Glenn Springs Holdings, Inc.

Roger F. Smith, P.G.
Project Manager
Direct Dial (713) 366-5143

5 Greenway Plaza, Suite 110
Houston, TX 77046

January 16, 2017

Mr. Mike Negrelli
Emergency and Remedial Response Division
United States Environmental Protection Agency - Region II
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Negrelli:

Re: Quarterly Report – Fourth Quarter 2016 (October through December)
Administrative Orders Hooker Chemical/Ruco Polymer Corporation Site
Index Nos. II-CERCLA-80216, II-CERCLA-94-0210, and II-CERCLA-02-2001-2018

This submittal provides the Quarterly Progress Report covering October through December 2016 for the Hooker/Ruco Site in Hicksville, New York. This Report covers OU-1, OU-2, and OU-3. Please note that the next Quarterly Progress Report will be submitted by April 15, 2017 and will cover January through March 2017. A listing of the primary activities is provided in Table 1.

Quarterly Progress Report

The following activities were performed during the period October through December 2016:

- The Quarterly Progress Report for the time period July through September 2016 was submitted to the USEPA on October 6, 2016.
- GSH responded to the UPEPA on November 10 regarding USEPA's comments received November 8 on the Bayer environmental easement.

Operable Unit 1 (On-Site Soil)

All work has been successfully completed. OU-1 is closed.

Operable Unit 2 (Soils Impacted by On-Site Release of PCBs)

All work has been successfully completed. OU-2 is closed.

Operable Unit 3 (Off-Site Groundwater)

Comments on the USEPA's Five Year Review of the Site, which was received on September 7, 2016, were provided to the USEPA on October 11, 2016.

A listing of the OU-3 O&M activities performed for this reporting period is provided in Table 2. Additional details for the primary activities are provided in the following sections.

It is noted that the selected remedy for the VCM subplume is also based on the recognition that the Northrop groundwater extraction and treatment system (i.e., pumping of Northrop Wells 1 and 3R and treatment via the Tower 96 system) is containing and remediating a commingled plume of PCE and TCE from the Northrop, NWIRP and Hooker/Ruco sites. The VCM subplume is co-located within the commingled PCE/TCE plume. Most of the PCE and TCE located within the commingled plume is associated with the Northrop and NWIRP sites. The Northrop system captures and treats all of the PCE, TCE and VCM, not being treated by the biosparge system, associated with the Hooker/Ruco Site.

Supplemental Treatment System

i) Operation and monitoring of the GP-1/GP-3R supplemental air treatment system continued.

ii) The carbon bed was changed out on October 3, 2016. This is the last carbon changeout scheduled to be performed by GSH.

In accord with the evaluation provided in the 2nd Quarter 2016 Progress Report, the Annual Guideline Concentration (AGC) and Short-term Guideline Concentration (SCG) for VCM in the discharges from Northrop's regenerative vapor phase activated carbon system are met and the annual mass loading of VCM is less than 100 pounds. It is noted that the VCM concentrations in Well 3R continued to decrease from 8.6 to 5.0 μg/L between May 12, 2016 and August 17, 2016. Thus, treatment of VCM by OCC's supplemental system is no longer needed. Therefore, GSH is planning to stop operation of the supplemental system when the current potassium permanganate treatment bed is exhausted. That is to occur in January 2017.

Biosparge System

See Figures 1 and 2 for system layout and Figures 3 and 4 for system cross-sections. Also shown on Figures 1 and 2 are the most recent VCM groundwater concentrations.

Insertion of the samplers for the 2nd semi-annual biosparge system performance monitoring event started on October 3, 2016. All samplers were inserted and retrieved in October except for MW-58D & D1 and MW-63S & I, which required sequential sampling since all four screens are in the same riser. The samplers for the four wells were inserted on October 19 and retrieved on November 2, 2016. A summary of the wells sampled is provided in Table 3. It is noted that the PDBs for MW-87D2 and MW-88D2 ripped during retrieval. Thus, there was insufficient sample for VOC analyses. This is the first time that a PDB has ripped. For future sampling events, extra PDBs will be ordered and if a PDB does rip, a second PDB will be inserted after removal of the ripped PDB and retrieved two weeks after insertion.

It is noted that VCM has always been non-detect in MW-87D2 and has been less than the MCL of 2 μg/L in MW-88D2 since April 2014.

The QA/QC review of the results is provided in Attachment A. The electronic data deliverable (EDD) is provided in the attached CD (to USEPA only).

During the reporting period, air injection was temporarily stopped during sampling for the biosparge system performance monitoring event. For the remainder of the reporting period, air was injected into all north fence wells and all middle fence injection wells except for IW-15D2, IW-16D1, IW-17D2, IW-18D1, IW-19D1, IW-19D2, IW-20D1 & D2 and IW-22D1 & D2. A fault in the PLC output module was determined to be the cause for the disruption to injection into IW-20D1 & D2 and a replacement module was ordered and installed. A leak in the downhole piping was determined to be the cause for IW-22. The downhole pipe was exposed by excavation to determine the extent and nature of the leak and to develop options to repair the pipe. For the remainder of the wells for which injection is not occurring, it is believed that there are physical impairments in these wells. It is also believed that air injection into these wells is not essential because air is being injected into the air injection wells immediately adjacent to and above these injection points, the dissolved oxygen (DO) concentrations in the majority of nearby monitoring wells are greater than the target level of 2.0 micrograms per liter (mg/L), and VCM concentrations continue to decrease or remain low level.

Summary of Biosparge System

The DO, total volatile organic compounds (TVOC), and VCM concentration trends for the individual groundwater monitoring wells around the biosparge injection system are shown on Figures 5 through 25. To date, the results show that the biosparge system is operating successfully as demonstrated by the following:

i) DO levels in the groundwater are greater than the target concentration of 2 milligrams per liter (mg/L) in 20 of the 39 monitoring wells measured in October/November 2016 (see Table 4).

ii) Groundwater VCM concentrations are non-detect, low level, or decreased between the April/May 2016 and October/November 2016 performance monitoring events in 45 of the 47 monitoring wells for the biosparge system as a result of the microbial biodegradation processes. Minor increases were detected in MW-85D2 (non-detect to 4.9 μg/L) and in MW-89D1 (4.2 to 7.9 μg/L).

The 12 wells with lowest DO concentrations are located in close proximity to either the north fence or the middle fence of injection wells. It is anticipated that as the groundwater flow paths converge as they approach Northrop Well 3R, the groundwater with low DO concentrations will mix with groundwater with higher DO concentrations. This expectation is supported by the April 2016 DO concentrations in wells MW-66D2, MW-67 and MW-68 which are located between the middle fence and Well 3R (see Table 4).

The VCM concentrations upgradient of the north fence decreased from 51 μg/L (October 2014) to 42 μg/L (October 2015) in well MW-92 and from 7 μg/L (October 2014) to 4 μg/L (October 2015) in well MW-92. These wells are scheduled to be sampled in October 2017.

The VCM concentrations along the west edge of the VCM subplume between the north fence and the middle fence remained non-detect in wells MW-63 and MW-86 between the April/May 2016 and October/November 2016 sampling events.

The VCM concentrations along the east edge of the VCM subplume downgradient of the middle fence were 4 μg/L in well MW-89 for both the October/November 2015 and April/May 2016 events and increased slightly to 7.9 μg/L for the October/November 2016 event. The VCM concentrations in well MW-85 have been non-detect since the October 2014 monitoring event with a slight increase to 4.9 μg/L in MW-85D2 for the October/November 2016 event.

The VCM concentration in Northrop well MW-3-1, located in close proximity to Northrop Well 3R (fka GP-3) (south of the sub plume), was 5 μg/L in June and November 2015.

All of the above indicate that the extent of the VCM subplume is becoming smaller and the VCM concentrations therein are decreasing.

Table 4 of this report also presents analytical results for the other primary VOCs in the groundwater (i.e., PCE and TCE) being sampled by the biosparge system monitoring wells. The PCE, TCE and VCM concentrations for the time period since the start of operation of the Pilot System in October 2006 (for wells which monitor the Pilot System) and since the start of the remainder of biosparge system in September 2012 (for the wells which monitor the remainder of the system) are provided in the table.

As requested by the USEPA, the listed wells have been divided into three groups:

i) Those wells which are monitored in accordance with the sampling frequency specified in Table 7.1 of the OU-3 Interim Remedial Action Report (Base Wells)
ii) Those wells which are sampled periodically on a voluntary basis to obtain a more regional view of chemical presence in the vicinity of the VCM plume (Voluntary Wells)
iii) Those wells monitored by Northrop which aid in interpreting the chemical presence in the vicinity of the VCM plume (Northrop Wells).

For the 43 base wells listed in Table 4, the PCE concentrations since start of the biosparge system operation have:

i) Decreased in 14 wells
ii) Remained relatively constant with random fluctuations in 22 wells
iii) Increased then decreased in 4 wells
iv) Increased in 3 wells

Similarly, the TCE concentrations have:

i) Decreased in 13 wells
ii) Remained relatively constant with random fluctuations in 20 wells
iii) Increased then decreased in 9 wells
iv) Increased in 1 well

The well in which both PCE and TCE concentrations increased was MW-83D2 while PCE increased in MW-77D2 and in MW-87D2. Two of these wells (MW-83D2 and MW-87D2) are located in proximity to the western edge of the VCM plume. MW-77D2 is located in proximity to the eastern edge of the VCM plume. The reason for this slight increase is uncertain but is believed to be inconsequential. During installation of the north fence biopsparge system injection and monitoring wells into the VCM impacted groundwater in 2011, groundwater with higher PCE and TCE concentrations were detected in the deeper groundwater below the elevation of the groundwater with VCM(see Figure 3). At that time, it was believed, and still is, that the PCE and TCE at depths below the VCM were due to sources other than the Hooker/Ruco Site. It is possible that the groundwater with higher concentrations is now impacting the groundwater chemistry in the referenced wells.

With regard to the wells which are sampled on a voluntary basis, it was noted that there was a TCE concentration increase in well nest MW-58 from the 100 ug/L range in May 2013 to 4300 to 6500 ug/L range in November 2014. It is believed that these increases are due to the increased pumping rate of Northrop Well 3R drawing more of the highly TCE impacted groundwater from Northrop's OU-3 (see Figure 26).

Also of note is that the PCE and TCE concentrations in the well nests upgradient of the VCM plume (i.e., MW-92 and MW-93) have decreased significantly (e.g., PCE in MW-92D has decreased from 690 µg/L in April 2011 to 30 µg/L in October 2015). These results combined with the decreasing VCM results in these wells are consistent with the expectation that the north upgradient edge of the VCM plume is migrating southward.

Well Conditions Update

The operational status of the injection and monitoring wells for the biosparge system is provided in Table 5. All wells identified as functional in Table 5 of the 2nd Quarter 2016 Progress Report remain functional except for IW-20 and IW-22 as previously described. The operational status will be updated using observations obtained during the 1st semi-annual 2017 biosparge system performance monitoring event.

Planned First Quarter 2017 Activities

The following activities are planned for the first quarter of 2017:

i) Continue operation and maintenance of the biosparge system.
ii) Cease operation and maintenance of the GP-1/GP-3R supplemental air treatment system in January 2017.
iii) Remove the spent supplemental air treatment system carbon bed and potassium permanganate bed in January 2017.

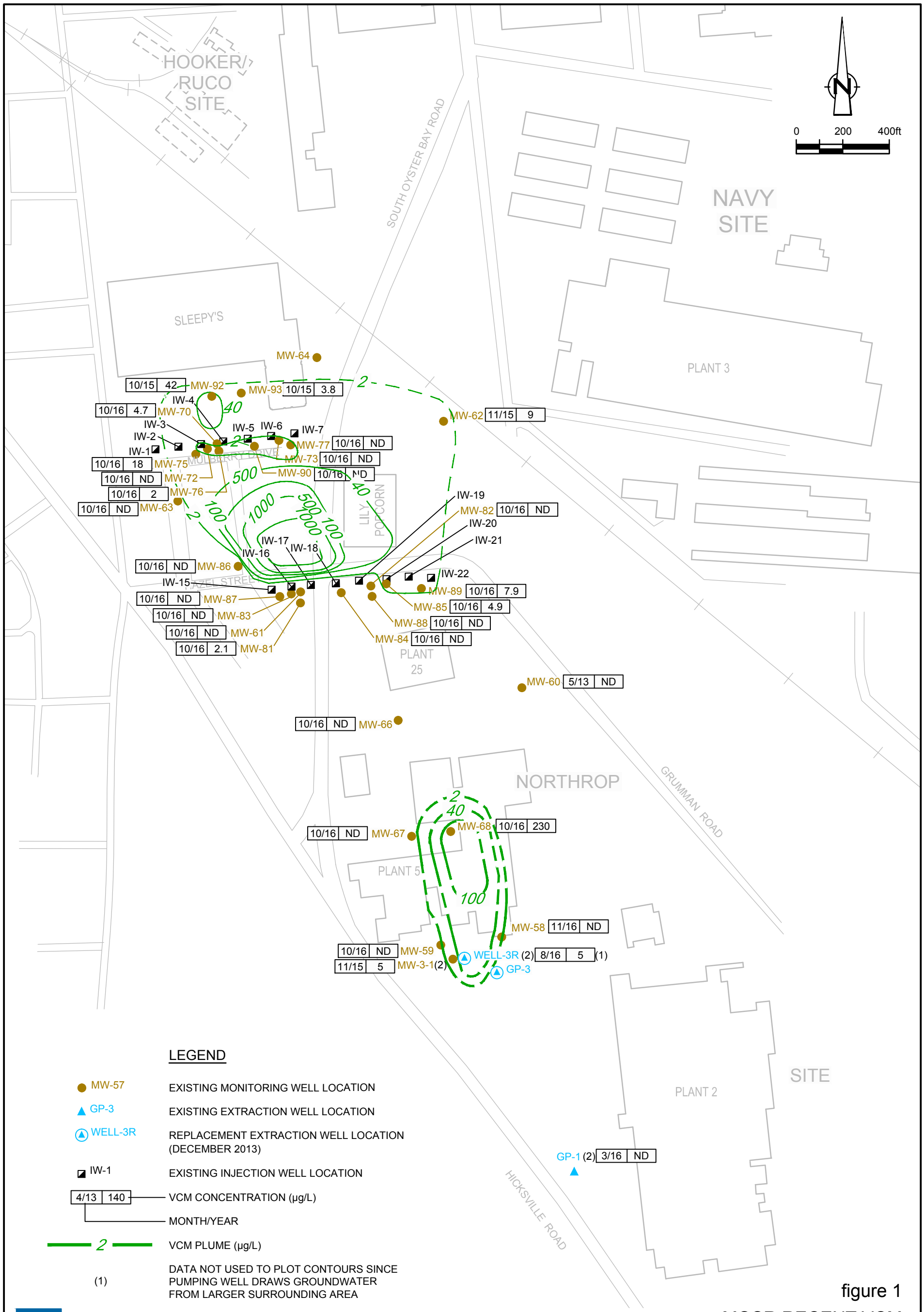
Should you have any questions on the above, please do not hesitate to contact me at (713) 366-5143 or e-mail at Roger_Smith@oxy.com.

Yours sincerely,

Roger Smith
Senior Project Manager

KDS/mg/20
Encl.

cc: P. Mannino (USEPA)
M.E. Wieder (USEPA)
S. Scharf (NYSDEC-PDF on CD)
T. Troutman (Covestro)
T. Kelly (Nassau County)
J. Kay (GHD)



LEGEND

- MW-57 — EXISTING MONITORING WELL LOCATION
- GP-3 — EXISTING EXTRACTION WELL LOCATION
- WELL-3R — REPLACEMENT EXTRACTION WELL LOCATION (DECEMBER 2013)
- IW-1 — EXISTING INJECTION WELL LOCATION
- 4/13 | 140 — VCM CONCENTRATION (µg/L); MONTH/YEAR
- 2 — VCM PLUME (µg/L)
- (1) — DATA NOT USED TO PLOT CONTOURS SINCE PUMPING WELL DRAWS GROUNDWATER FROM LARGER SURROUNDING AREA
- (2) — WELL SAMPLED AND DATA REPORTED BY NORTHROP

GHD

figure 1

MOSR RECENT VCM GROUNDWATER CONCENTRATION

Hooker/Ruco Site, Hicksville, New York

06883-D23102(NEGR020)GN-WA001 JAN 10, 2017

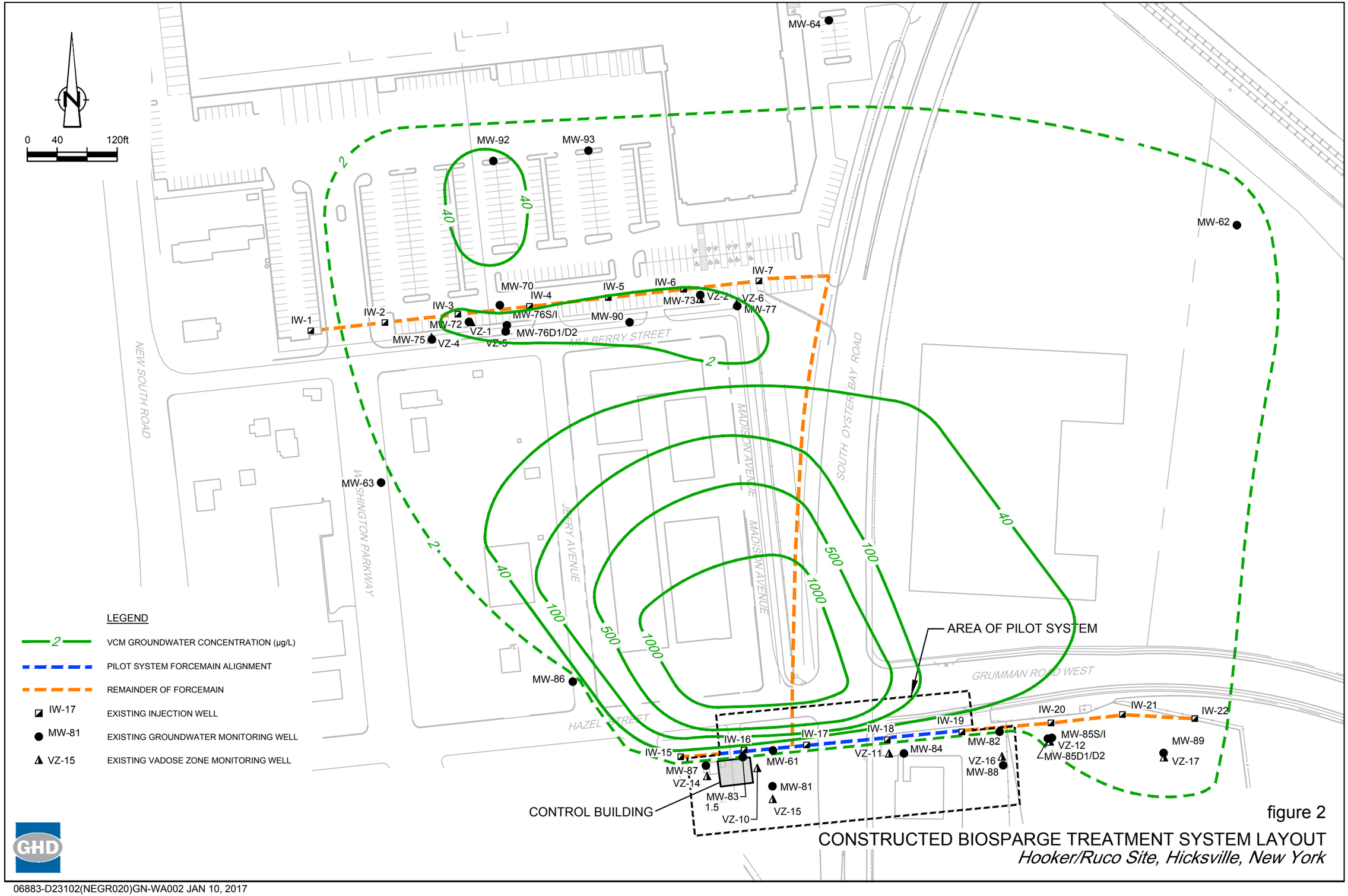
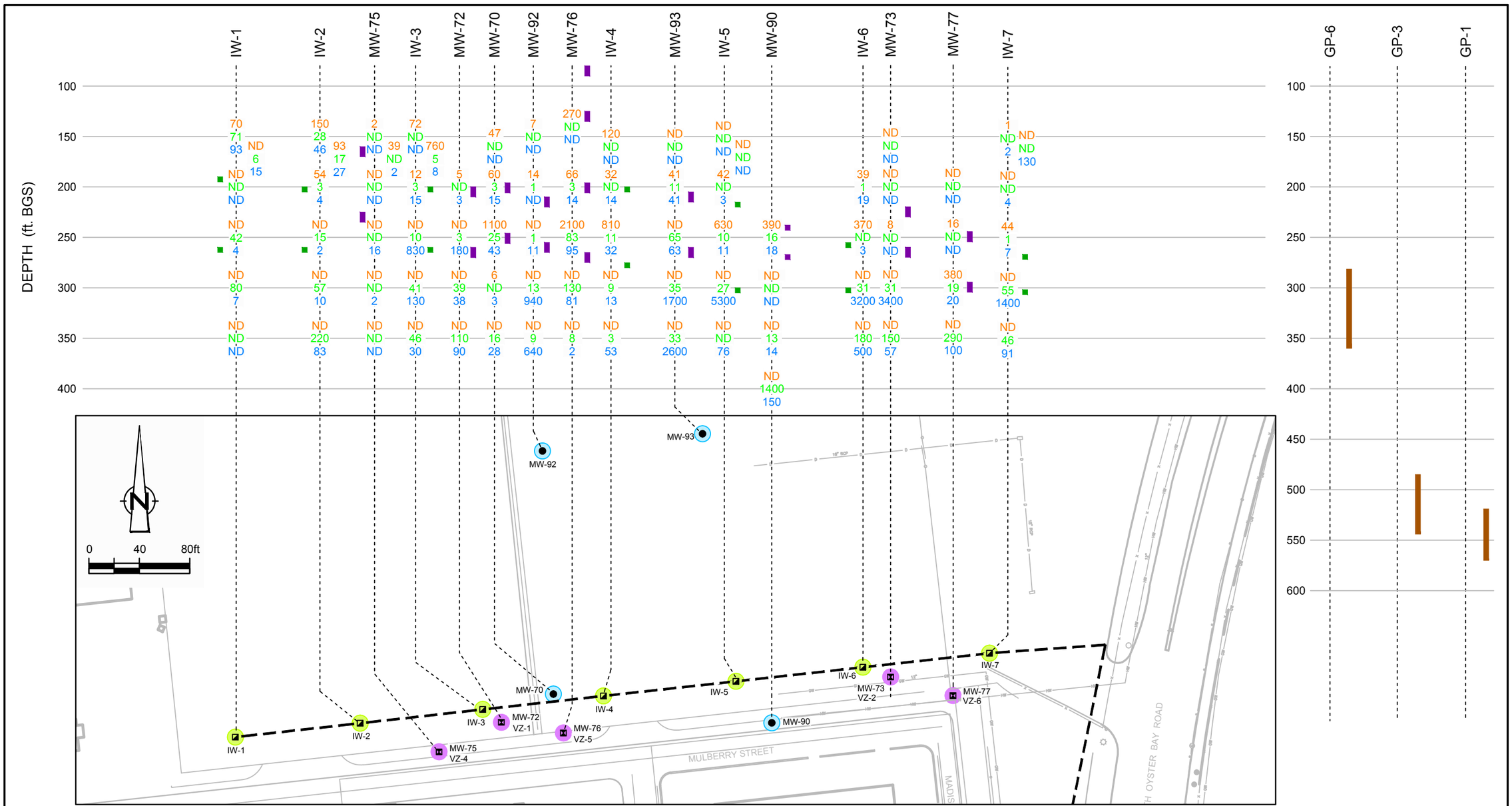


