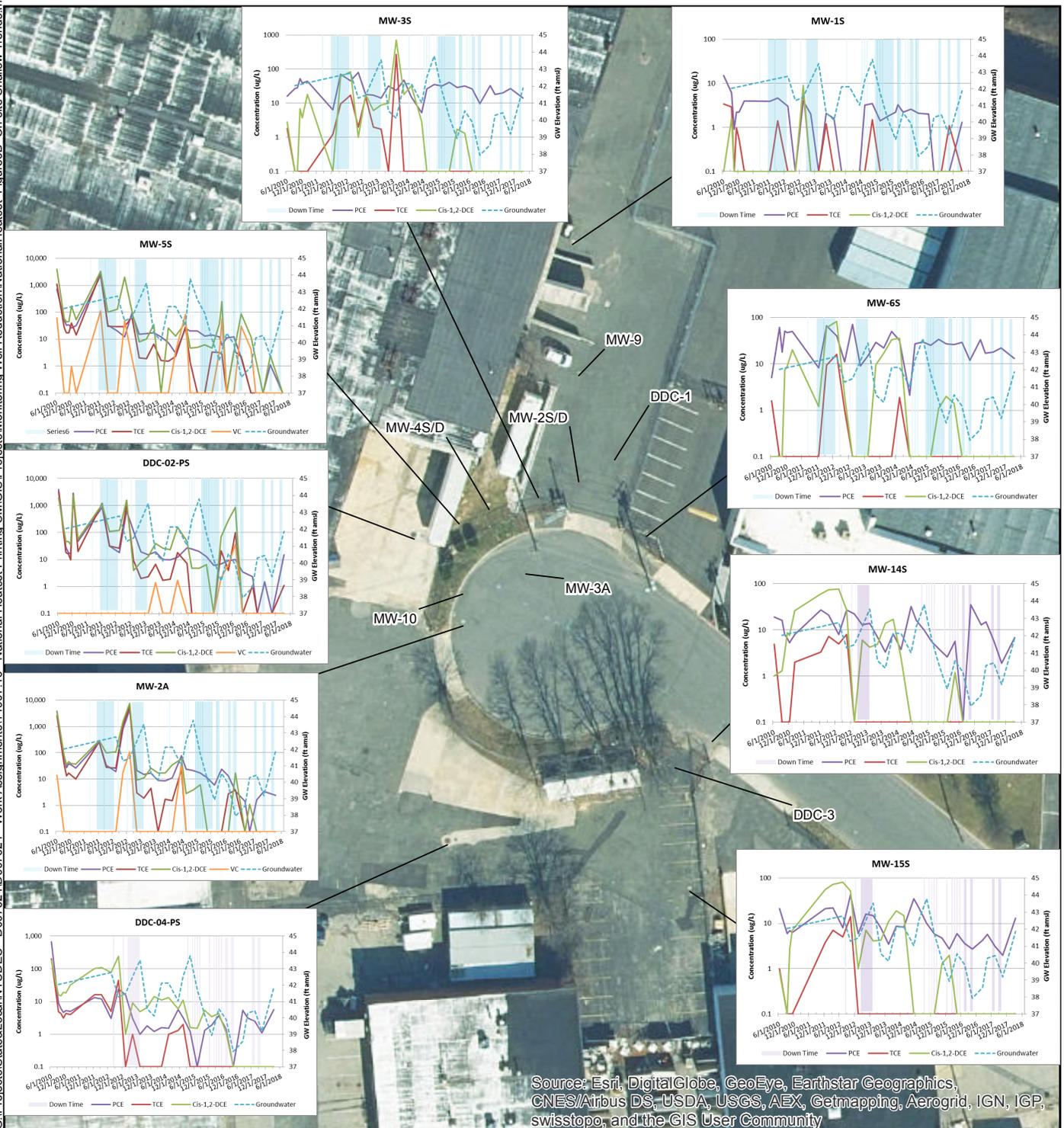
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cc: R. Casey (EA)
D. Conan (EA)