figure 2

CONSTRUCTED BIOSPARGE TREATMENT SYSTEM LAYOUT

Hooker/Ruco Site, Hicksville, New York

06883-D23102(NEGR020)GN-WA002 JAN 10, 2017



LEGEND

- FORCEMAIN ALIGNMENT
- MW-90 — GROUNDWATER MONITORING WELL LOCATION
- IW-4 — INJECTION WELL LOCATION
- MW-76 VZ-5 — GROUNDWATER AND VADOSE ZONE MONITORING WELL LOCATION
- AIR INJECTION WELL SCREENED INTERVAL
- GROUNDWATER MONITORING WELL SCREENED INTERVAL
- PUMPING WELL SCREENED INTERVAL
- 670 HYDROPUNCH VCM CONCENTRATION (ppb)
- 750 HYDROPUNCH TCE CONCENTRATION (ppb)
- 130 HYDROPUNCH PCE CONCENTRATION (ppb)

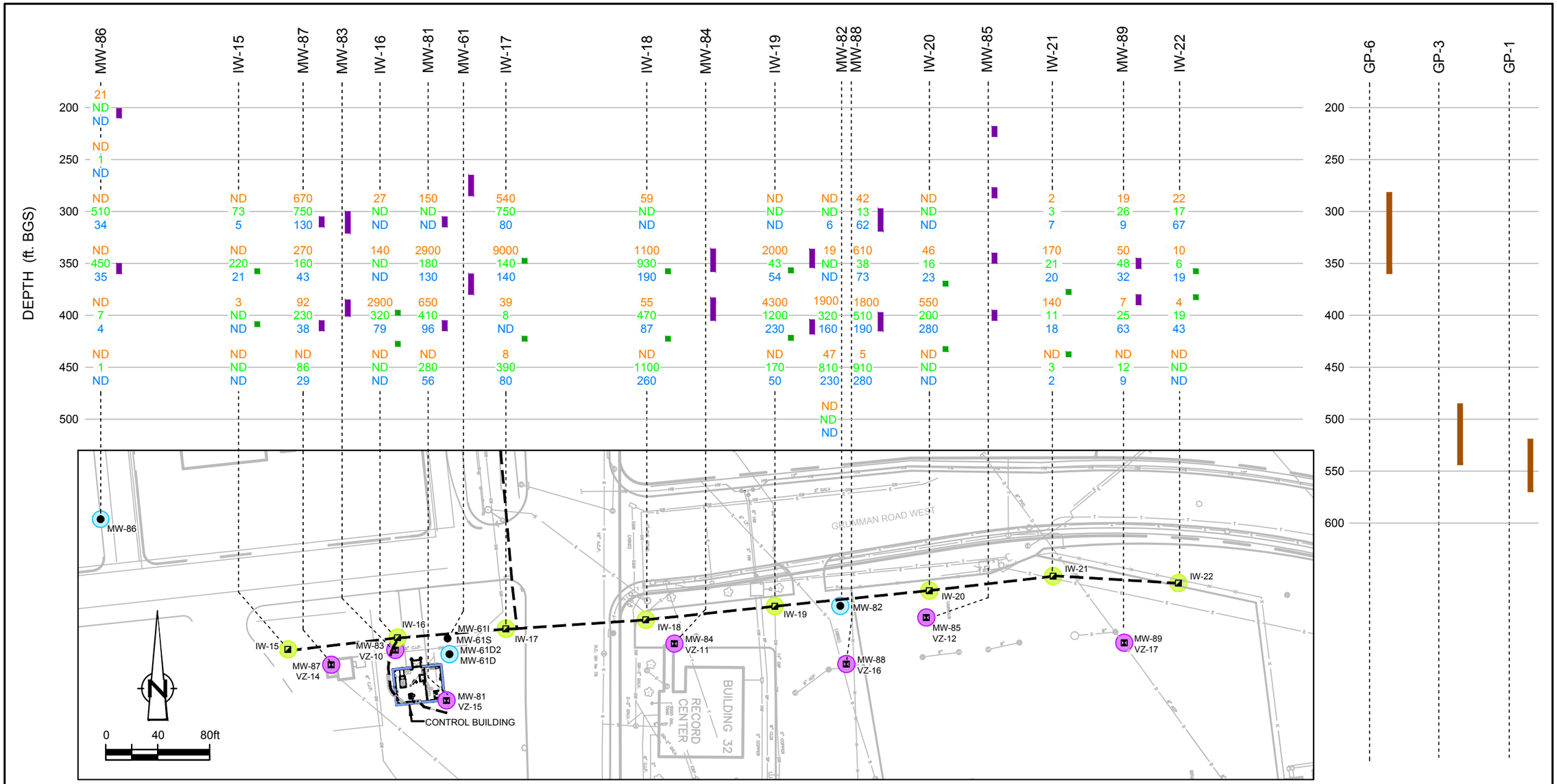
NOTE: FEBRUARY THROUGH MARCH, 2011 HYDROPUNCH RESULTS

figure 3

NORTH FENCE AIR INJECTION AND GROUNDWATER MONITORING WELL SCREENED INTERVALS

Hooker/Ruco Site, Hicksville, New York

GHD



LEGEND

FORCEMAIN ALIGNMENT	AIR INJECTION WELL SCREENED INTERVAL
MW-61 GROUNDWATER MONITORING WELL LOCATION	GROUNDWATER MONITORING WELL SCREENED INTERVAL
IW-8 INJECTION WELL LOCATION	PUMPING WELL SCREENED INTERVAL
MW-80 VZ-9 GROUNDWATER AND VADOSE ZONE MONITORING WELL LOCATION	670 HYDROPUNCH VCM CONCENTRATION (ppb)
OCTOBER THROUGH DECEMBER 2010 HYDROPUNCH RESULTS.	750 HYDROPUNCH TCE CONCENTRATION (ppb)
	130 HYDROPUNCH PCE CONCENTRATION (ppb)

NOTE: PILOT SYSTEM: OCTOBER 2005 THROUGH APRIL 2006 ANALYTICAL RESULTS.
REMAINING COMPONENTS: OCTOBER THROUGH DECEMBER 2010 HYDROPUNCH RESULTS