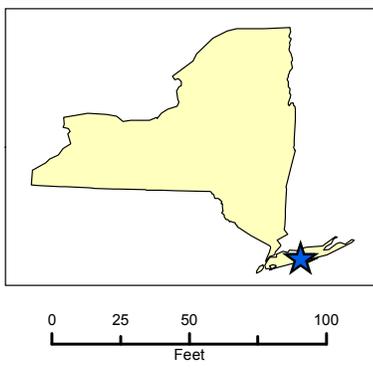
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Figures

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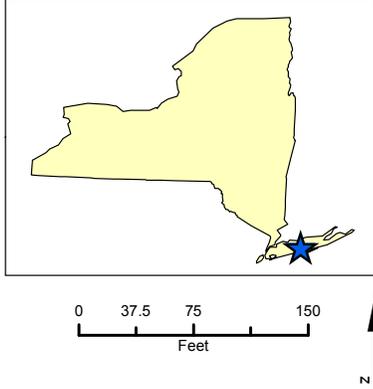
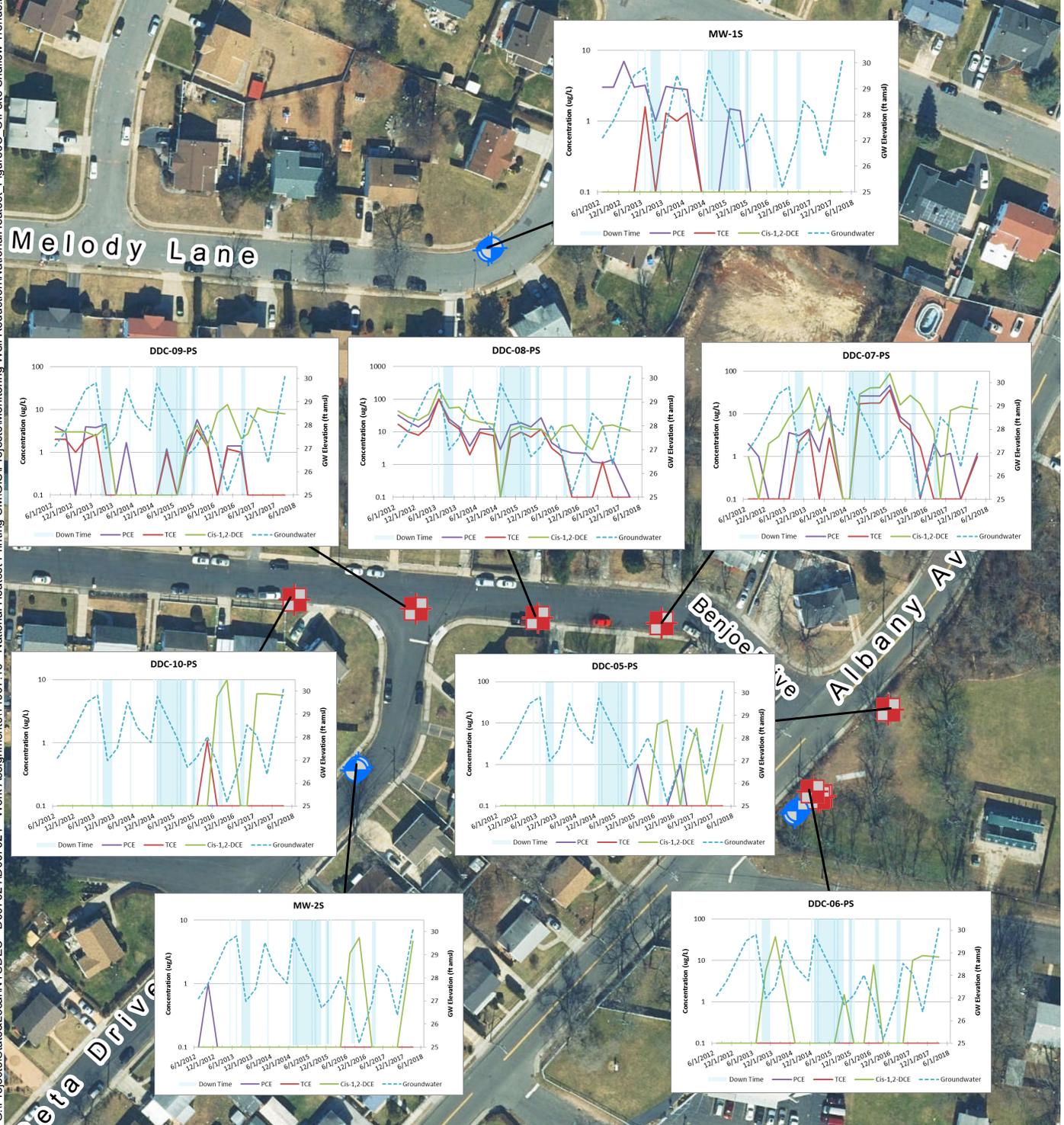
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



- Legend**
- DDC Well Cluster
 - Groundwater Monitoring Well
 - System 1 Down Time
 - System 2 Down Time
 - Site Location
 - PCE
 - TCE
 - cis-1,2-DCE
 - VC
 - Groundwater

Figure 2
ONSITE SHALLOW WELLS
CVOC TREND GRAPHS
 June 2010 - March 2018
 NATIONAL HEATSET SITE (152140)
 BABYLON, NEW YORK
 SUFFOLK COUNTY

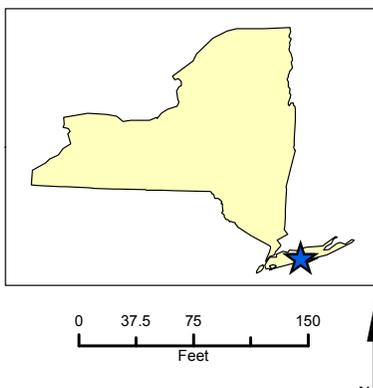
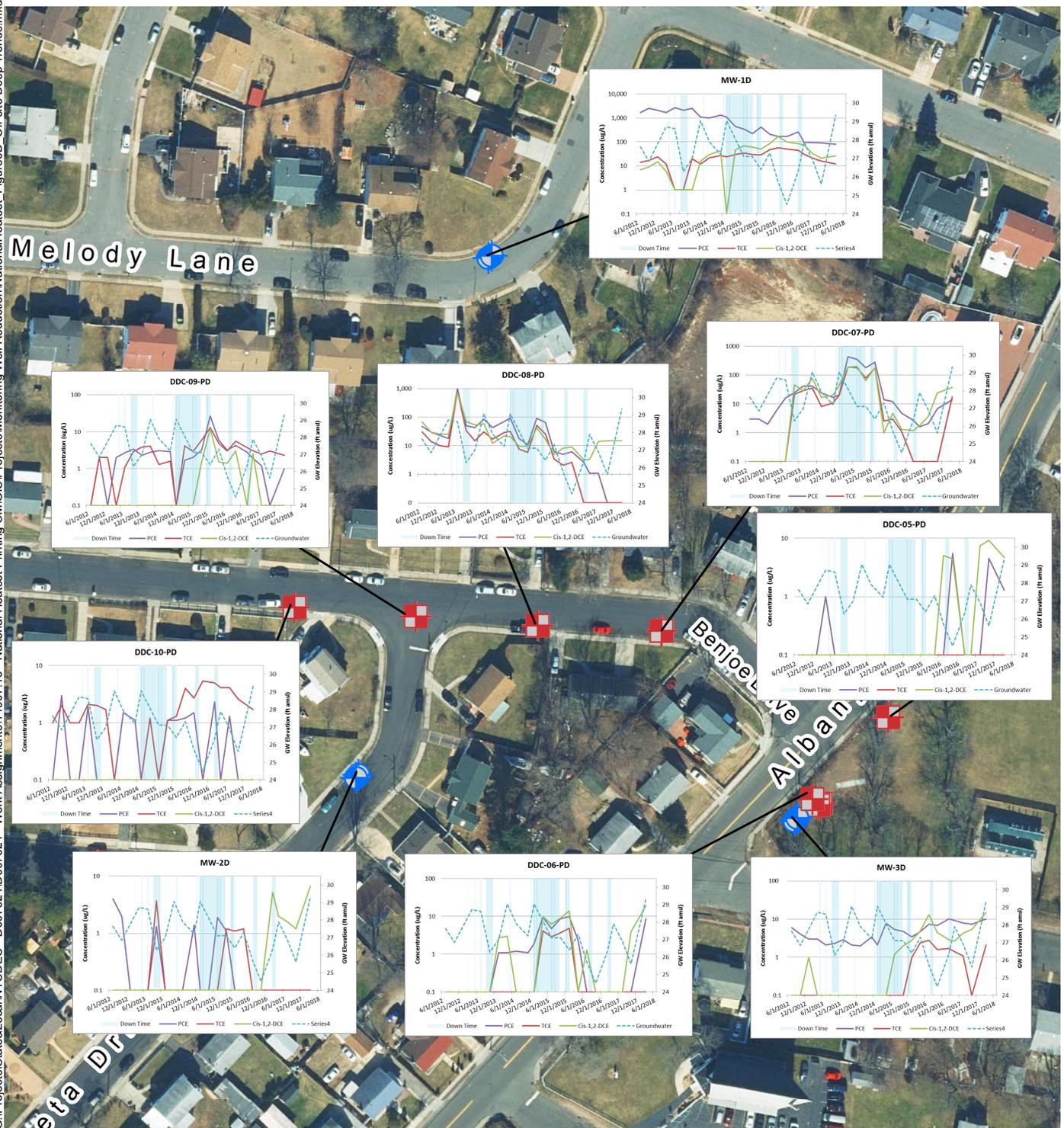
Map Date: 7/26/2018
 Source: ESRI, 2011