figure 4

MIDDLE FENCE AIR INJECTION AND GROUNDWATER MONITORING WELL SCREENED INTERVALS

Hooker/Ruco Site, Hicksville, New York

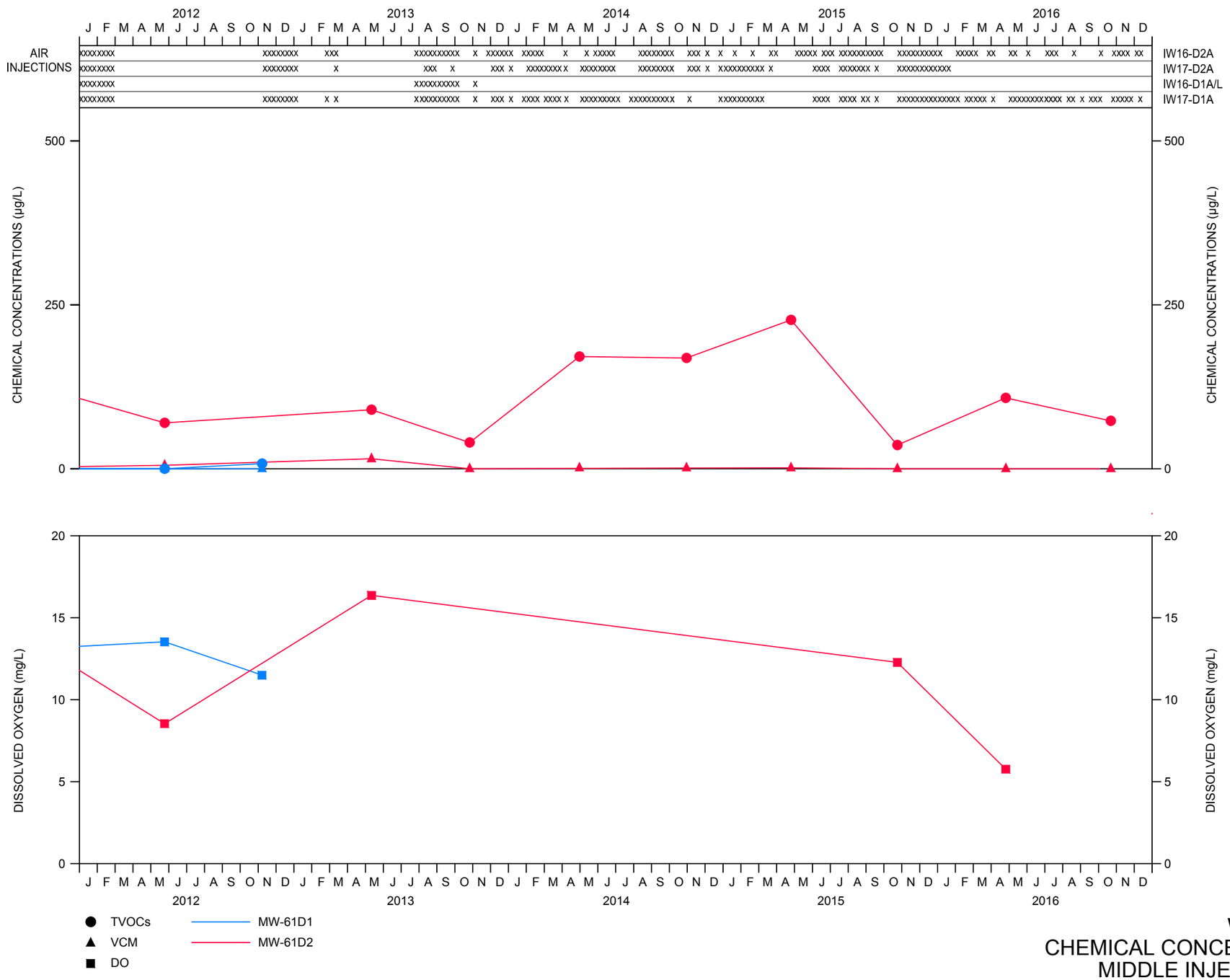


figure 5

WELL NEST MW-61
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

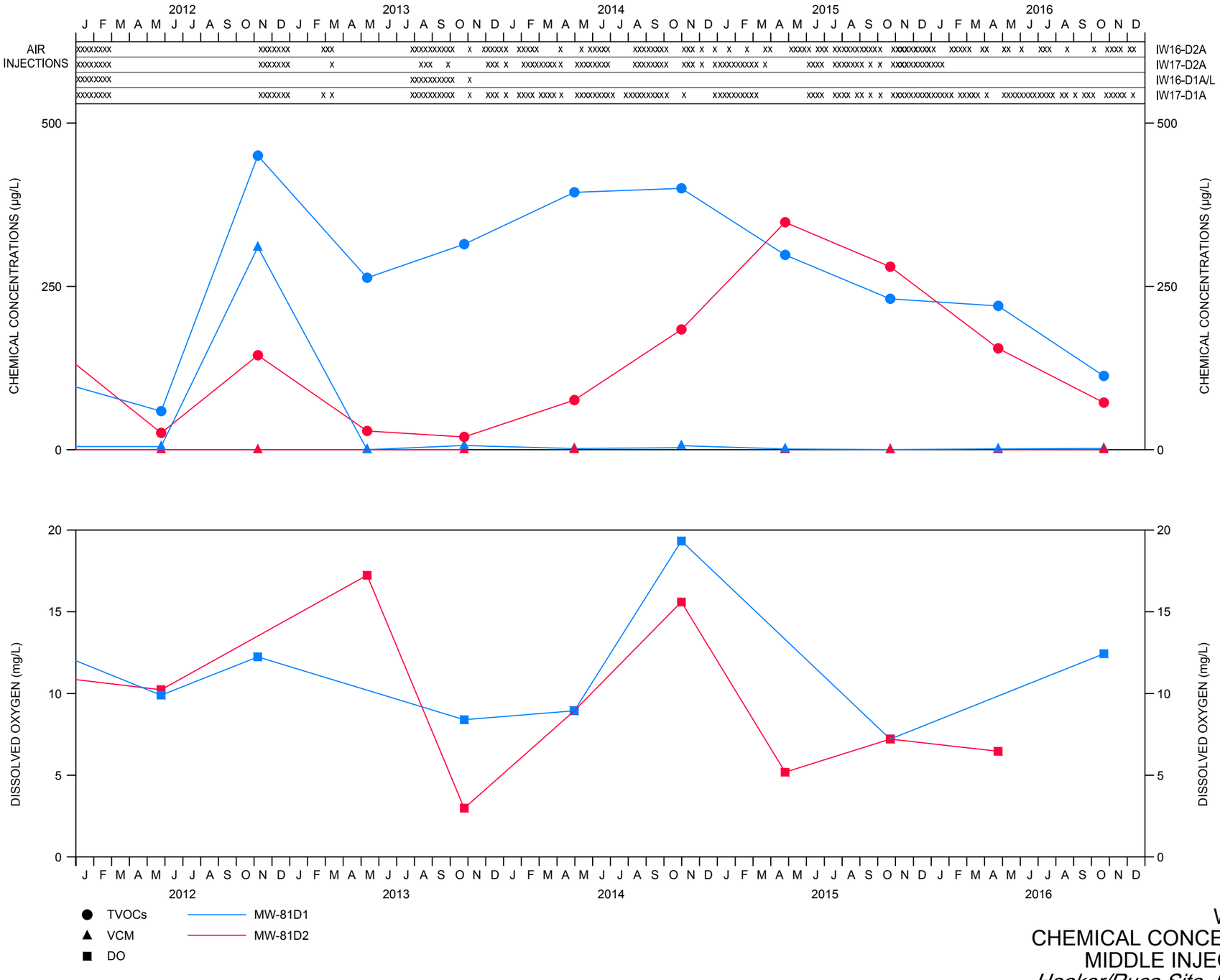


figure 6

WELL NEST MW-81
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

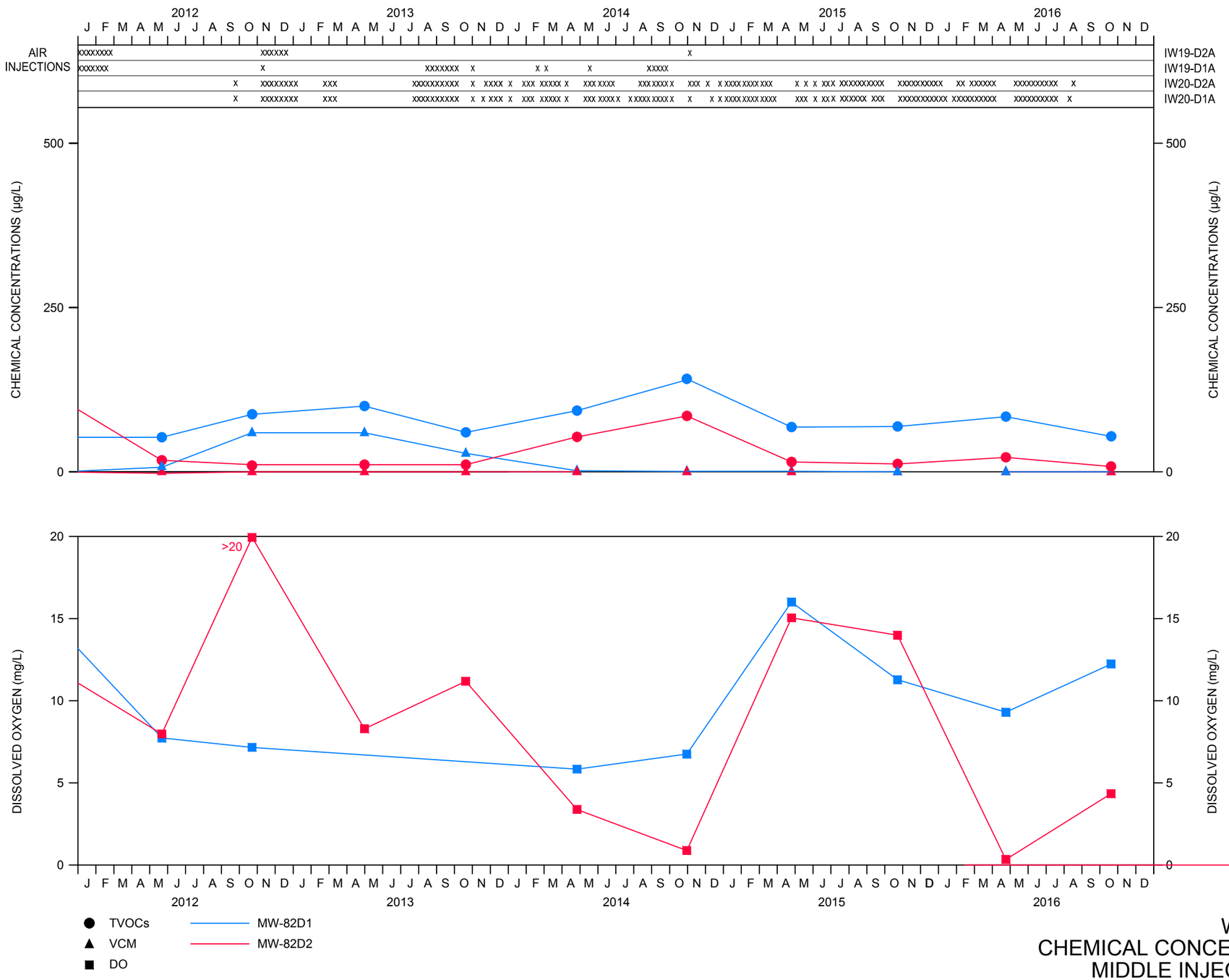


figure 7

WELL NEST MW-82
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

GHD

06883-D23102(NEGR020)GN-WA007 JAN 3, 2017

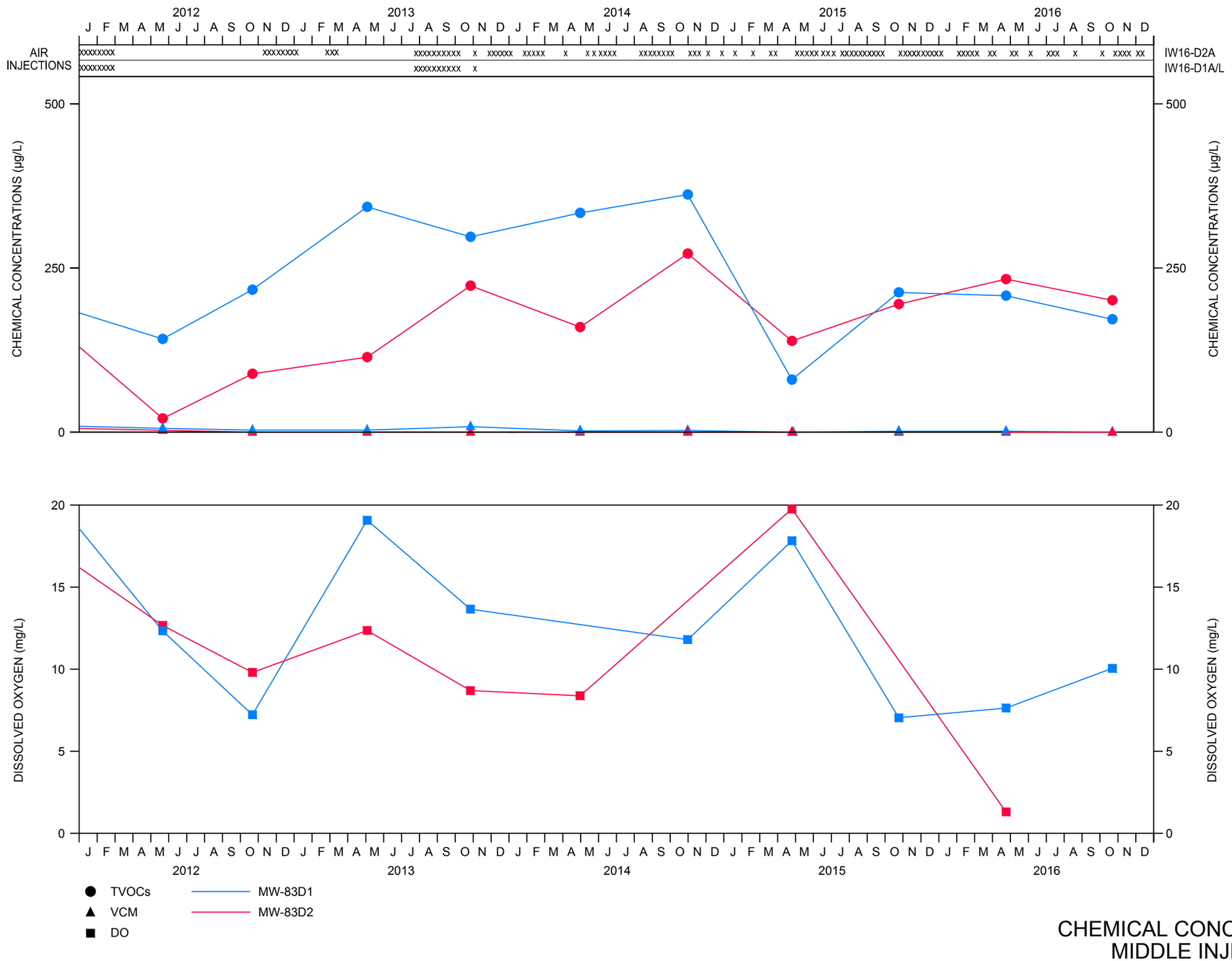
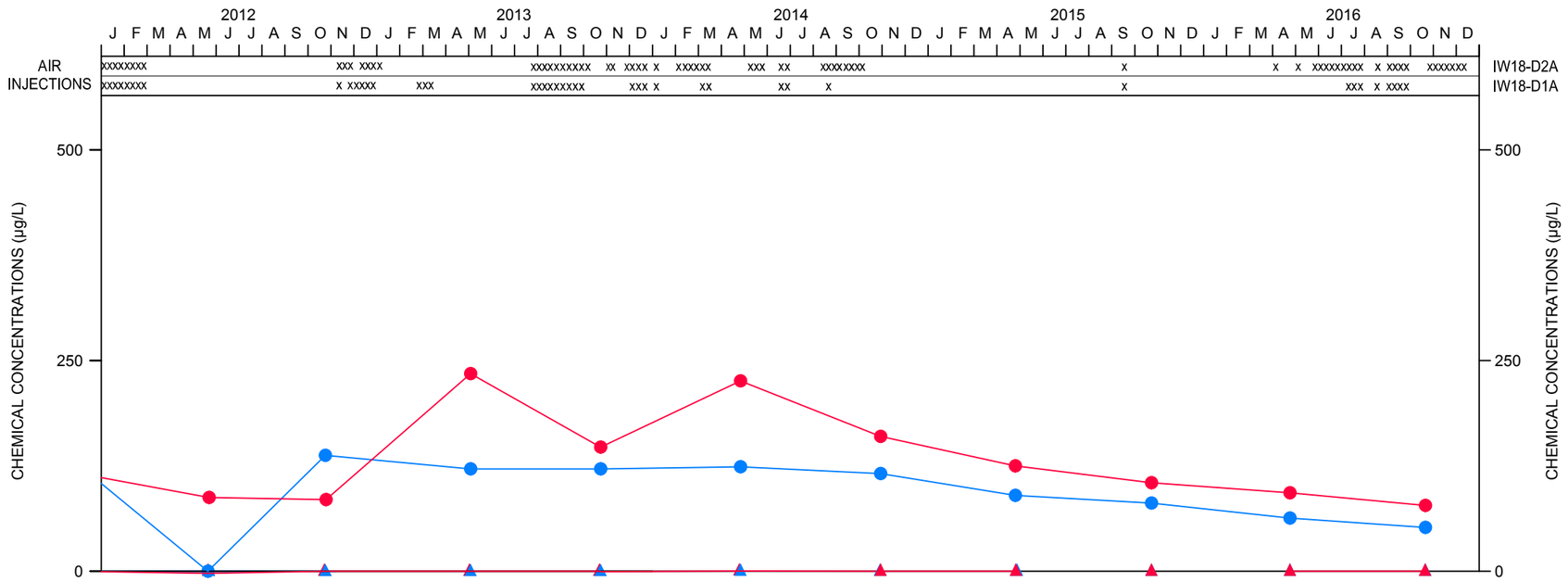


figure 8

WELL NEST MW-83
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York



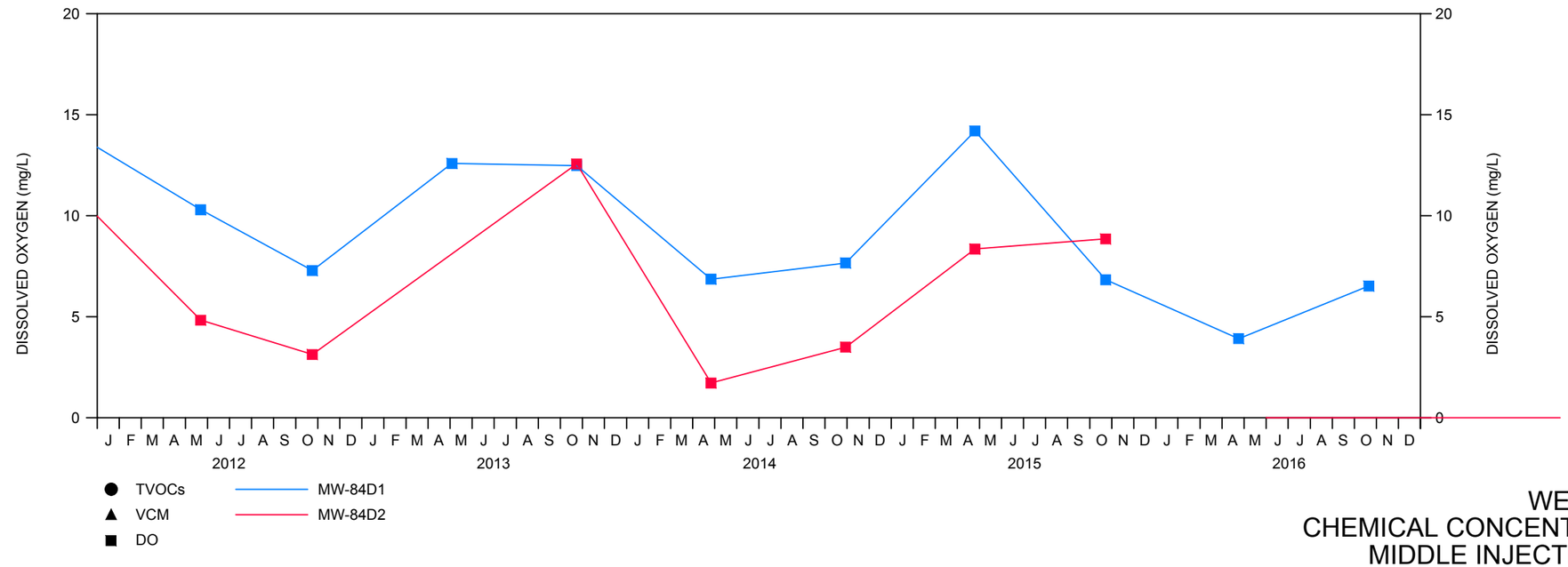


figure 9

WELL NEST MW-84
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

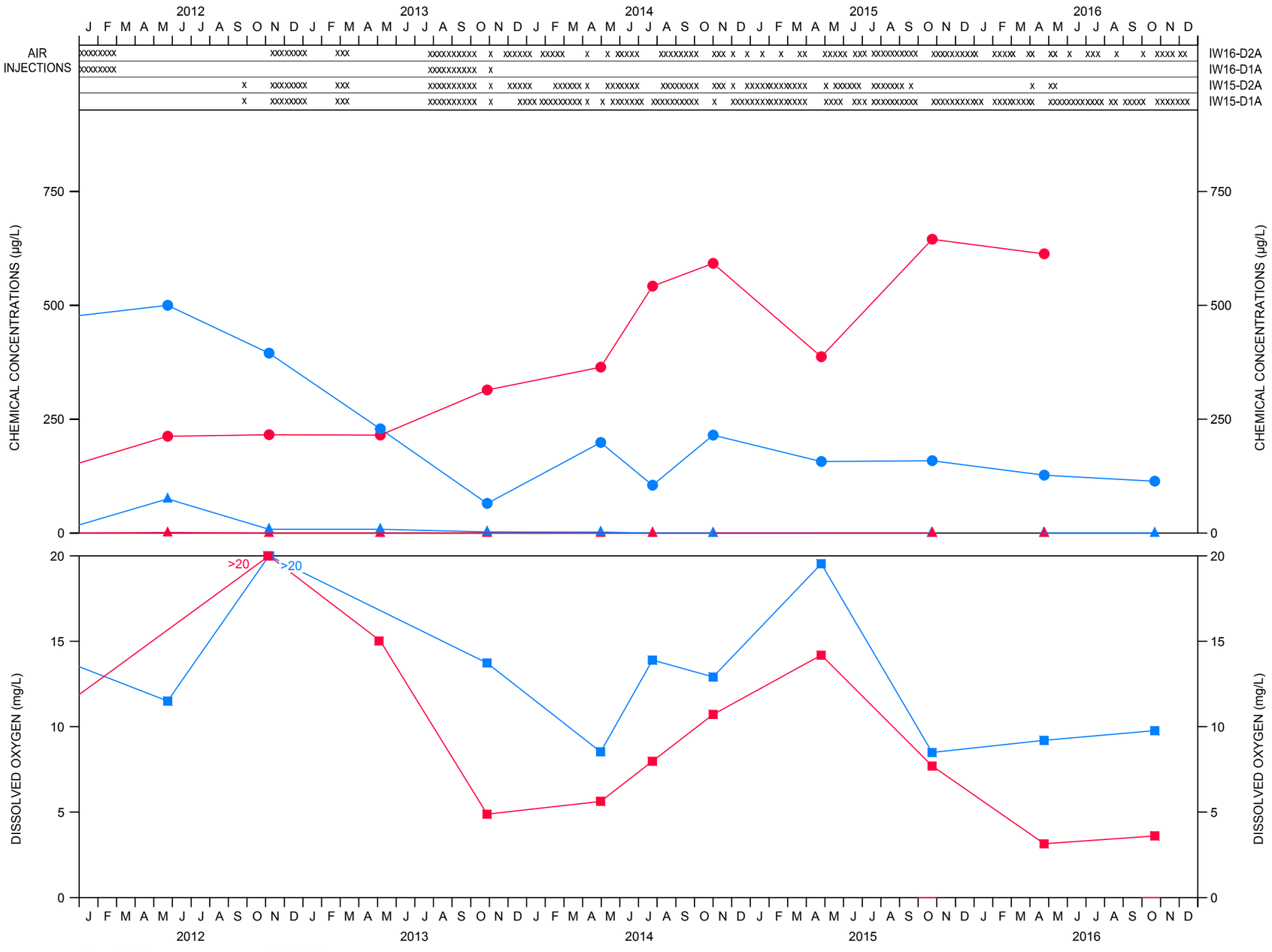


figure 10

WELL NEST MW-87
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

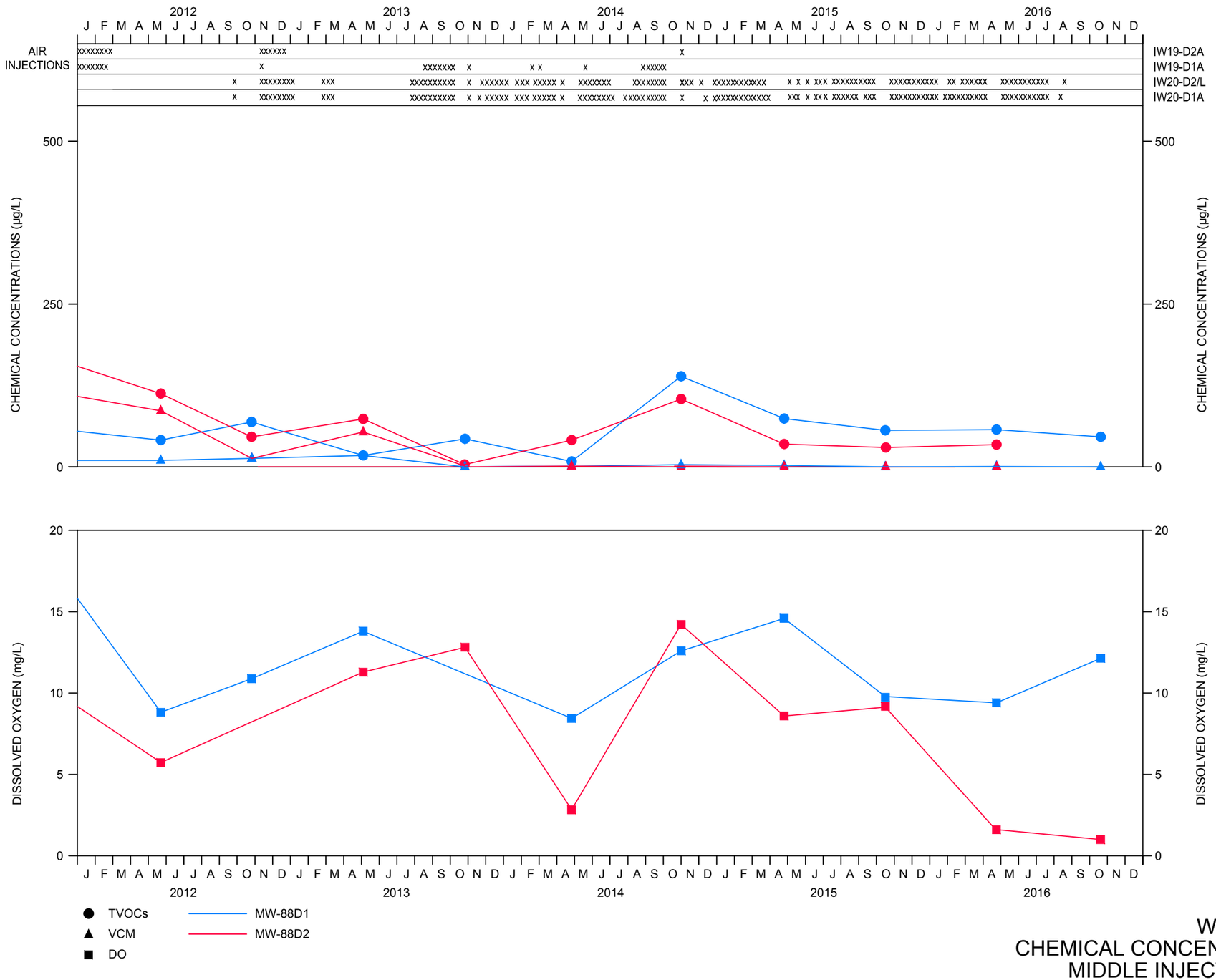


figure 11

WELL NEST MW-88
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

GHD

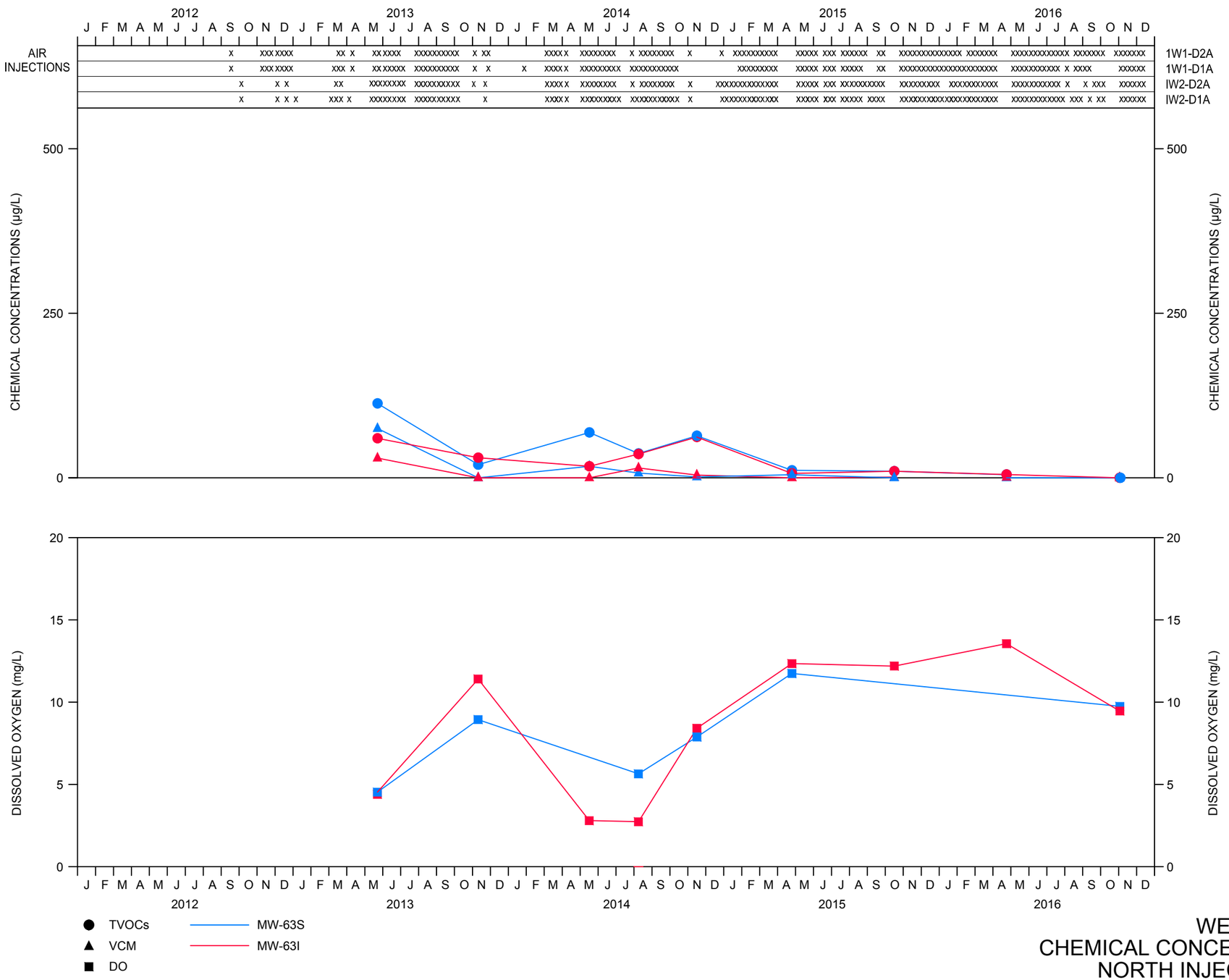


figure 12

WELL NEST MW-63S/I
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

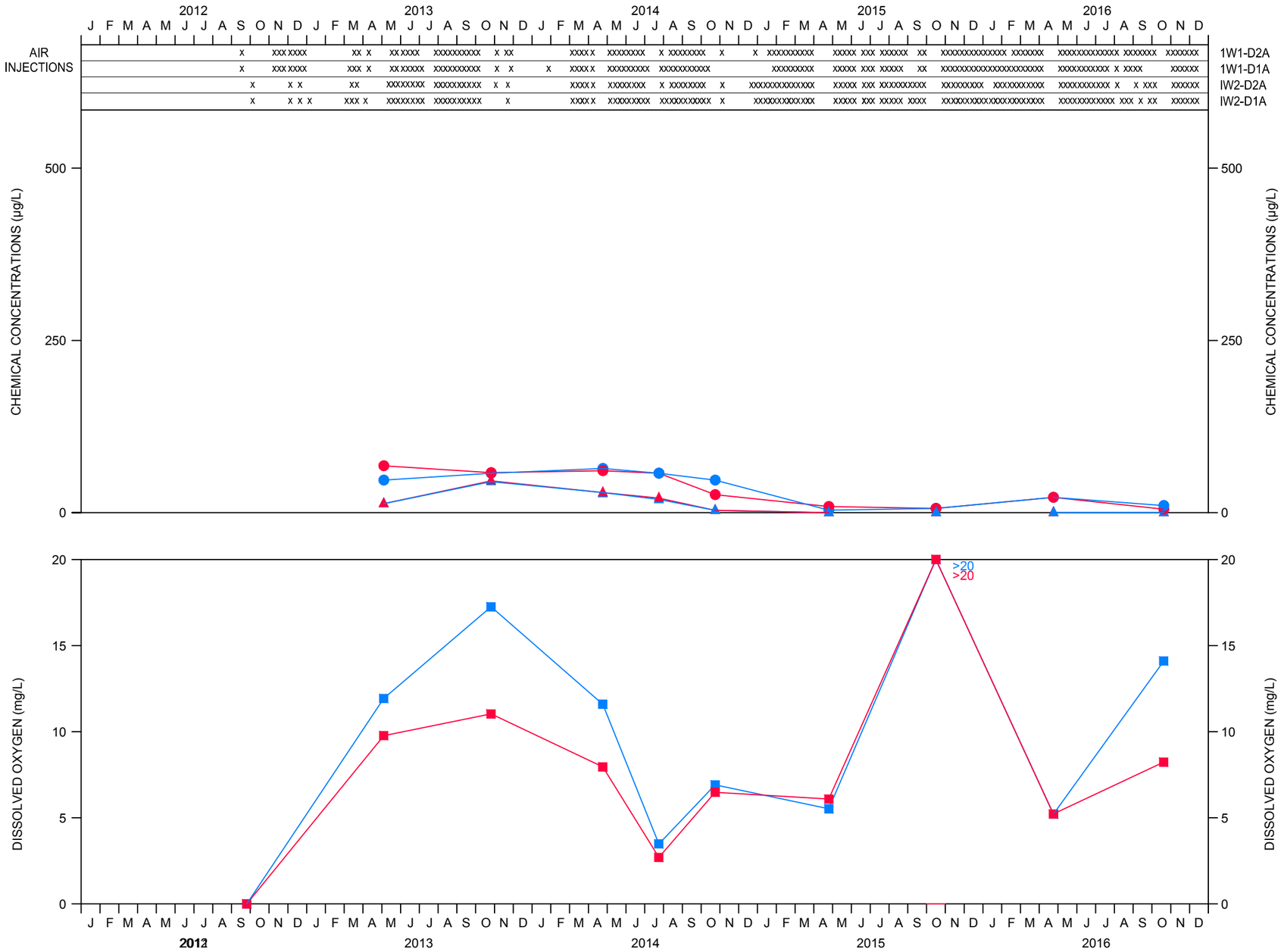


figure 13

WELL NEST MW-63D1/D2
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

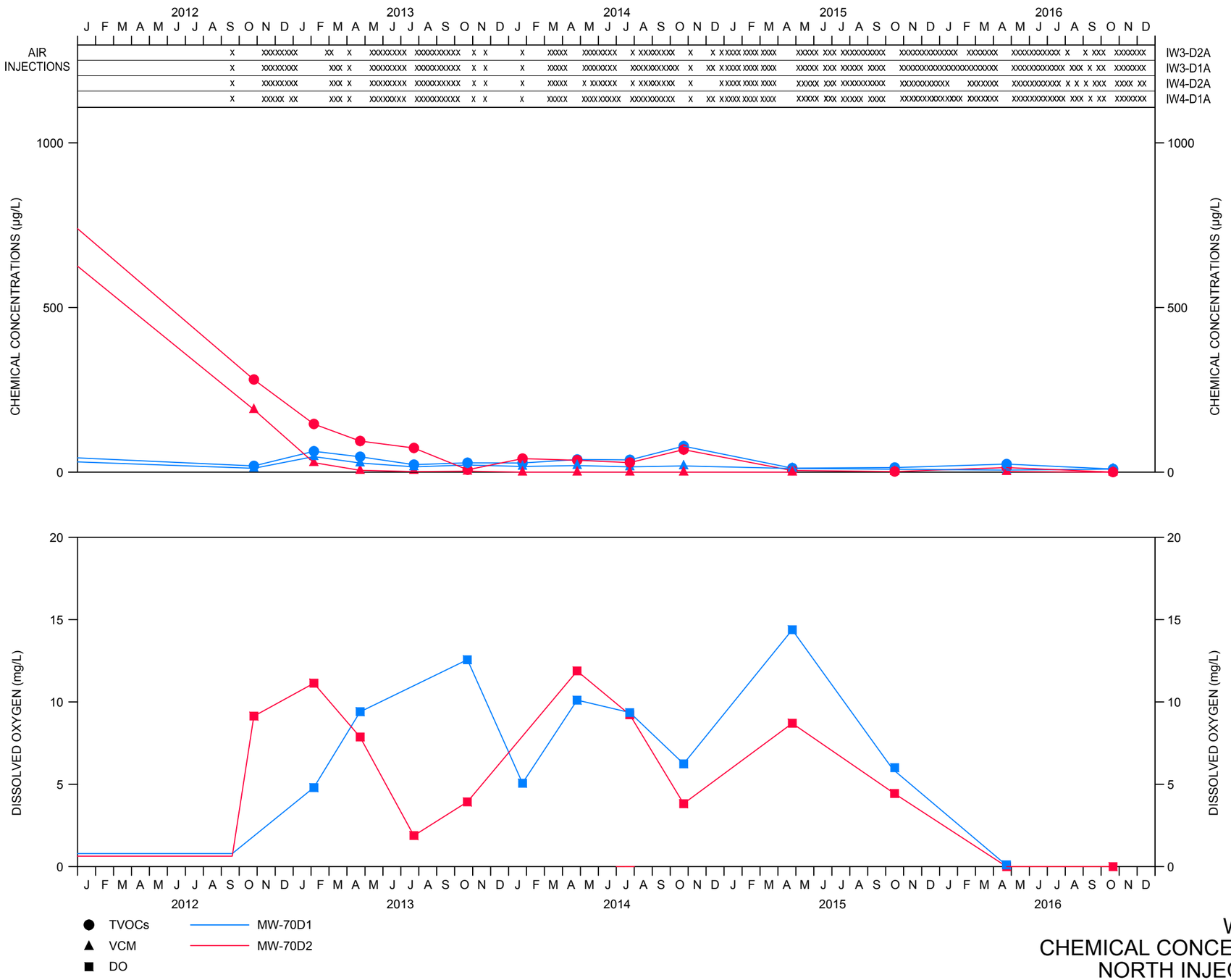


figure 14

WELL NEST MW-70
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

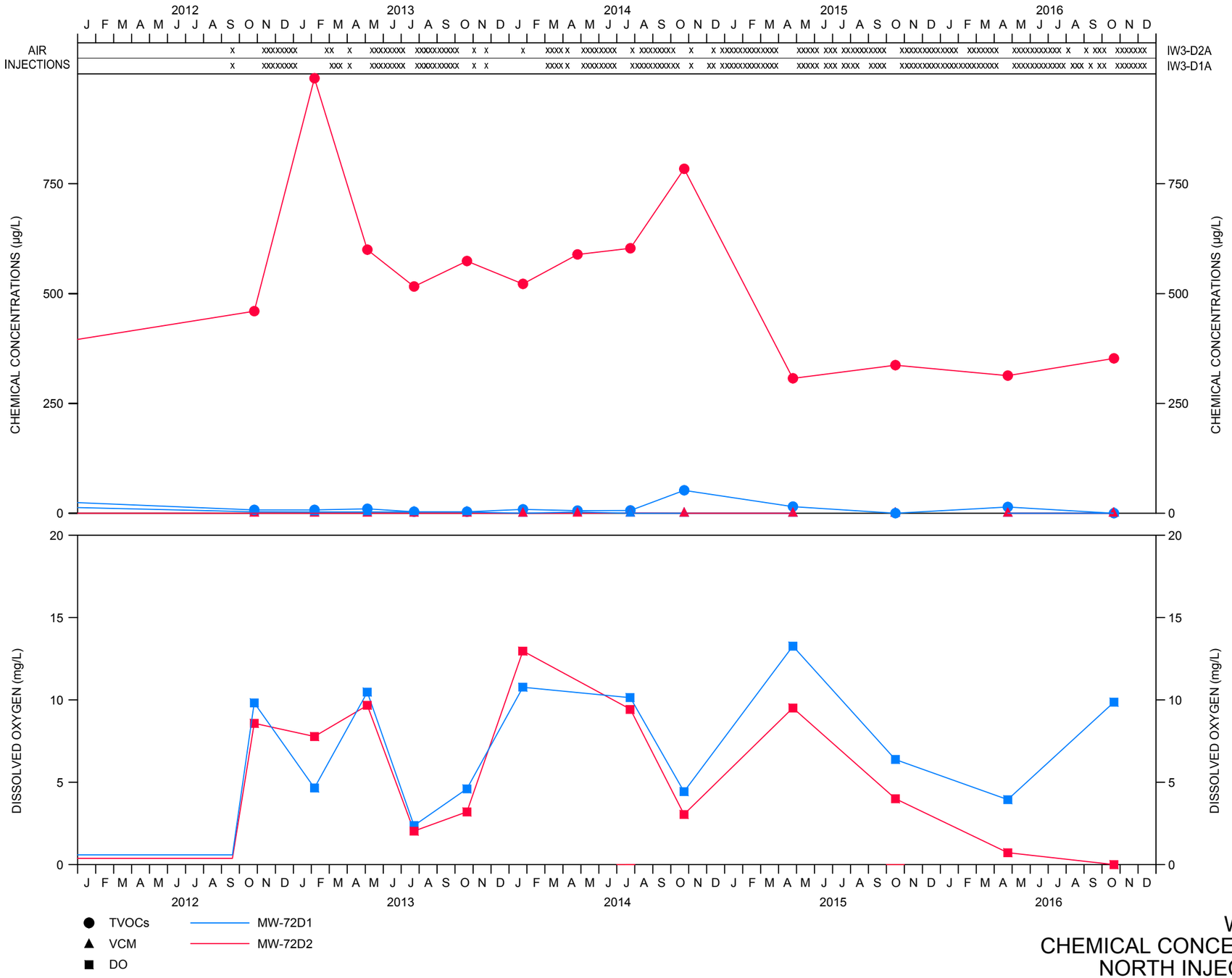


figure 15

WELL NEST MW-72
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

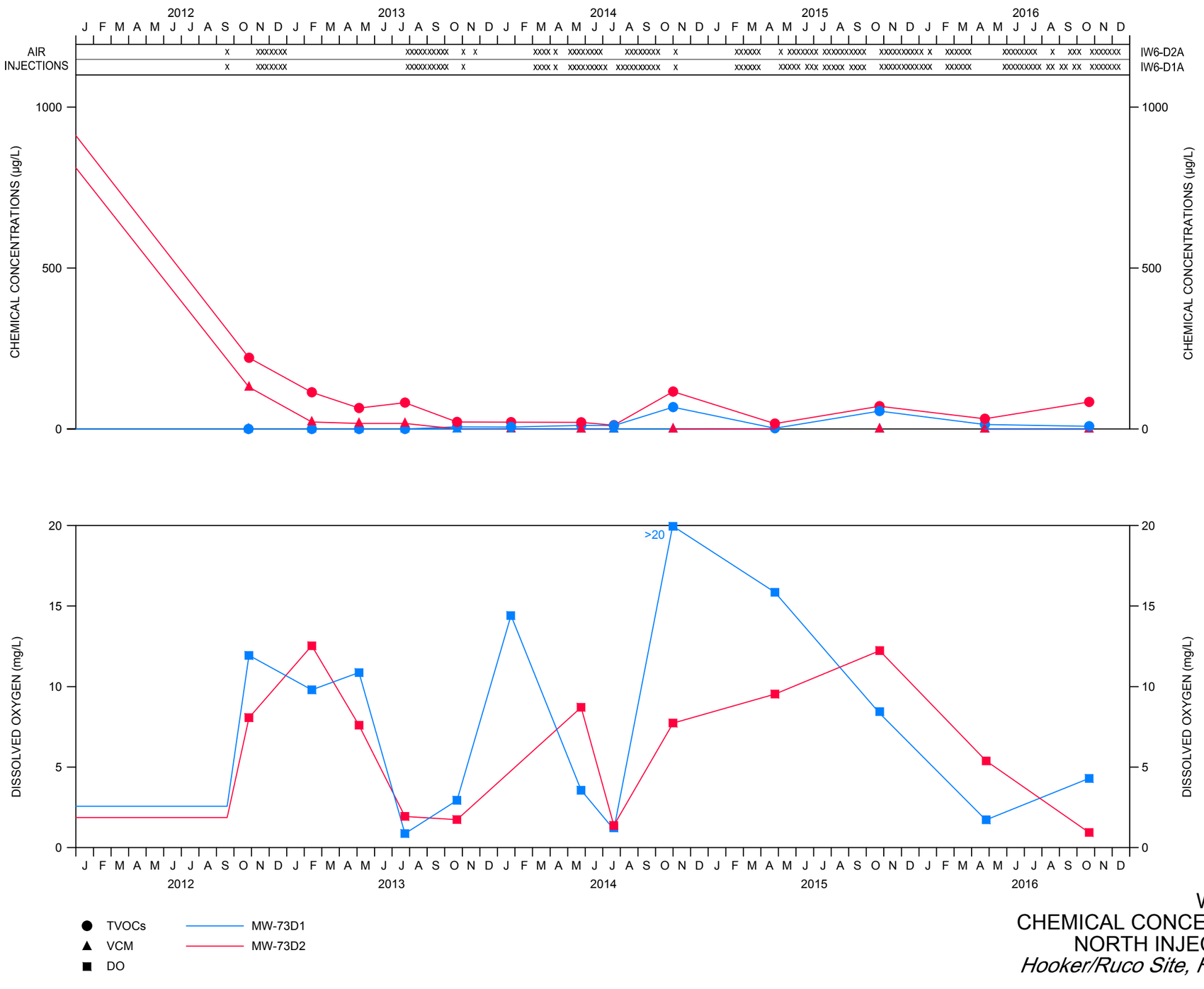


figure 16

WELL NEST MW-73
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

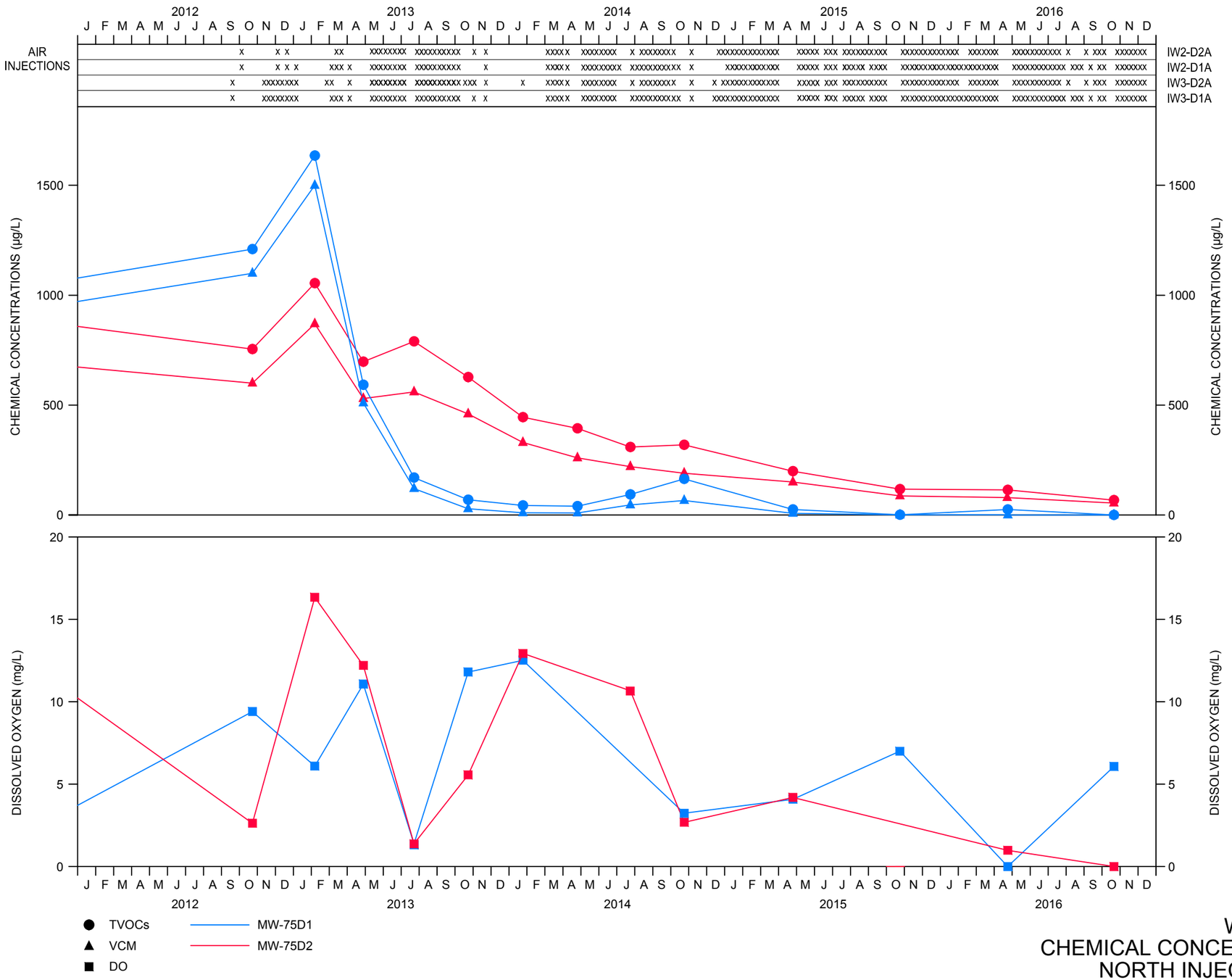


figure 17

WELL NEST MW-75
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

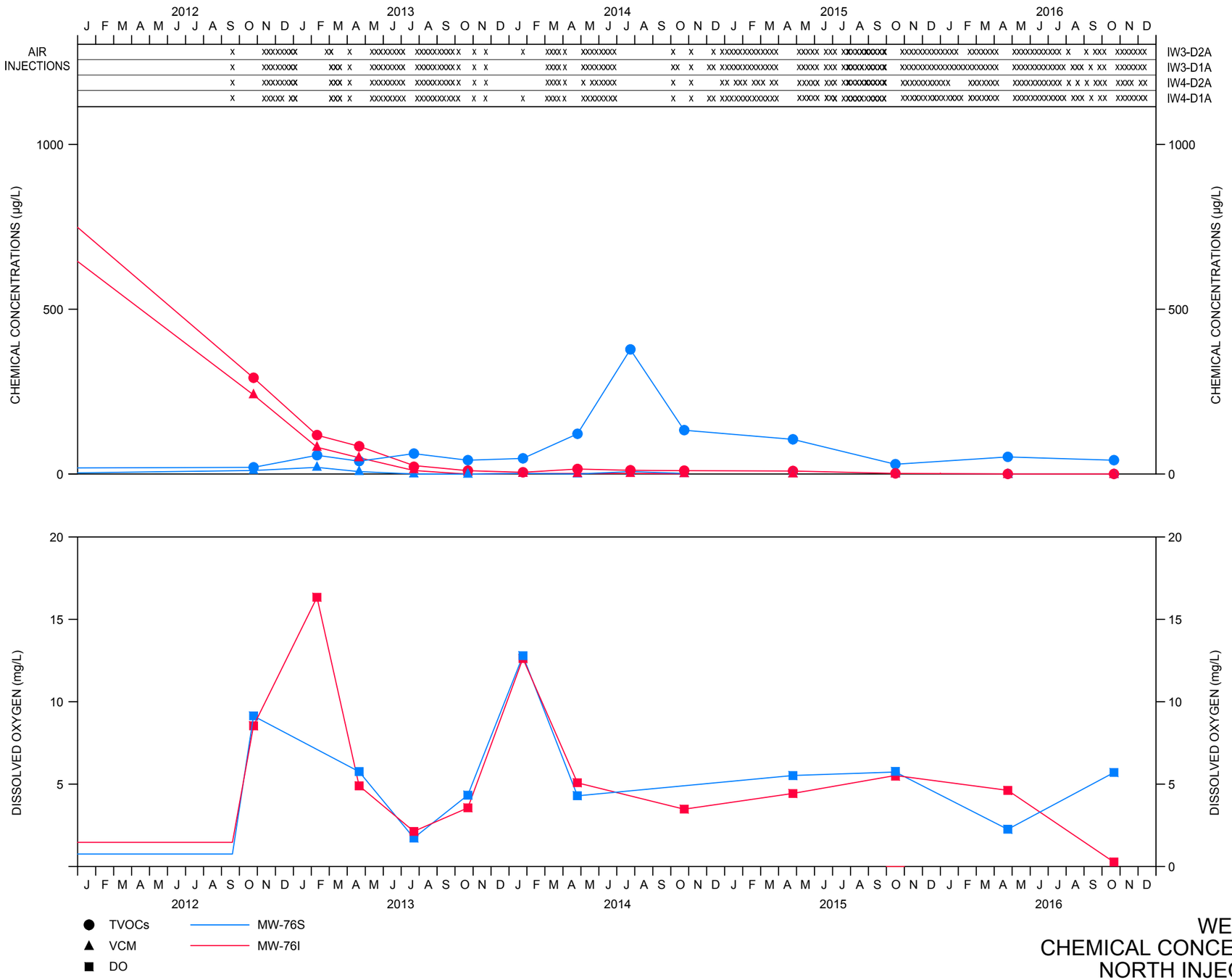


figure 18

WELL NEST MW-76S/I
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

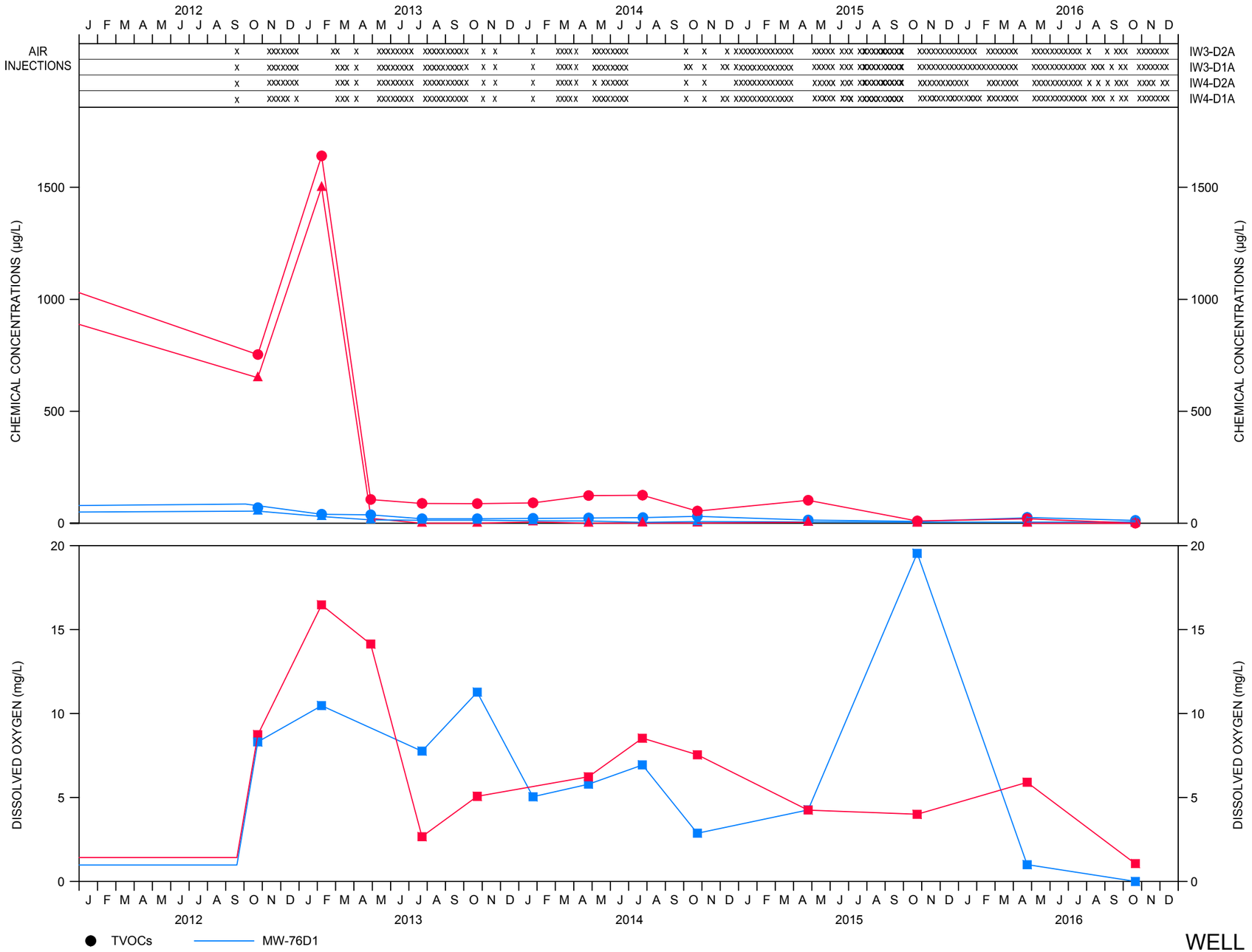


figure 19

WELL NEST MW-76D1/D2
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

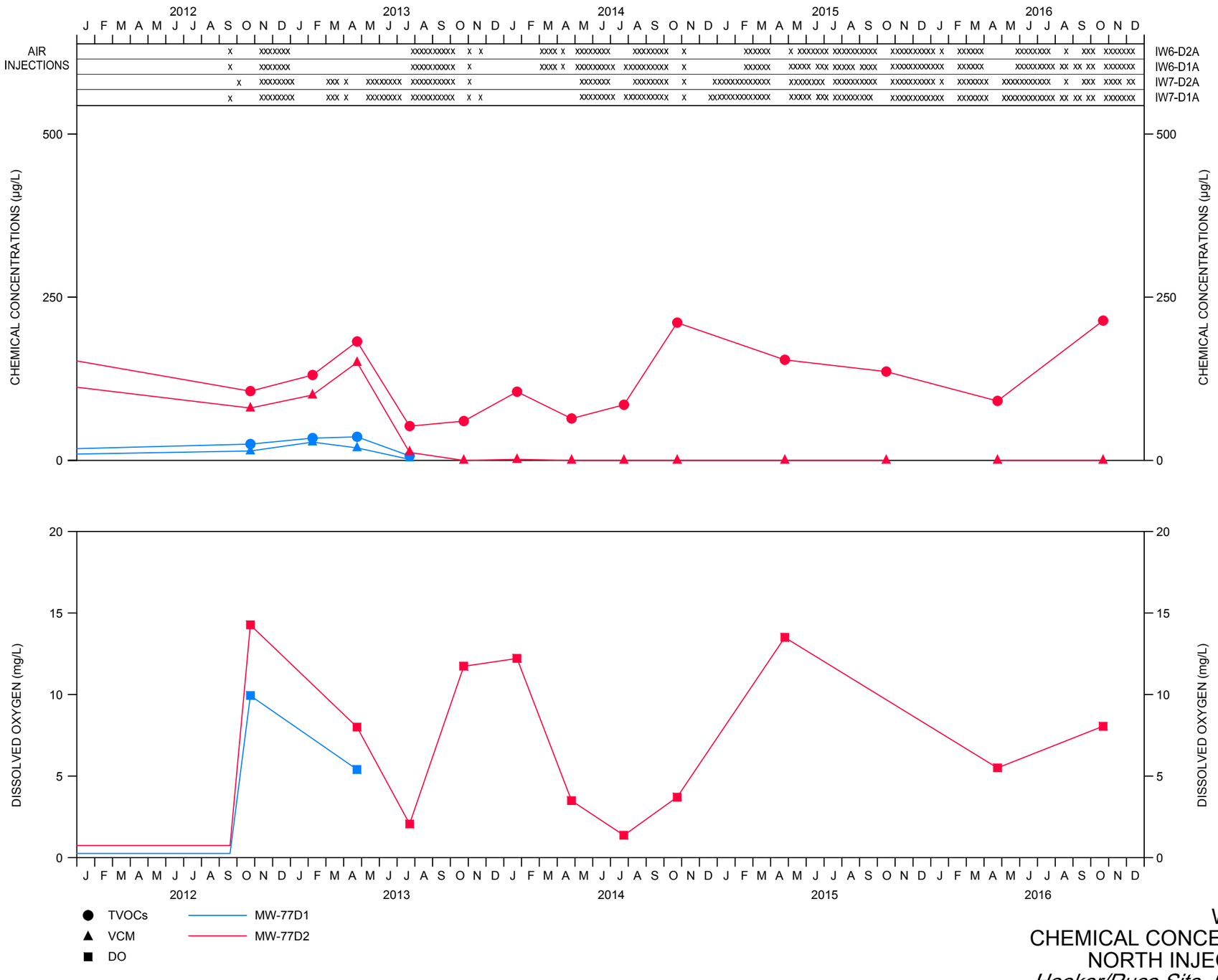


figure 20

WELL NEST MW-77
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

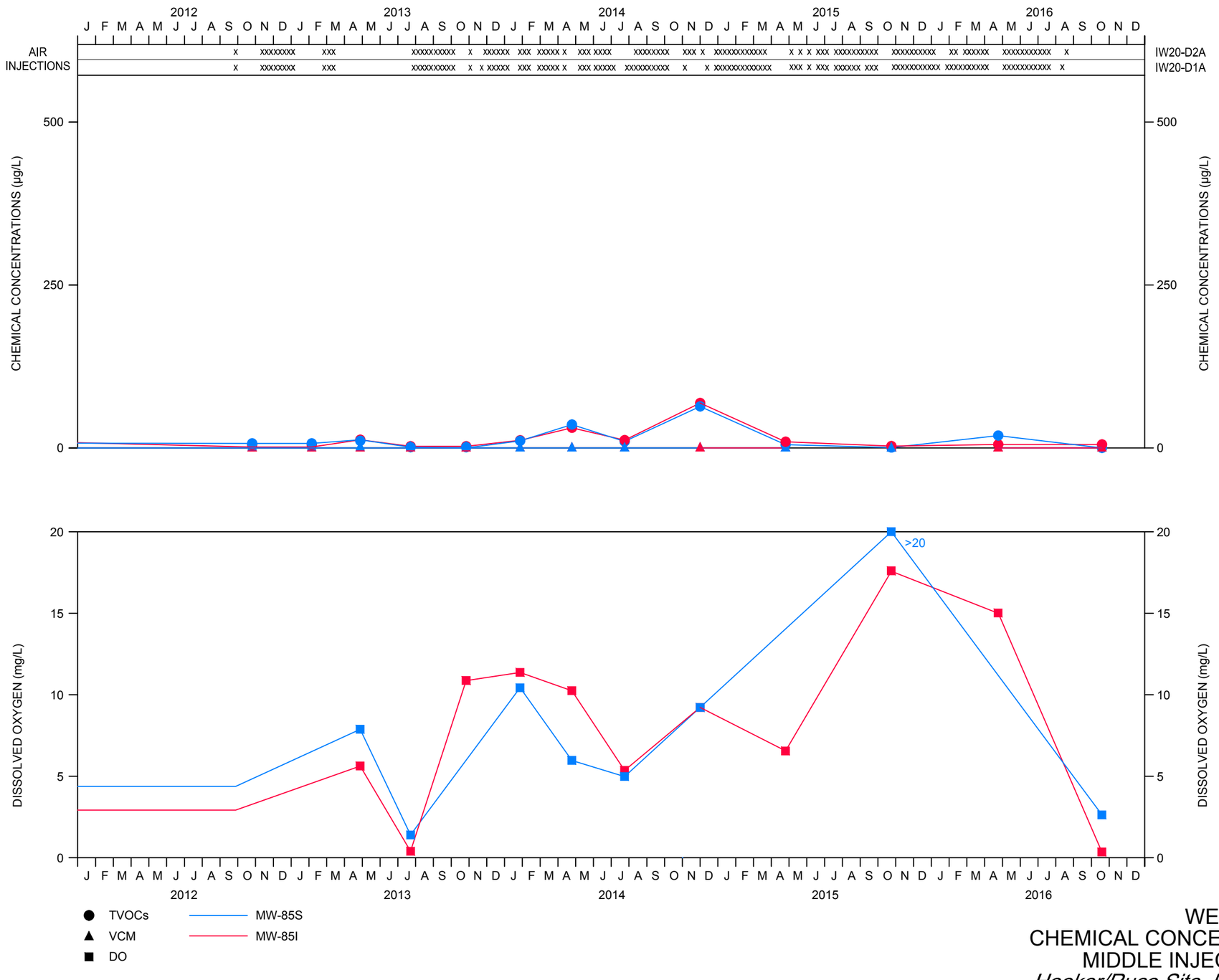


figure 21

WELL NEST MW-85S/I
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

GHD

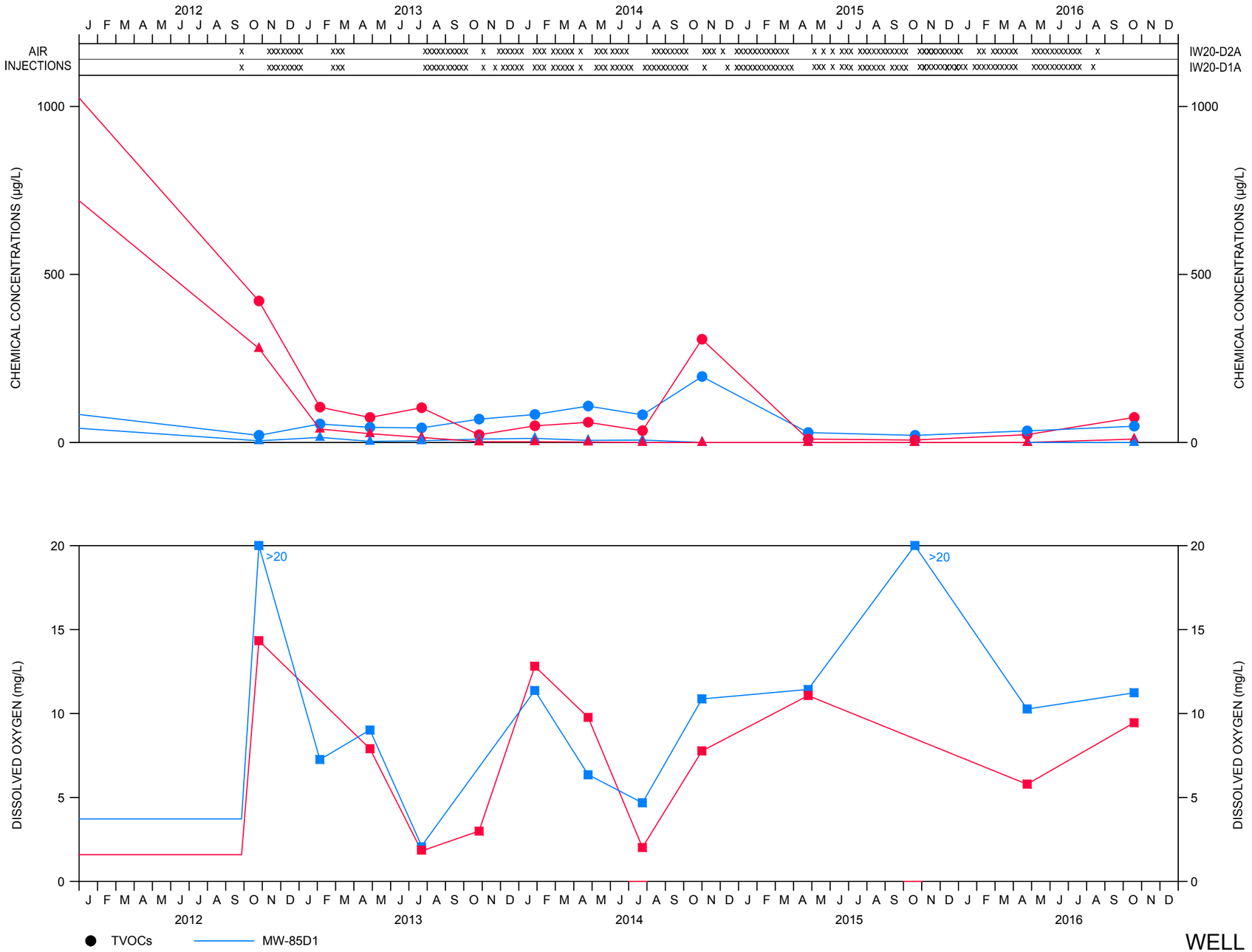


figure 22

WELL NEST MW-85D1/D2
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

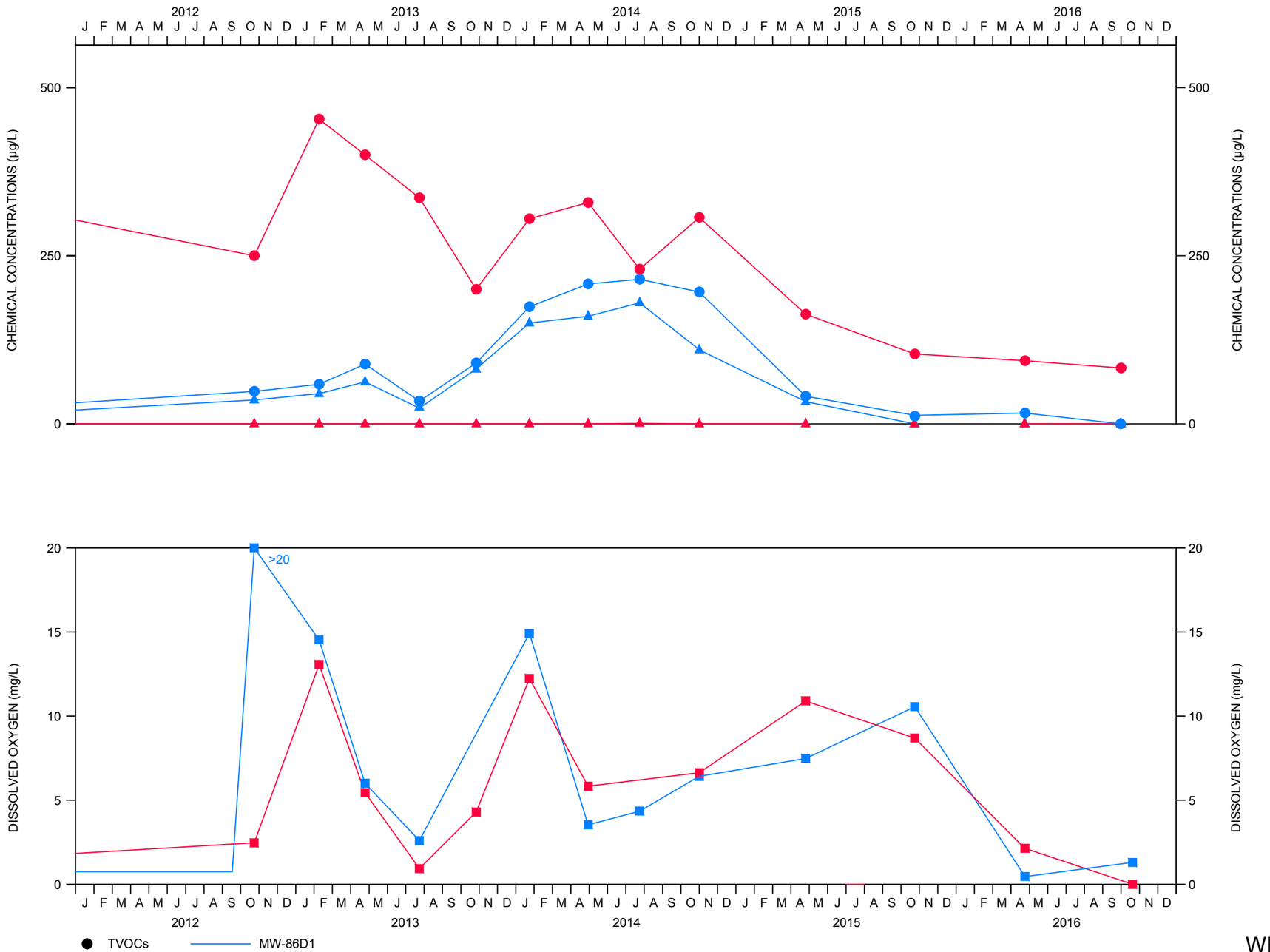


figure 23

WELL NEST MW-86
CHEMICAL CONCENTRATION PLOTS
UPGRADIENT OF MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

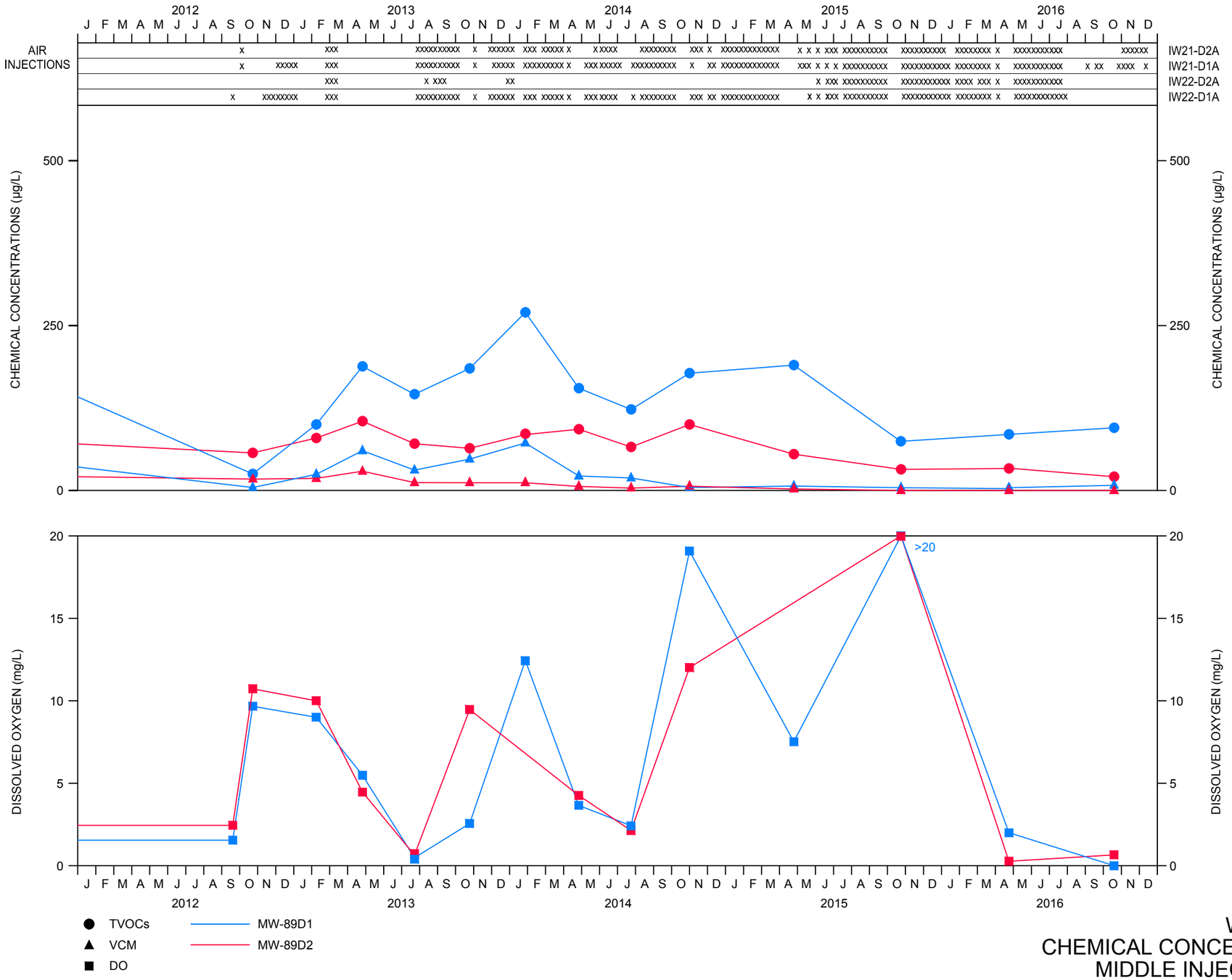


figure 24

WELL NEST MW-89
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

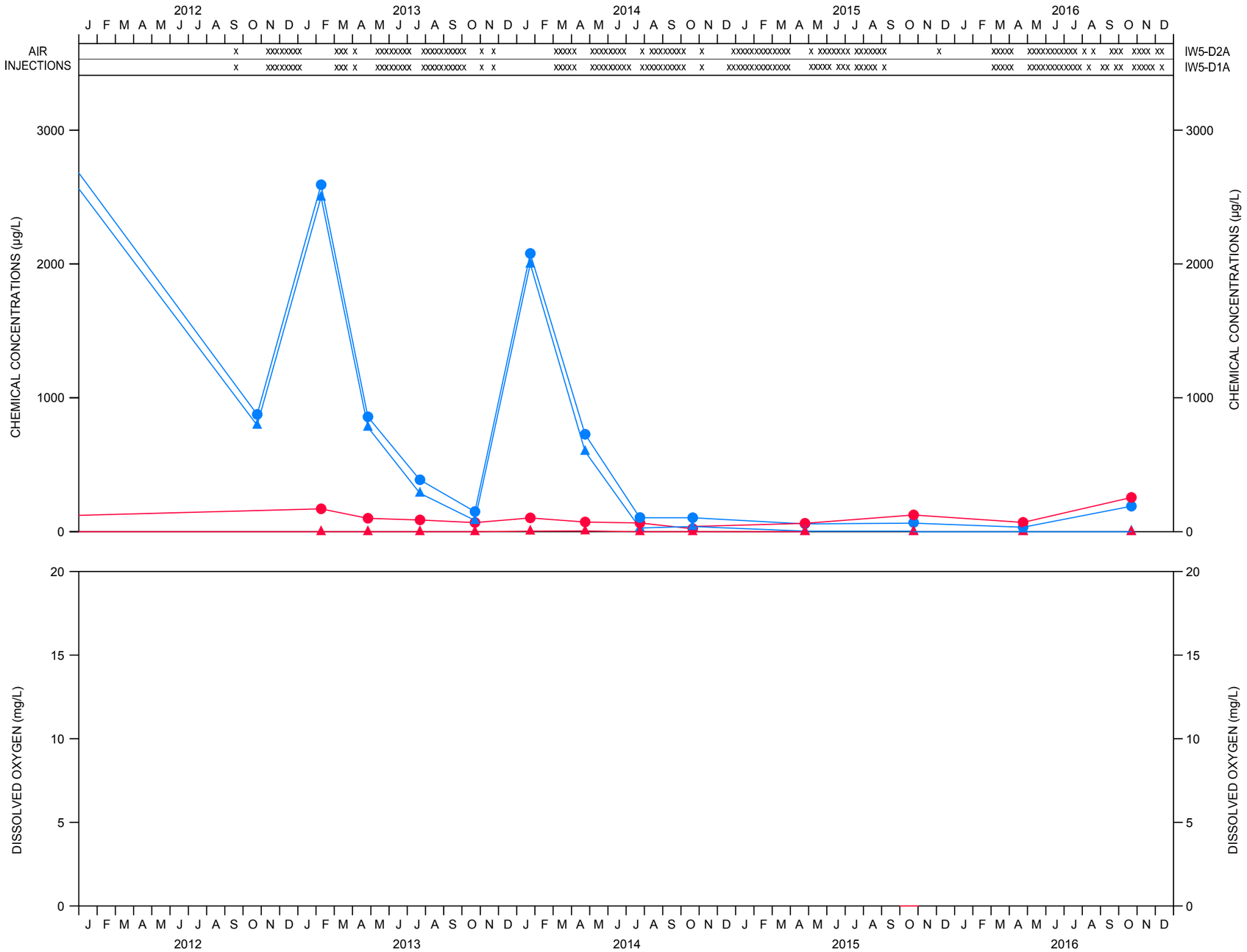


figure 25

WELL NEST MW-90
CHEMICAL CONCENTRATION PLOTS
NORTH INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

GHD

06883-D23102(NEGR020)GN-WA025 JAN 3, 2017

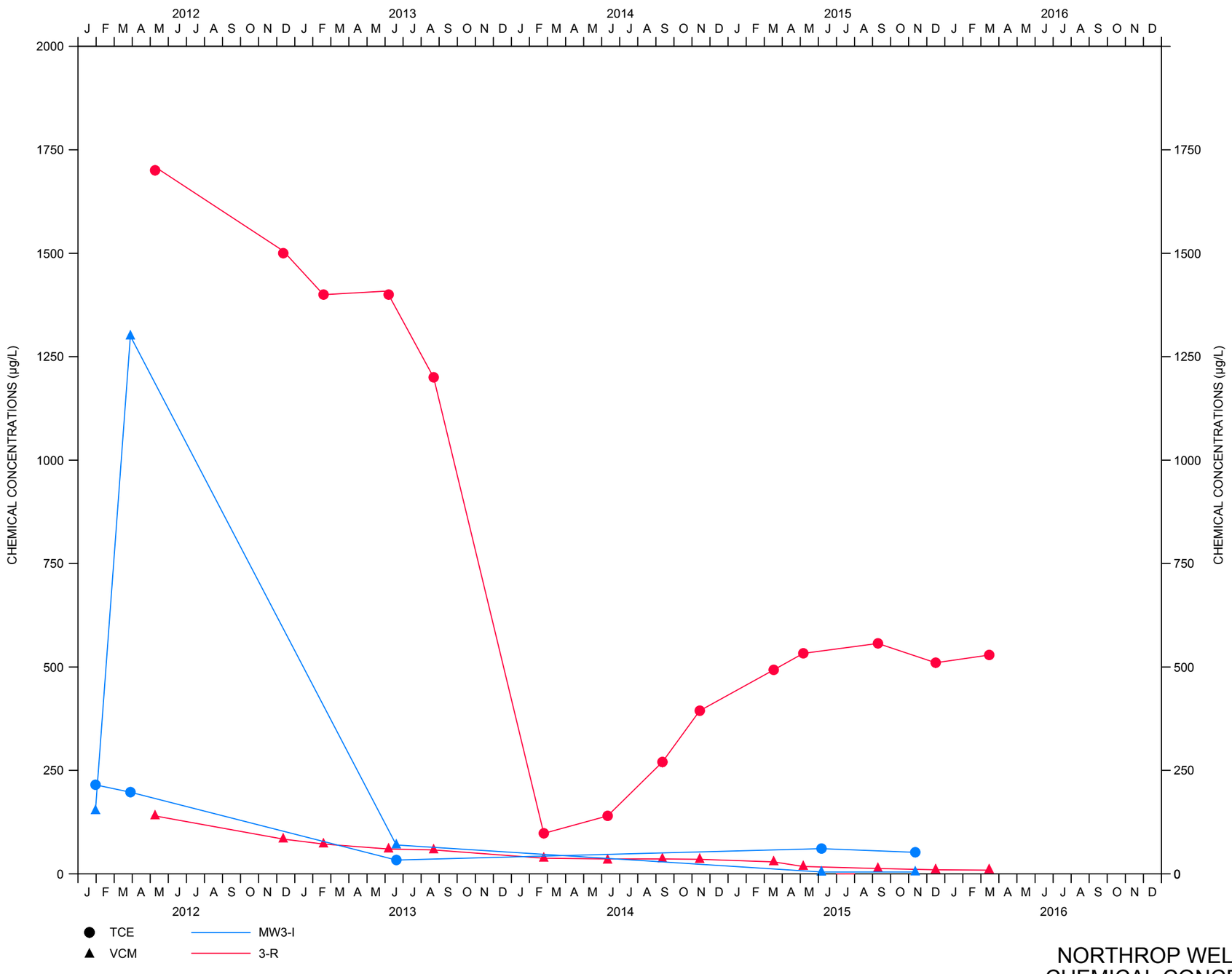


figure 26

NORTHROP WELLS MW3-1 AND 3-R
CHEMICAL CONCENTRATION PLOTS
Hooker/Ruco Site, Hicksville, New York

Table 1

Glenn Springs Holdings Inc.
Hooker/Ruco Site Operable Unit 3
Hicksville, New York

October through December 2016

Task and Activity	Percentage of Activity Completed	Start Date	Scheduled Completion Date	Completion Date
• Work Plan	100	July 1993		September 23, 1993
• Borehole/Well Installation (MW-50, MW-53, MW-54 and MW-55)	100	September 30, 1994		June 19, 1995
• Well Development, Sampling and Analysis	100	July 10, 1995		August 9, 1995
• Water Level Measurements	100	August 15, 1995		April, 1996
• Interim Report	100	May 23, 1995		June 15, 1995
• Interim Report - Addendum No. 1	100	July 28, 1995		August 2, 1995
• Grumman Production Wells Sample Collection and Analysis	100	August 1, 1995		October 4, 1995
• Well Installation (MW-51, MW-52, MW-56 and MW-57)	100	August 30, 1995		January 26, 1996
• Regional Groundwater Level Monitoring Event	100	October 3, 1995		October 3, 1995
• Well Development, Sampling and Analysis	100	January 22, 1996		July 5, 1996
• Grumman Groundwater Model	100	July 27, 1995		November 20, 1997
• Phase I Report	100	February 21, 1996		April 26, 1996
• Supporting Documentation Regarding the Effectiveness of In Situ Remediation	100	June 10, 1996		August 9, 1996
• Phase II Report	100	February 21, 1996		August 12, 1996
• Comments on DEC Draft Supplemental Feasibility Study	100	September 23, 1996		October 17, 1996
• Responses to Northrop Comments on the Phase I Report	100	April 17, 1997		June 6, 1997
• Comments on DEC Supplemental Feasibility Study	100	June 1, 1997		June 20, 1997
• Comments on Navy Regional Groundwater Feasibility Study	100	July 28, 1997		October 8, 1997
• Revised Pages for Navy Regional Groundwater Feasibility Study	100	July 28, 1997		November 3, 1997
• Comments on Groundwater Flow Model Report	100	November 20, 1997		December 5, 1997
• Comments on Draft Final Regional Groundwater Feasibility Study	100	March 27, 1998		May 1, 1998
• Comments on Northrop Letter Report	100	May 20, 1998		June 4, 1998
• Evaluation of MW-52 Area Groundwater Extraction System	100	July 1, 1998		July 29, 1998
• Remedial Investigation Report	100	December 1, 1998		January 21, 1999
• Feasibility Study Report	100	December 1, 1998		March 16, 1999
• Groundwater Treatability Study (GTS)	100	December 16, 1998		July 19, 1999
• Responses to EPA Comments on RI Report	100	May 25, 1999		June 11, 1999