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Figure 3
OFFSITE SHALLOW WELLS
CVOC TREND GRAPHS
 June 2012 - March 2018
 NATIONAL HEATSET SITE (152140)
 BABYLON, NEW YORK
 SUFFOLK COUNTY

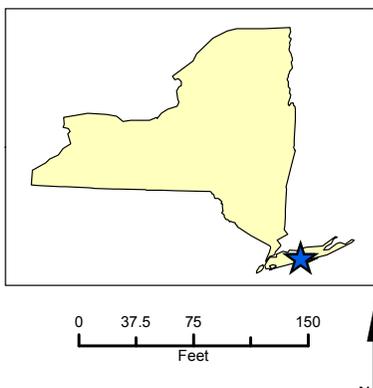
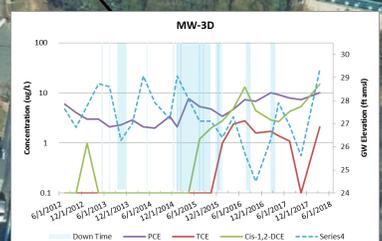
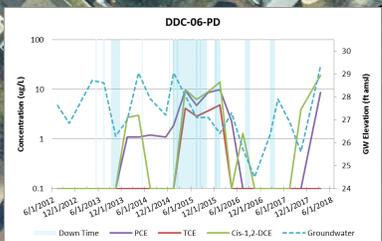
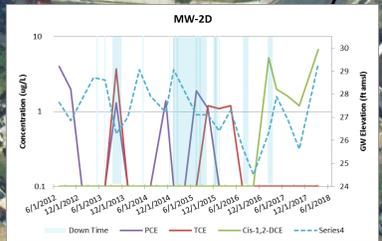