• Responses to EPA Comments on FS Report	100	June 21, 1999		July 7, 1999
• Scope of Predesign Investigative Activities				
- Initial	100	June 1, 1999		June 11, 1999
- Revised	100	February 16, 2001		May 28, 2001
• Revised RI Report	100	May 25, 1999		November 16, 1999
• Revised FS Report	100	July 7, 1999		December 22, 1999
• Responses to EPA Comments on GTS	100	October 14, 1999		November 3, 1999

Table 1

Glenn Springs Holdings Inc.
Hooker/Ruco Site Operable Unit 3
Hicksville, New York

October through December 2016

Task and Activity	Percentage of Activity Completed	Start Date	Scheduled Completion Date	Completion Date
• Responses to EPA Comments on FS Report Responses	100	October 14, 1999		November 3, 1999
• Obtain access agreements	100	June 1999		December 2001
• Final RI Report	100	March 15, 2000		July 21, 2000
• Final FS Report	100	April 10, 2000		July 25, 2000
• PRAP	100			July 28, 2000
• ROD	100			September 29, 2000
• Unilateral Administrative Order	100			April 26, 2001
• Evaluate VCM presence in GP-3	100			August 15, 2001
• Design Supplemental System for VCM in GP-3	100	August 15, 2001		December 2001
• EPA Conditional Approval for Predesign Activities	100			September 28, 2001
• Issued Request for Bid for Well Installation	100			October 26, 2001
• Contractor Arrangements	100			January 15, 2002
• Arrangements for Biosparge Testing of Existing Wells	100			April 12, 2002
• Biosparge Testing of Existing Wells	100	April 15, 2002		August 13, 2002
• Phase 1 Well Installation	100	February 4, 2002		June 28, 2002
• Upgrade of GP-1/GP-3 Treatment System	100	April 8, 2002		July 9, 2003
• Sample Wells	100	June 17, 2002		July 12, 2002
• Evaluate Pre-Design Information /Develop Scope of Biosparge Remedy	100			November 22, 2002
• Install 2 Additional Wells (MW-67/68)	100	December 18, 2002		February 14, 2003
• Sample Wells MW-67 & MW-68				March 25/26, 2003
• Responses to EPA comments on Predesign Information Report	100	March 6, 2003		March 27, 2003
• EPA Meeting				April 17, 2003
• Closed Well T-1	100			May 12, 2003
• MW-67/68 Installation Report	100			May 23, 2003
• Responses to EPA comments on March 27, 2003 Responses	100	June 25, 2003		July 29, 2003
• Pre-Final (95%) RD Report	100	July 7, 2003		October 31, 2003
• Responses to EPA comments on 95% RD Report	100	April 12, 2004		May 27, 2004
• Submitted Due Diligence Request to Northrop	100			May 10, 2004
• Follow up Due Diligence Clarification to Northrop 6/11 Data Package	100			June 25, 2004
• Offer to Northrop for Property Purchase	100			October 1, 2004
• Sample 13 Wells and Submit Results	100	August 23, 2004		October 14, 2004
• Responses to EPA Comments on 95% RD Report	100	November 17, 2004		December 6, 2004
• Revised Property Purchase offer submitted to Northrop	100	December 22, 2004		December 22,2004
• Prepare 100% RD Report	100	January 12, 2005		May 27, 2005
• Property Purchased	100			June 2005

Table 1

Glenn Springs Holdings Inc.
Hooker/Ruco Site Operable Unit 3
Hicksville, New York

October through December 2016

Task and Activity	Percentage of Activity Completed	Start Date	Scheduled Completion Date	Completion Date
• 100% Design Approved	100			July 7, 2005
• Obtain Building Permits	100	July 11, 2005		November 10, 2005
• Arrange Contractors	100	January 2005		July 22, 2005
• Well Installation	100	September 13, 2005		April 28, 2006
• Biosparge System Installation	100	November 2005		May 2006
• Closure of On-Site and Off-Site Wells	100	November 2005		May 10, 2006
• OU-1 Soil Borings	100	November 2005		January 11, 2006
• Background Groundwater Sampling	100	March 27, 2006		June 14, 2006
• Pre-Start Sampling	100			October 24, 25, and 26, 2006
• Final Inspection	100			October 27, 2006
• Biosparge System Start-Up	100			October 27, 2006
• First Monthly Sampling	100			November 28 to 30, 2006
• Second Monthly Sampling	100			December 20 and 21, 2006
• Noise Survey	100			January 18, 2007
• 2007 First Quarterly Sampling	100			January 23 to 30, 2007
• Submission of Phase I Construction Documents	100			February 1, 2007
• 2007 Second Quarterly Sampling	100			April 18 to 27, 2007
• 2007 Third Quarterly Sampling	100			July 16 to 27, 2007
• 2007 Fourth Quarterly Sampling	100			October 8 to 18, 2007
• Evaluation/Recommendation for Design Modifications	100			January 15, 2008
• 2008 First Quarterly Sampling	100			January 22 to 28, 2008
• 2008 Second Quarterly Sampling	100			April 16 to 25, 2008
• 2008 Third Quarterly Sampling	100			July 15 to 18, 2008
• 2008 Fourth Quarterly Sampling	100			October 21 to 30, 2008
• Construction of North Fence Underground Components	100			December 23, 2008
• 2009 First Semi-Annual Sampling	100			April 7 to 14, 2009
• Response to USEPA Biosparge System Comments	100	August 27, 2009		September 23, 2009
• 2009 Second Semi-Annual Sampling	100			October 13 to 21, 2009
• Submittal of Biodegradation Supporting Information	100			November 30, 2009
• Submittal of Revised Schedule	100			February 3, 2010
• Submittal of PDB/HydraSleeve™ Evaluation	100			February 11, 2010
• Trailing Edge Proposal	100			March 15, 2010
• 2010 First Semi-Annual Sampling	100			May 3 to 25, 2012
• Distribution of RFP for Biosparge System Well Installation	100			June 25, 2010
• Contracted Well Driller	100			August 3, 2010

Table 1

Glenn Springs Holdings Inc.
Hooker/Ruco Site Operable Unit 3
Hicksville, New York

October through December 2016

Task and Activity	Percentage of Activity Completed	Start Date	Scheduled Completion Date	Completion Date
• 2010 Second Semi-Annual Sampling	100			November 15 to 29, 2010
• Install Biosparge System Wells	100	September 20, 2010		May 15, 2011
• 2011 First Semi-Annual Sampling & Site Wide Event	100			April 7 to May 19, 2011
• Distribution of RFP for Biosparge System Expansion	100			May 4, 2011
• Receipt of Bids	100			June 17, 2011
• Submittal of PDB/HydraSleeve™ Evaluation	100			August 31, 2011
• USEPA Concurrence For Use of PDB Samplers	100			September 22, 2011
• Update QAPP	100	September 22, 2011		October 24, 2011
• 2011 Second Semi-Annual Sampling	100			Nov. 30 to Dec. 1, 2011
• Revise Updated QAPP	100	December 6, 2011		January 3, 2012
• Address EPA Comments on revised updated QAPP and resubmit	100	February 17, 2012		April 13, 2012
• Construction of Remainder of Biosparge System	100	March 5, 2012		August 15, 2012
• 2012 First Semi-Annual Sampling	100			May 23 and 24, 2012
• Submit Interim Remedial Action Report	100			September 26, 2012
• Submit Electrical As-Built Drawings	100			October 10, 2012
• 2012 Second Semi-annual Sampling	100			October 24 to November 25, 2012
• 2013 First Quarter Sampling	100			January 8 to February 13, 2013
• Well Rehabilitation Works	100			March 8 to 29, 2013
• 2013 Second Quarter Sampling	100			April 24 to May 23, 2013
• 2013 Third Quarter Sampling	100			July 9 to 25, 2013
• 2013 Fourth Quarter Sampling	100			October 24 to November 7, 2013
• 2014 First Quarter Sampling	100			January 7 to 27, 2014
• 2014 Second Quarter Sampling	100			April 23 to May 15, 2014
• 2014 Third Quarter Sampling	100			July 2 to August 6, 2014
• 2014 Fourth Quarter Sampling	100			October 6 to November 11, 2014
• Responses to EPA Comments	100	December 10, 2014		December 19, 2014
• 2015 First Semi-Annual Sampling	100			April 6 to May 8, 2015
• 2015 Second Semi-Annual Sampling	100			October 6 to November 16, 2015
• 2016 First Semi-Annual Sampling	100			April 11 to June 2, 2016
• USEPA 5-year Review	100			September 7, 2016
• 2016 Second Semi-Annual Sampling	100			October 3 to November 2, 2016

Table 2

2016 Summary of O&M Activities
Supplemental and Biosparge Systems
Hicksville, New York

Date Observed	Description of Issue	Action Taken	Date of Action	Outcome of Action	Notes
1/19/2016	$KMnO_4$ Bed Change Out due	$KMnO_4$ Bed Changed Out	1/19/2016		
1/20/2016	Carbon Bed Change Out due	Carbon Bed Changed Out	1/20/2016		
1/26/2016	IW-5 appeared to have a loss of communication	Troubleshooting the fuses, wiring, modules, etc.	3/2/2016	Wiring connections in the PLC were not fully engaged. All wiring connections were double checked and repaired. Actuator is working.	
1/29/2016	IW-18 appeared to have a loss of communication	Troubleshooting the fuses, wiring, modules, etc.	3/2/2016	Wiring connections in the PLC were not fully engaged. All wiring connections were double checked and repaired. Actuator is working.	
2/12/2016	Supplemented System air blower bearings failed	Bearings Replaced	2/18/2016	Blower operational	
2/12/2016	$KMnO_4$ vessel roof observed to be in need of repair	Stainless Steel skin roof of $KMnO_4$ vessel repaired	2/22/2016		
4/1/2016	Wells 7D, 15D and 17D were underperforming or receiving no air flow.	After the groundwater sampling was completed, the valves were switched to allow the auxiliary compressor to be used. Using this compressor, every well in the system was subjected to an air flow at a higher pressure in attempt to dislodge any blockage.	5/2/2016 - 5/3/2016	Well 7D received full air flow 15D was unable to receive full air, it continued to only take 30-40 SCFM 17D is completely blocked.	It is believed that this troubleshooting was beneficial to all of the wells. Some wells took a few rounds of air in order to achieve full flow after being down for GW sampling. This will hopefully allow for a cleaner startup process and better overall efficiency.
4/7/2016	Five Year Review	Five Year Review Site Inspection	4/7/2016		
4/11/2016	Groundwater monitoring	Samples collected	4/11/2016 - 6/02/2016		
4/14/2016	Monitoring Well Inspection	No additional action needed	4/14/2016		
4/21/2016	Carbon Bed Change Out due	Carbon Bed Changed Out	4/21/2016		
5/4/2016	Water in Vaults 17 and 18	Pumped out vaults.	5/5/2016	Vaults were pumped out.	Water enters the vaults when the grounds sprinkler is operational.