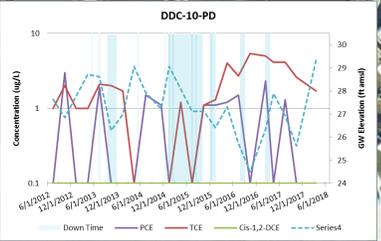
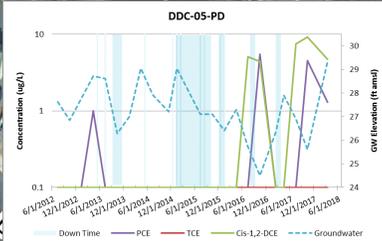
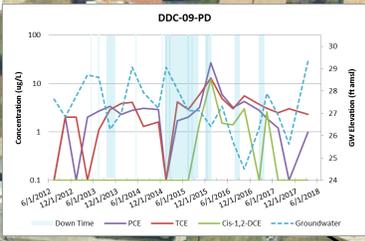
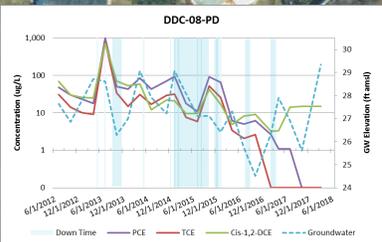
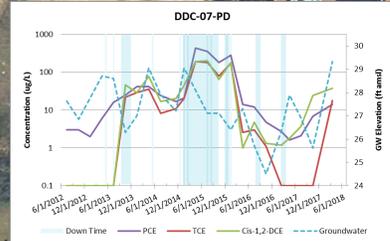
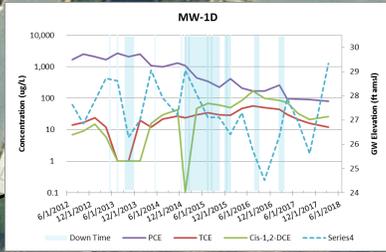
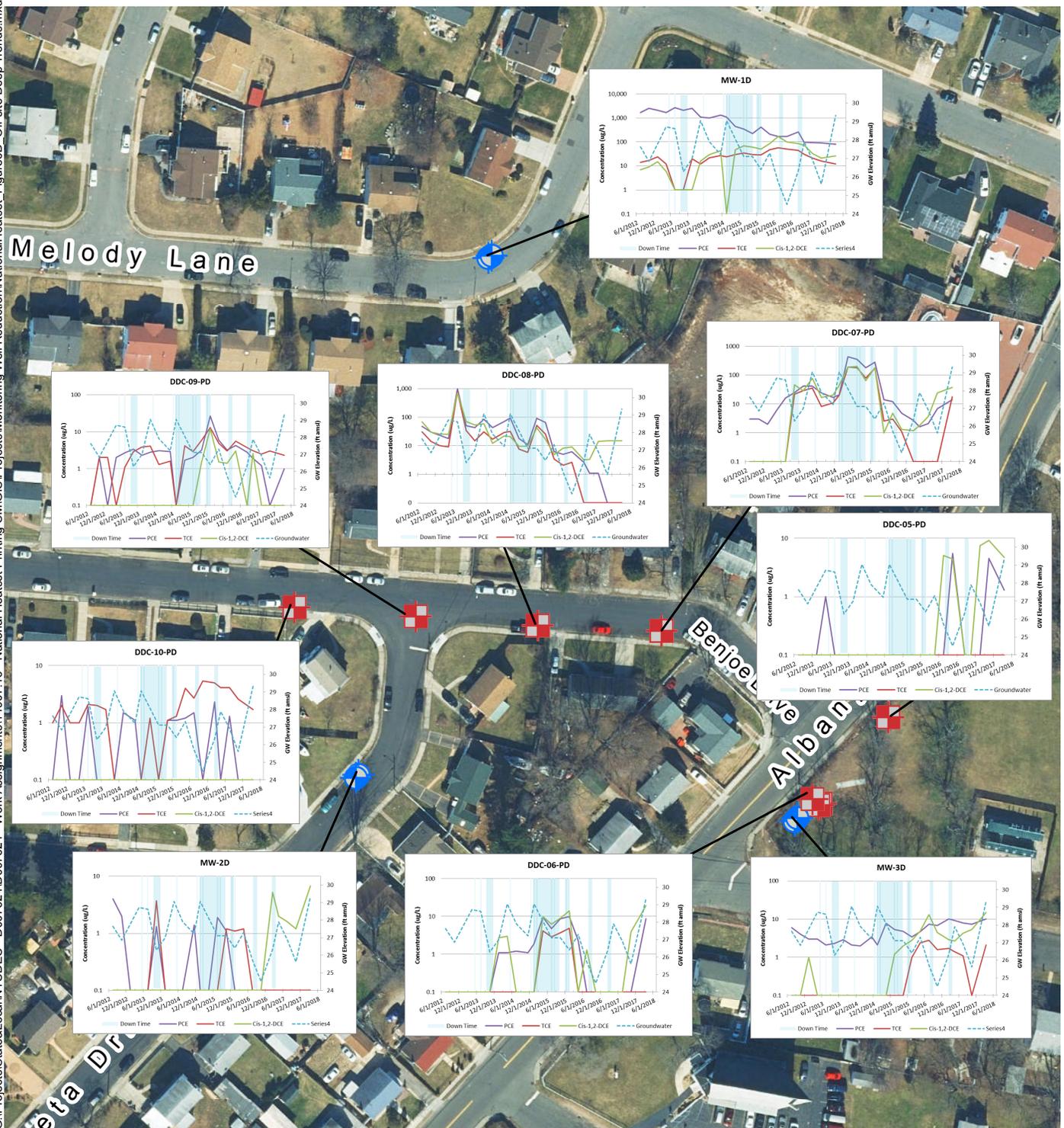
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 Source: ESRI, 2011