2016 Summary of O&M Activities
Supplemental and Biosparge Systems
Hicksville, New York

Date Observed	Description of Issue	Action Taken	Date of Action	Outcome of Action	Notes
5/5/2016	Computer battery backup stopped working.	A new unit was ordered and replaced.	5/5/2016 - 5/10/2016	Functioning backup battery.	
5/10/2016	Arc flash gloves due for testing	ARC Flash gloves tested	5/10/2016 - 5/31/2016	Gloves passed testing.	
5/13/2016	IW-06 is not functioning properly.	Inspection of the actuators identified that the actuator motor overheated. The actuator was replaced and air injections restarted.	5/26/2016	IW-6 accepting air injections.	Since treated Northrop water is no longer being injected, the water line actuators will be repurposed as spares for the air injection lines.
5/16/2016	OXY router needed to be replaced.	Replacement received and installed.	5/16/2016	Router is functional.	
5/17/2016	Water in Vaults 17 and 18	Pumped out vaults.	5/18/2016	Vaults were pumped out.	
5/18/2016	Annual inspection of alarm system needed.	Inspection performed.	5/26/2016	Alarms system passed inspection	Next inspection May 2017
5/18/2016	Monthly inspection	Inspection of vaults, equipment, etc.	5/18/2016	No follow up action necessary	
5/20/2016	External filters need replacement	External filters replaced.	5/26/2016	No additional action needed.	
6/1/2016	Annual fire extinquisher inspection due	Contacted and met with Fire Foe for testing and inspection	6/1/2016	Fire extinquisher passed inspection	Next inspection June 2017
6/1/16	Crack in blower	Schedule blower repair with Systematic and Northrop Grumman for 7/11/2016 and 7/12/2016	6/1/16	No other action necessary	
6/2/16	Groundwater monitoring	Samples collected	4/11/2016 - 6/2/2016	No follow up action - groundater sampling event completed	next sampling event - October 2016
6/23/16	Area power outage	Restart computer	6/23/16	No additional action needed.	
6/30/16	Groundwater discharged to ground surface in vicinity of MW-61D2	Place cones around affected area until able to open well. Re-fit handle to cap and securely fasten to well head.	6/30/2016-7/1/2016	Well cap is functional	This well will now be inspected weekly to prevent future occurences

Table 2

2016 Summary of O&M Activities
Supplemental and Biosparge Systems
Hicksville, New York

Date Observed	Description of Issue	Action Taken	Date of Action	Outcome of Action	Notes
6/1/16	Blower repair	Systematic on-site to weld crack in blower	7/11/16-1/12/16	Blower running more efficently	
7/12/16	Carbon bed changeout due	Carbon changed out	7/12/16		
7/14/16	Atlas Copco compressor due for service	Atlas Copco technician performed the service	7/14/16	Compressor would not re-start after service. When the compressor was shut down for service, the capacitor on the board would not recharge.	System will be run with the Ingersoll-Rand compressor until Atlas Copco compressor is repaired.
7/18/16	Ingersoll-Rand Compressor due for service	Ingersoll-Rand technician performed the service	7/18/16	Service completed succesfully	
8/4/16	Monthly Inspection	Monthly Inspection Completed	8/4/16	Monthly inspection completed successfully	Flow meter in IW-21 not working properly. JVR Scheduled to replace.
8/4/16	IW-21I flow meter to be replaced. Alarms in IW-20 and IW-22 to be investigated.	JVR replaced IW-21I flow meter and investigated alarms	8/19/16	IW-21I operational. IW-20 found to have a non-operational power supply. IW-22 found to have a non-operational intermediate actuator. This was replaced with the IW-21 water actuator. IW-21 operational. IW-22 also found to have leak.	FT-211 in IW-21 sent to GHD for repairs. IW-22 actuator sent to GHD for further testing. JVR replaced power supply in IW-20 on 9/1.
8/17/2016	IR compressor found to be leaking oil.	System shut down and oil leak cleaned up. IR scheduled to perform service.	8/18/2016	IR fixed compressor leak on 8/18/16. Compressor operational.	
8/19/2016	Air leak in IW-22 riser beneath floor of vault.	Master Mechanical provided quote to fix leak in IW-22.	8/19/2016	CA Rich in process of arranging repairs.	
8/19/16	IW-18 registering air flow readings while both had closed valves causing inaccurate flow totalization.	CA Rich cleaned out the lines.	8/19/16	Flow meters reading properly	

Table 2

2016 Summary of O&M Activities
Supplemental and Biosparge Systems
Hicksville, New York

Date Observed	Description of Issue	Action Taken	Date of Action	Outcome of Action	Notes
9/1/16	IW-18 registering air flow readings while both had closed valves causing inaccurate flow totalization.	Awaiting action			
9/1/16	IW-21 not accepting air flow from the secondary compressor	Awaiting action to be taken on air leak in IW-22 before further troubleshooting.			Waiting for repair of IW-22 air leak to be completed
9/1/2016	IW-01 registering flow reading for deep injection when valve is closed causing an inaccurate flow totalization.	CA Rich notified, further investigation to follow.			I
9/1/2016	IW-20 Deep Valve -201 is faulted	GHD advised CA Rich to check closed contact on actuator	9/1/2016		
9/1/2016	IW-01 registering air flow when valves are closed	CA RICH blew out lines. Oily water was observed	9/23/16	Flow meter is reading properly	
9/1/2016	IW-20, 21 & 22 had PLC Faults. Upon Further investigation, it appeared to be blown fuses on TBB FU1 that supplies 120VAC to 24VDC power supply.	Fuses were replaced in all locations	9/1/16	IW-21 & 22 regained communications	
9/1/2016	IW-20 appears to have a non-operational 24VDC power supply.	GHD ordered more power supplies. Problematic power supply replaced.	9/1/16	Alarms cleared, regained communication.	
9/1/2016	IR Compresor leaking oil	System shut down and leaked oil cleaned up. IR scheduled to perform service.	9/9/2016	IR replaced faulty filter. Compressor operational.	
9/9/16	GHD requested installation of local safety disconnect switches for Atlas Copco and Ingersoll Rand compressors	JVR on-site to begin installation Atlas Copco switch.	9/12/16	Schedule for completion of Atlas Copco switch and installation of Ingersoll Rand switch for 9/15 and 9/16	
9/12/16	Board on Atlas Copco compressor in need of replacement.	Atlas Copco on-site to replace board.	9/12/16	Atlas Copco replaced Board. Compressor operational.	Computer not responding to commands. The PLC was inspected. A loose wire was tightened. PLC operational.
9/12/16	Completion of Atlas Copco switch and installation of Ingersoll Rand switch scheduled.	JVR on-site to finish Atlas Copco switch and install Ingersoll Rand switch.	9/15/16 and 9/16/16	JVR installed both switches	
9/23/16	IW-18 registering air flow when valves are closed	CA RICH blew out lines. Water was observed coming from the shallow line.	9/27/16	Flow meters are reading properly	

Table 2

2016 Summary of O&M Activities
Supplemental and Biosparge Systems
Hicksville, New York

Date Observed	Description of Issue	Action Taken	Date of Action	Outcome of Action	Notes
9/23/16	Monthly Inspection	CA RICH on-site for monthly inspection. Unable to initially access IWs on Grumman property	9/27/16	Accessed Grumman IWs. Monthly inspection completed successfully	
10/3/16	Faulted air flow transmitter & air flow actuator	Faulted Units Tested	10/4/16	Transmitter returned to manufacturer for repair. Actuator was replaced	
10/4/16	Groundwater monitoring	Samples collected	10/4/16 to 11/2/16	PDBs for MW-87D2 & MW-88D2 ripped during retrieval	Corrective action developed for situation when a PDB rips
10/5/16	Backflow Preventor tested		10/5/16	Test failed	Preventor to be repaired
11/2/16	Monthly Inspection	CA RICH on-site for monthly inspection. Unable to initially access IWs on Grumman property	11/2/16	Accessed Grumman IWs. Monthly inspection completed successfully	
11/10/16	Repair of Backflow Preventor	Repaired and retested	11/10/16	Passed test	
11/17/16	IW-20 not responsive	CA Rich on site for troubleshooting	11/17/16	Well receives air flow when operated manually	Further troubleshooting needed
11/28/16	Actuators in IW-20 not responsive	JVR on-site. Determined a fault in PLC output module replacement ordered	12/8/16	All 3 actuators now responsive through the PLC	
12/1/6	Monthly Inspection	CA Rich on-site	12/1/16	Inspection successfully completed	
12/9/16	Air leak in IW-22I	Master Mechanical jackhammers through vault floow and digs to expose leak in pipe	12/9/16	Corroded pipe extends further below grade than previously anticipated	Evaluating options to repair pipe
12/15/16	PLC not functioning properly	CA Rich, GHD & GSH troubleshoot	12/16/, 19 & 21/16	Faulted power supply in PLC cabinet. New power supply ordered	

Summary of Wells Sampled
October/November 2016 Semi-Annual Performance Monitoring Event
Biosparge System, Hicksville, New York

Well ID	Well Scheduled to be Sampled	Well Sampled	Comments	Sampling Frequency
Base Wells				
MW-61I	N	N	Obstruction in well prevents insertion of sampler.	NA
MW-61D1	N	N	Obstruction in well prevents insertion of sampler.	NA
MW-61D2	Y	Y		Semi-Annual
MW-70D1	Y	Y		Semi-Annual
MW-70D2	Y	Y		Semi-Annual
MW-72D1	Y	Y		Semi-Annual
MW-72D2	Y	Y		Semi-Annual
MW-73D1	Y	Y		Semi-Annual
MW-73D2	Y	Y		Semi-Annual
MW-75D1	Y	Y		Semi-Annual
MW-75D2	Y	Y		Semi-Annual
MW-76S	Y	Y		Semi-Annual
MW-76I	Y	Y		Semi-Annual
MW-76D1	Y	Y		Semi-Annual
MW-76D2	Y	Y		Semi-Annual
MW-77D1	N	N	Sampler from prior event stuck in well prevents insertion of new samplers.	NA
MW-77D2	Y	Y		Semi-Annual
MW-81D1	Y	Y	HydraSleeve ripped. No field readings.	Semi-Annual
MW-81D2	Y	Y		Semi-Annual
MW-82D1	Y	Y		Semi-Annual
MW-82D2	Y	Y		Semi-Annual
MW-83D1	Y	Y		Semi-Annual
MW-83D2	Y	Y		Semi-Annual
MW-84D1	Y	Y		Semi-Annual
MW-84D2	Y	Y	HydraSleeve ripped. No field readings.	Semi-Annual
MW-85S	Y	Y	HydraSleeve ripped. No field readings.	Semi-Annual
MW-85I	Y	Y		Semi-Annual
MW-85D1	Y	Y		Semi-Annual
MW-85D2	Y	Y		Semi-Annual
MW-86D1	Y	Y		Semi-Annual
MW-86D2	Y	Y		Semi-Annual
MW-87D1	Y	Y		Semi-Annual
MW-87D2	Y	N	PDB ripped during retrieval.	Semi-Annual
MW-88D1	Y	Y		Semi-Annual
MW-88D2	Y	N	PDB ripped during retrieval.	Semi-Annual
MW-89D1	Y	Y		Semi-Annual
MW-89D2	Y	Y		Semi-Annual
MW-90D1	Y	Y	1-inch diameter well. VOCs only.	Semi-Annual
MW-90D2	Y	Y	1-inch diameter well. VOCs only.	Semi-Annual

Summary of Wells Sampled
October/November 2016 Semi-Annual Performance Monitoring Event
Biosparge System, Hicksville, New York

Well ID	Well Scheduled to be Sampled	Well Sampled	Comments	Sampling Frequency
Voluntary Wells				
MW-58D	Y	Y		Semi-Annual
MW-58D1	Y	Y		Semi-Annual
MW-58D2	Y	Y		Semi-Annual
MW-59D	N	N	Sampler from previous event stuck in well.	NA
MW-59D1	N	N	Sampler from previous event stuck in well.	NA
MW-59D2	Y	Y	Stuck sampler from prior sampling event retrieved allowing well to be sampled. HydraSleeve ripped. No field readings.	Semi-Annual
MW-60S	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-60I	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-60D1	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-60D2	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-62I	N	N		Biennial
MW-62D	N	N		Biennial
MW-63S	Y	Y	HydraSleeve ripped. No field readings.	Semi-Annual
MW-63I	Y	Y		Semi-Annual
MW-63D1	Y	Y		Semi-Annual
MW-63D2	Y	Y		Semi-Annual
MW-64S	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-64I	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-64D	N	N	Well no longer needed to monitor remediation of VCM plume.	NA
MW-66I	N	N	Remediation of VCM plume is adequately monitored by MW-66D2.	NA

Summary of Wells Sampled
October/November 2016 Semi-Annual Performance Monitoring Event
Biosparge System, Hicksville, New York

Well ID	Well Scheduled to be Sampled	Well Sampled	Comments	Sampling Frequency
Voluntary Wells				
MW-66D1	N	N	Remediation of VCM plume is adequately monitored by MW-66D2.	NA
MW-66D2	Y	Y		Semi-Annual
MW-67S	Y	Y		Semi-Annual
MW-67D	Y	Y		Semi-Annual
MW-68S	Y	Y		Semi-Annual
MW-68D	Y	Y		Semi-Annual
MW-92D1	N	N		Biennial
MW-92D2	N	N		Biennial
MW-93D1	N	N		Biennial
MW-93D2	N	N		Biennial
MW-3-1	N	N	Northrop well	Determined by Northrop

Table 4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
Base Wells							
MW-61I [(1)]	10/24/2006	NA	NA	NA	102	0.00	2.76
	10/25/2006	NA	NA	NA	112	0.41	3.04
	10/26/2006	5 UJ	5 U	2 J	133	0.00	2.49
	11/29/2006	5 U/5U	5 U/5 U	3 J/2 J	60	0.00	1.96
	12/21/2006	5 U/5 U	5 U/5 U	3 J/4 J	118	0.00	2.17
	1/24/2007	5 U	5 U	3 J	101	1.93	1.84
	4/19/2007	19	95	140	124	3.21	0.03
	7/20/2007	5 U	5 U	4	90	0.37	5.19
	10/11/2007	5 U	5 U	2 U	50	3.56	3.12
	1/24/2008	5 UJ	5 U	4.8	86	1.44	3.11
	4/23/2008	2 J	1 J	4	60	0.45	2.83
	7/16/2008	3.7 J	4.7 J	5.0 U	69	2.78	10.82
	10/28/2008	2 J	1 J	4	351	7.11	1.11
	4/8/2009	3.7 J	4.7 J	5.0 U	306	12.18	0.05
	10/15/2009	7.7	11	1.4 J	366	17.66	0.49
	5/10/2010	6.9	7.8 U	1.6 J	120	10.65	0.0
	1/20/2011	5.6/3.7 J	3.9 J/3.7 J	5.0 U/5.0 UJ	266	11.10	0.0
	4/19/2011	4.6 J/4.6 J	3.8 J/4.0 J	5.0 U/ 5.0	249	10.10	0.0
	11/30/2011	3.7 J	3.3 J	5.0 U	NM	12.81	NM
	5/23/2012	2.3 J	3.6 J	5.0 U	NM	NM	NM
	11/5/2012	4.4 J	4.8 J	5.0 U	111	11.23	3.99
MW-61D1 [(1)]	10/24/2006	NA	NA	NA	110	0.00	2.30
	10/25/2006	NA	NA	NA	107	0.65	3.74
	10/26/2006	5 UJ	5 U	3 J	109	0.00	2.99
	11/29/2006	5 U	5 U	5.7	54	0.00	1.92
	12/21/2006	5 U	5 U	3 J	90	0.00	2.59
	1/23/2007	5 U	5 U	3 J	54	1.21	1.84
	4/19/2007	27	130	200	79	6.66	0.26
	7/20/2007	5 U/5 U	5 U/2 J	4.0/4.0	83	0.44	3.30
	10/10/2007	5 U	5 U	1 J	26	3.39	4.20
	1/24/2008	5 U	5 U	3	78	1.33	3.21
	4/22/2008	5 U	5 U	2 U	60	0.41	2.91
	7/16/2008	5 UJ/5 UJ	5 U/5 U	2/2	87	2.35	2.13
	10/28/2008	2 J	1 J	2 U	335	3.75	0.21
	4/8/2009	3.9J /3.7 J	4.4 J/4.3 J	5.0 U/5.0 U	267	12.77	0.08
	10/15/2009	6.7	9.3	5.0 U	336	10.11	0.96
	5/10/2010	6.3	8.0 U	1.8 J	140	10.15	0.0
	1/20/2011	5.6	3.6 J	5.0 UJ	231	18.80	0.0
	4/19/2011	3.8 J	3.0 J	5.0 U	248	10.38	0.0
	11/30/2011	3.7 J	3.1 J	5.0 U	NM	13.21	NM
	5/23/2012	2.2 J	3.1 J	5.0 U	170	13.55	1.8
	11/5/2012	4.2 J	3.9 J	5.0 U	124	11.85	3.0
MW-61D2 [(1)]	10/24/2006	NA	NA	NA	37	0.00	0.15
	10/25/2006	NA	NA	NA	27	1.42	5.46
	10/26/2006	150 J	450	5800	62	1.94	4.04
	11/29/2006	39	150	1500	110	11.12	1.91
	12/21/2006	130	490	3400	120	9.28	2.36
	1/23/2007	160	590	3100	131	>20	0.89
	4/23/2007	140	580 J	2000	361	>20	0.21
	7/23/2007	200	640	3500	71	13.45	1.34
	10/11/2007	62	210	610	300	11.71	0.21
	1/24/2008	26	140	46	326	>20	0.78
	4/22/2008	11	89	11	248	14.49	0.09
	7/15/2008	40 J	330	39	173	19.99	0.08
	10/27/2008	25	150	33	381	>20	0.18
	4/9/2009	110	360	450	319	17.47	1.95
	10/14/2009	99	300	19	155	16.29	2.80