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Figure 4
OFFSITE DEEP WELLS
CVOC TREND GRAPHS
 June 2012 - March 2018
 NATIONAL HEATSET SITE (152140)
 BABYLON, NEW YORK
 SUFFOLK COUNTY

Map Date: 7/26/2018
 Source: ESRI, 2011

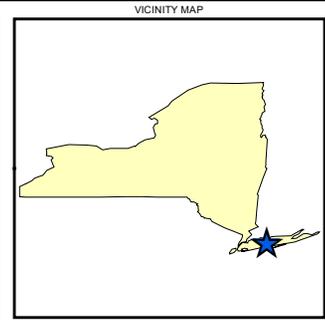


- Legend**
- DDC Well Cluster
 - Groundwater Monitoring Well
 - System 1 Down Time
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 - Site Location
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 - Groundwater

Figure 5
OFFSITE DEEP WELLS
CVOC TREND GRAPHS
 June 2012 - March 2018
 NATIONAL HEATSET SITE (152140)
 BABYLON, NEW YORK
 SUFFOLK COUNTY

Map Date: 7/26/2018
 Source: ESRI, 2011

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- Legend**
- DDC Well Cluster
 - Monitoring Well
 - Groundwater Sampling Location
 - Site Location

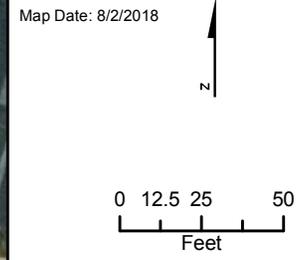
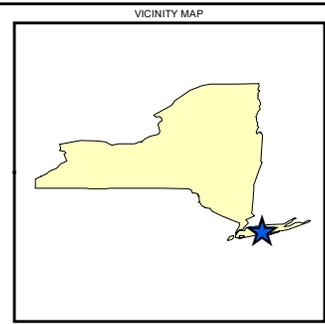
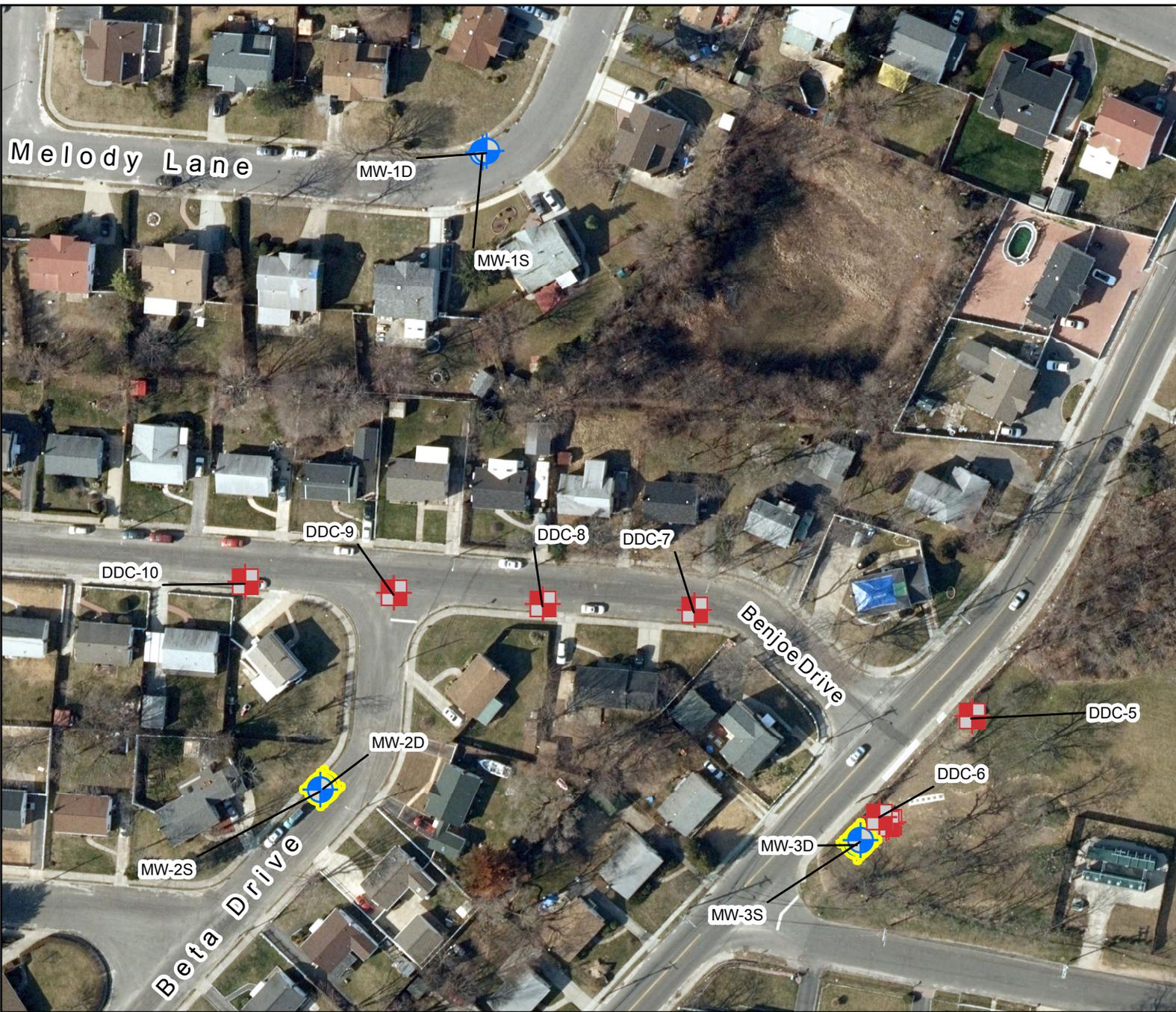


Figure 6A
ONSITE GROUNDWATER SAMPLING LOCATIONS
NATIONAL HEATSET SITE (152140)
BABYLON, NEW YORK
SUFFOLK COUNTY

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- Legend**
-  DDC Well Cluster
 -  Monitoring Well
 -  Groundwater Sampling Locations
 -  Site Location

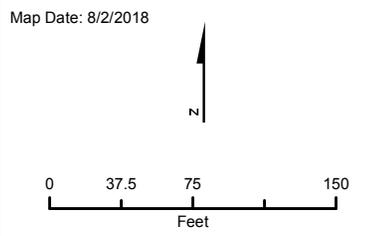


Figure 6B
OFFSITE GROUNDWATER
SAMPLING LOCATIONS
 NATIONAL HEATSET
 SITE (152140)
 BABYLON, NEW YORK
 SUFFOLK COUNTY