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-61D2 [1]	5/10/2010	120	360	240	224	19.51	0.0
(cont'd)	11/16/2010	78	360	380	55	8.75	-2
	4/7/2011	110/70	240/240	18 J/10 J	196	17.58	(2)
	5/23/2012	13 J	110	12	123	8.54	9
	5/2/2013	30	120	13	196	16.37	>5.0
	10/29/2013[5]	30	46	1.2 J	NM	NM	NM
	4/29/2014[5]	51	73	1.2 J	NM	NM	NM
	10/30/2014[5]	40 J	59 J	0.88 J	NM	NM	NM
	4/24/2015[5]	52	150	1.3 J	NM	NM	NM
	10/22/2015	11	18	2.0 U	87	12.28	5.0
	4/26/2016	39	51	2.0 U	69	5.76	0.35
	10/21/2016[5]	28	45	2.0UJ	NM	NM	0.27
MW-63D1 [2]	5/24/2010	6.4 J	9.2	35	166	0.00	0.0
	5/1/2013	17	3.4 J	13	232	11.93	1.6
	10/24/2013	3.2 J	5.6	45	208	17.25	0.9
	4/24/2014	9.9	7.3	29	276	11.59	0.0
	7/17/2014	6.9	6	19	158	3.50	3.2
	10/21/2014	5.5	3.8 J	3.2 J	121	6.91	1.5
	4/22/2015	3.4 J	5.0 U	2.0 U	332	5.52	4.3
	10/20/2015	2.3 J	3.7 J	2.0 U	58	33.76	0.8
	4/28/2016	6.1	2.4 J	2.0 U	264	5.22	0.3
	10/19/2016	11	5.0U	2.0UJ	54	14.10	1.8
MW-63D2 [2]	5/24/2010	6.4 J	9.1	46	169	0.00	0.00
	5/1/2013	21	4.0 J	13	229	9.77	1.65
	10/24/2013	3.1 J	5.2	46	-17	11.03	3.86
	4/24/2014	7.9	8.1	29	202	7.95	0.11
	7/17/2014	5.6	6.1	21	125	2.70	3.10
	10/21/2014	5.1	3.7 J	3.2 J	167	6.48	1.20
	4/22/2015	2.7 J	5.0 U	2.0 U	280	6.09	2.30
	10/20/2015	2.4 J	3.6 J	2.0 U	53	35.80	2.97
	4/28/2016	4.9 J	1.6 J	2.0 U	256	5.26	0.07
	10/19/2016	5.0J	5.0U	2.0UJ	164	8.23	0.72
MW-63S [2]	5/21/2010	2.4 J	4.3 J	16	-111	0.00	0.06
	5/23/2013	10	7.8	76	74	4.53	1.33
	11/7/2013	9.4	7.7	5.0 U	7	8.91	3.16
	5/15/2014[5]	7	6	18	NM	NM	NM
	8/6/2014	5.0 UJ	5.5	7.2	145	5.64	0.10
	11/14/2014	3.5 J	3.8 J	1.5 J	203	7.88	25.0
	5/8/2015	5.5	5.0 U	4.7 J	4	11.79	0.3
	11/9/2015[5]	3.3 J	2.5 J	2.0 U	NM	NM	NM
	5/18/2016[5]	1.9 J	5.0 U	2.0 U	NM	NM	NM
	11/2/2016	5.0UJ	5.0U	2.0UJ	201	9.74	0.3
MW-63I [2]	5/21/2010	5.4 J	8.3	47	-102	0.00	0.0
	5/23/2013	7.9	5.5	29	75	4.40	1.7
	11/7/2013	12	8.2	5.0 U	70	11.37	0.7
	5/15/2014	1.5 J	5.0 U	3.4 J	36	2.83	0.0
	8/6/2014	5.0 UJ	5.9	15	139	2.73	0.5
	11/14/2014	4.5 J	3.3 J	4.2 J	35	8.41	14.5
	5/8/2015	5.8	5.0 U	2.0 U	87	12.34	0.8
	11/9/2015	2.3 J	2.1 J	0.97 J	265	12.19	NM
	5/18/2016	2.7 J	5.0 U	2.0 U	231	13.55	0.4
	11/2/2016	5.0UJ	5.0U	2.0UJ	201	0.46	0.4
MW-70D1 [2]	4/11/2011	13	2.0 J	46	-135	0.69	4.0
	10/25/2012	2.0 J	5.0 U	12	NM	NM	NM
	2/4/2013	8.8	2.1 J	43	8	4.80	3.0
	4/26/2013	6.4	2.0 J	26	170	9.35	3.5
	7/23/2013[5]	5.3	1.3 J	16	NM	NM	NM
	10/24/2013	5.8	1.1 J	21	38	12.56	2.8

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-70D1 [2]	1/23/2014	4.2 J	1.9 J	17	-109	5.06	0.0
(cont'd)	4/23/2014	4.1 J	1.2 J	20	76	10.11	0.0
	7/21/2014	6.6	1.0 J	16	48	9.35	0.0
	10/23/2014	4.3 J	0.92 J	19	30	6.24	2.7
	4/24/2015	3.3 J	5.0 U	11	107	14.38	0.0
	10/22/2015	3.5 J	1.6 J	8.8	62	6.00	1.6
	4/27/2016	1.5 J	5.0 U	5.1	-17	0.08	0.4
	10/20/2016[5]	5.0UJ	5.0U	4.7J	NM	NM	0.0
MW-70D2 [2]	4/11/2011	47	56	1000	-122	0.66	2.0
	10/25/2012	32	26	190	-4	8.78	3.2
	2/4/2013	62	23	29	27	11.14	0.0
	4/26/2013	51	12	4.2 J	-19	7.89	>5.0
	7/23/2013	49	14	5.0 U	16	1.88	1.2
	10/24/2013	45	13	1.6 J	-17	3.95	0.1
	1/23/2014[5]	20	8.1	5.0 U	NM	NM	NM
	4/23/2014	11	3.8 J	5.0 U	211	11.88	0.0
	7/21/2014	11	1.4 J	5.0 U	-9	9.22	0.0
	10/23/2014	1.8 J	5.0 U	5.0 U	39	3.82	4.5
	4/24/2015	1.6 J	5.0 U	2.0 U	-89	8.70	0.2
	10/22/2015	5.0 U	5.0 U	2.0 U	-21	4.44	NM
	4/27/2016	5.0 U	5.0 U	2.0 U	108	0.00	0.0
	10/20/2016	5.0UJ	5.0U	2.0UJ	59	0.00	0.3
MW-72D1 [2]	4/12/2011	13	1.9 J	21	-159	0.57	3.5
	10/25/2012	3.2 J	5.0 U	5.0 U	139	9.82	1.0
	2/4/2013	3.5 J	1.0 J	3.0 J	54	4.65	1.0
	5/1/2013	1.3 J	1.0 J	0.99 J	103	10.48	3.7
	7/23/2013	1.9 J	1.3 J	5.0 U	-11	2.37	>5.0
	10/24/2013	5.0 U	5.0 U	5.0 U	-80	4.60	4.6
	1/24/2014	5.0 U	5.0 U	5.0 U	36	10.78	NM
	4/23/2014[5]	1.3 J	1.6 J	2.9 J	NM	NM	NM
	7/21/2014	5.0 U	5.0 U	5.0 U	-21	10.13	0.0
	10/23/2014	0.74 J	5.0 U	5.0 U	37	4.41	2.6
	4/24/2015	5.0 U	5.0 U	2.0 U	97	13.26	0.5
	10/22/2015	5.0 U	5.0 U	2.0 U	6	6.38	5.0
	4/28/2016	5.0 U	5.0 U	2.0 U	122	3.94	0.1
	10/20/2016	5.0UJ	5.0U	2.0UJ	105	9.86	0.0
MW-72D2 [2]	4/13/2011	330	5.3	5.0 U	-210	0.37	2.0
	10/25/2012	380	37	5.0 U	76	7.52	0.8
	2/4/2013	850	51	5.0 U	48	7.77	0.4
	5/1/2013	540	16	5.0 U	-32	9.69	>5.0
	7/23/2013	410	35	5.0 U	-134	2.03	3.7
	10/24/2013	480	25	5.0 U	-144	3.20	3.2
	1/24/2014	400	32	5.0 U	67	12.96	NM
	4/23/2014[5]	450	43	5.0 U	NM	NM	NM
	7/21/2014	500	48	0.59 J	-2	9.43	0.3
	10/23/2014	560	54	5.0 U	52	3.03	2.8
	4/24/2015	240	37	2.0 U	42	9.51	0.5
	10/22/2015	190	29	2.0 U	9	4.73	1.9
	4/28/2016	200	23	2.0 U	284	0.72	0.1
	10/20/2016	170	19	2.0UJ	-27	0.00	0.0
MW-73D1 [2]	4/25/2011	5.0 U	5.0 U	5.0 U	-155	2.56	3.5
	10/26/2012	5.0 U	5.0 U	2.6 J	7	11.93	5.0
	2/13/2013	5.0 U	5.0 U	5.0 U	296	9.91	0.0
	5/1/2013	5.0 U	5.0 U	5.0 U	-44	10.87	>5.0
	7/24/2013	1.9 J	5.0 U	5.0 U	-128	0.86	3.0
	10/25/2013	1.9 J	5.0 U	5.0 U	-51	2.94	0.3
	1/24/2014	5.0 U	5.0 U	5.0 U	143	14.42	NM
	4/24/2014	5.0 U	5.0 U	5.0 U	140	3.56	0.8
	7/18/2014	0.85 J	5.0 U	5.0 U	21	1.22	0.0

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-73D1 [2]	10/30/2014	5.0 U	5.0 U	5.0 U	203	24.68	0.0
(cont'd)	4/24/2015	1.5 J	5.0 U	0.75 J	59	15.86	NM
	10/26/2015	2.5 J	5.0 U	2.0 U	63	8.44	0.1
	4/27/2016	2.9 J	5.0 U	2.0 U	134	1.70	0.9
	10/21/2016	4.3J	5.0U	2.0UJ	49	4.29	0.1
MW-73D2 [2]	4/25/2011	38	20	1400	-53	1.86	3.5
	10/26/2012	52	19	130	12	8.07	5.0
	2/13/2013	60	23	22	332	12.53	0.0
	5/1/2013	26	12	16	-95	7.63	>5.0
	7/24/2013	60	17	3.0 J	-29	1.95	3.6
	10/25/2013	13	6.1	0.62 J	-32	1.74	1.3
	1/24/2014[5]	6.3	5.7	1.1 J	NM	NM	NM
	4/24/2014	5.3	2.0 J	5.0 U	130	8.71	0.0
	7/18/2014	2.8 J	5.0 U	5.0 U	1	1.37	0.0
	10/30/2014	35	11	5.0 U	55	7.73	>5.0
	4/24/2015	8.5	5.0 U	2.0 U	-58	9.53	1.4
	10/26/2015	9.2	4.0 J	2.0 U	45	12.23	0.5
	4/27/2016	13	5.2	2.0 U	92	5.38	0.0
	10/21/2016	29	11	2.0UJ	24	0.93	0.0
MW-75D1 [2]	12/1/2011	51	23 J	960	NM	3.20	NM
	10/24/2012	32	18	1100	-35	9.41	1.6
	2/4/2013	39	16	1500	-48	6.09	0.0
	4/30/2013	25	7	510	1	11.07	4.1
	7/24/2013	17	6.3	120	-138	1.32	2.2
	10/24/2013	7	2.6 J	28	48	11.80	3.2
	1/24/2014	3.2 J	2.0 J	10	40	12.51	NM
	4/23/2014[5]	6.3	4.9 J	9	NM	NM	NM
	7/18/2014[5]	10	4.9 J	46	NM	NM	NM
	10/23/2014	9.4	2.8 J	66	47	3.23	>5.0
	4/22/2015	5.1	5.0 U	7.2	117	4.08	NM
	10/22/2015	5.0 U	5.0 U	2.0 U	191	6.86	5.0
	4/28/2016	4.2 J	2.4 J	2.0 U	194	0.00	0.1
	10/20/2016	5.0UJ	5.0U	2.0UJ	228	6.07	0.0
MW-75D2 [2]	12/1/2011	44	88	680	NM	10.91	NM
	10/24/2012	34	63	600	-23	2.63	0.0
	2/4/2013	46	76	870	-55	16.33	0.0
	4/30/2013	47	58	530	26	12.20	3.9
	7/24/2013	56	87	560	-136	1.32	2.2
	10/24/2013	27	42	460	-92	5.56	0.0
	1/24/2014	26	45	330	0	12.93	NM
	4/23/2014[5]	31	47	260	NM	NM	NM
	7/18/2014	20	32	220	-37	10.65	0.0
	10/23/2014	17 J	35 J	190 J	6	2.68	3.5
	4/22/2015	9.3	19	150	-82	4.19	1.4
	10/22/2014[5]	8.3	8.6	87	NM	NM	NM
	4/28/2016	1.5 J	5.0 U	78	-41	0.98	0.3
	10/20/2016	5.0UJ	5.0U	18J	-140	0.00	0.0
MW-76S [2]	4/6/2011	5.0 U	5.0 U	2.4 J	-148	0.78	7.0
	10/25/2012	5.0 U	5.0 U	9.2	45	9.18	1.6
	2/6/2013	5.0 U	5.0 U	19	NM	NM	NM
	4/24/2013[5]	5.0 U	5.0 U	5.9	-70	5.76	1.25
	7/23/2013	0.95 J	5.0 U	5.0 U	-157	1.71	2.90
	10/25/2013	5.0 U	5.0 U	2.3 J	-1	4.33	0.56
	1/24/2014	1.0 J	5.0 U	2.0 J	125	12.79	0.0
	4/23/2014	2.0 J	5.0 U	5.0 U	228	4.29	0.0
	7/18/2014[5]	1.3 J	5.0 U	7.5	NM	NM	NM
	10/21/2014[5]	1.1 J	5.0 U	1.5 J	NM	NM	NM
	4/22/2015	5.0 U	5.0 U	2.0 U	236	5.52	2.2
	10/22/2015	1.4 J	5.0 U	2.0 U	42	5.77	4.8

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-76S [2] (cont'd)	4/27/2016	1.4 J	5.0 U	2.0 U	180	2.26	0.0
	10/20/2016	5.0UJ	5.0U	2.0UJ	62	5.70	0.0
MW-76I [2]	4/8/2011	5.0 U	5.0 U	1000	159	1.48	4.0
	10/25/2012	1.1 J	5.0 U	240	-23	8.51	4.25
	2/6/2013	5.0 U	5.0 U	81	4	16.35	2.2
	4/24/2013	5.0 U	5.0 U	50	-74	4.9	>5.0
	7/23/2013	5.0 U	5.0 U	13	0	2.14	2.9
	10/25/2013	5.0 U	5.0 U	5.1	4	3.56	0.5
	1/24/2014	0.70 J	5.0 U	3.2 J	-8	12.62	0.7
	4/23/2014	5.0 U	5.0 U	1.5 J	106	5.08	0.05
	7/18/2014[5]	0.74 J	5.0 U	0.96 J	NM	NM	NM
	10/21/2014	0.96 J	5.0 U	0.62 J	73	3.48	3.30
	4/22/2015	5.0 U	5.0 U	2.0 U	-216	4.43	NM
	10/22/2015	1.5 J	1.2 J	2.0 U	16	5.48	5.00
	4/27/2016	1.4 J	5.0 U	2.0 U	78	4.62	0.00
	10/20/2016	5.0UJ	5.0U	2.0UJ	17	0.27	0.00
MW-76D1 [2]	4/11/2011	14	1.1 J	52	-123	0.98	2.0
	10/25/2012	6.2	5.0 U	52	-14	8.32	5.00
	2/6/2013	8.7	5.0 U	28	-16	10.47	3.00
	4/30/2013[5]	6.4	1.1 J	17	NM	NM	NM
	7/23/2013	4.6 J	1.0 J	13	-148	7.76	3.94
	10/25/2013	5.6	1.1 J	15	97	11.27	0.08
	1/24/2014	4.2 J	1.4 J	9.9	-117	5.04	NM
	4/23/2014	4.1 J	5.0 U	9.5	153	5.70	0.05
	7/21/2014	5.0 U	5.0 U	3.8 J	143	6.96	1.00
	10/21/2014	6.6	1.1 J	7	73	2.87	2.60
	4/22/2015	3.1 J	5.0 U	5.4	17	4.26	1.20
	10/22/2015	4.1 J	1.3 J	3.9	-75	19.54	1.68
	4/27/2016	2.3 J	5.0 U	2.3	-77	1.00	0.00
	10/20/2016	2.1J	5.0U	2.0UJ	-171	0.00	0.00
MW-76D2 [2]	4/8/2011	74	42	1100	-59	1.37	4.8
	10/25/2012	44	25	650	-19	8.71	0.0
	2/6/2013	63	25	1500	-76	16.45	0.0
	4/30/2013	51	12	19	15	14.13	2.2
	7/23/2013	52	27	5.0 U	-73	2.65	>5.0
	10/25/2013	45	19	4.9 J	13	5.07	5.1
	1/24/2014[5]	40	18	7.6	NM	NM	NM
	4/23/2014	78	17	5.0 U	164	6.23	0.18
	7/21/2014	80	18	0.79 J	91	8.53	0.49
	10/21/2014	26	18	0.72 J	103	7.54	>5.0
	4/22/2015	60	25	2.0 U	-66	4.25	NM
	10/22/2015	3.6 J	1.0 J	2.0 U	-60	4.10	5.00
	4/27/2016	2.8 J	1.0 J	2.0 U	51	5.90	0.00
	10/20/2016	5.0UJ	5.0U	2.0UJ	-23	1.06	0.00
MW-77D1	4/14/2011	1.6 J	1.7 J	6.2	-194	0.24	3.5
	10/25/2012	2.4 J	5.0 U	16	5	9.93	0.0
	2/6/2013[5]	7.8	5.0 U	24	NM	NM	NM
	4/26/2013	4.1 J	1.0 J	17	-64	8.03	3.52
	7/24/2013[5]	2.6 J/2.7 J	0.54 J/0.56 J	3.5 J/3.7 J	NM	NM	NM
MW-77D2 [2]	4/14/2011	20	28	140	-111	0.72	4.0
	10/25/2012	5.2	12	80	-35	14.28	0.0
	2/6/2013[5]	17/17	11/11	99/100	NM	NM	NM
	4/26/2013	10	7.4	150	-141	5.39	>5.0
	7/24/2013	15	22	13	-79	2.06	1.46
	10/25/2013	40	18	5.0 U	27	11.71	1.17
	1/23/2014	66	28	1.4 J	-107	12.21	1.20
	4/24/2014	33	18	5.0 U	46	3.49	0.0
	7/18/2014	52	19	5.0 U	78	1.37	0.0
	10/21/2014	150	21	5.0 U	174	3.71	>5.0

Table 4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-77D2 [2]	4/24/2015	120	23	2.0 U	170	13.50	0.0
(cont'd)	10/23/2015[5]	57	21	0.74 J	NM	NM	NM
	4/27/2016	71	20	2.0 U	189	5.50	0.3
	10/21/2016	170	37	2.0UJ	99	8.05	0.1
MW-81D1 [1]	10/24/2006	NA	NA	NA	15	2.26	3.23
	10/25/2006	NA	NA	NA	-55	3.01	9.76
	10/26/2006	15 J	18	790	-25	0.00	10.12
	1/29/2007	8	9	690	-55	2.26	2.36
	4/19/2007	20/21	61/61	580/550	-128	0.00	2.06
	7/23/2007	54	190	490	-22	0.74	5.19
	10/9/2007	39	110	620	-77	3.08	4.98
	4/21/2008	14	54	2	-99	0.92	2.69
	10/28/2008	54/54	130/130	3/2	292	17.31	2.04
	4/7/2009	14	48	71	158	0.04	5.52
	10/15/2009	28	170	2.4 J	216	8.90	0.71
	5/6/2010	16	99	180	72	0.00	2.2
	11/17/2010	24	110	1.1 J	327	3.54	0.0
	4/7/2011	20	73	190	27	0.48	2.2
	11/30/2011	13	85	0.71 J	NM	12.58	NM
	5/23/2012	7.3 J	41	0.95 J	80	9.90	0.44
	11/5/2012	14	86	310	112	12.24	2.88
	5/2/2013[5]	44	190	5.0 U	NM	NM	NM
	10/28/2013	64	190	7.5	-137	8.41	0.68
	4/29/2014	97	220	1.8 J	146	8.94	0.00
	10/30/2014	96 J	190 J	6.3 J	87	19.39	0.12
	4/24/2015[5]	97	160	1.3 J	NM	NM	NM
	10/21/2015	82	120	2.0 U	43	7.42	1.35
	4/26/2016[5]	70	110	1.8 J	NM	NM	1.03
	10/21/2016	45	53	2.1J	138	12.43	1.74
MW-81D2 [1]	10/24/2006	NA	NA	NA	78	16.87	2.37
	10/25/2006	NA	NA	NA	73	17.96	0.40
	10/26/2006	5 J	26	4 J	93	15.00	0.74
	1/24/2007	6.2	32	5	-39	2.90	0.98
	4/18/2007	1 J	14	4 J	-110	0.00	2.71
	7/19/2007	15	130	40	48	14.10	1.48
	10/10/2007	13	81	37	35	7.45	9.39
	4/18/2008	2 J	20	2 U	81	4.23	0.45
	10/22/2008	6	32	2	107	>20	0.09
	4/7/2009	13	150	2.4 J	326	10.58	0.45
	10/14/2009	6.7	53	5.5	227	18.39	0.50
	5/10/2010	14	63	5.0 U	93	9.69	0.50
	11/16/2010	21/21	130/130	5.0 U/5.0 U	254	13.28	1
	4/7/2011	67	470	25 U	85	2.92	0.0
	11/30/2011	10	130	5.0 U	NM	11.01	NM
	5/23/2012	1.2 J	18	5.0 U	64	10.23	1.8
	11/5/2012	9.1	110	1.4 J	NM	NM	NM
	5/2/2013	1.9 J	11	5.0 U	46	17.28	3.9
	10/28/2013	1.4 J	12	5.0 U	NM	2.97	0.0
	4/29/2014	5.8	29	5.0 U	119	8.94	0.0
	10/30/2014	18	77	5.0 U	86	15.60	NM
	4/24/2015	150	170	2.0 U	-61	5.18	1.5
	10/21/2015	120	130	2.0 U	90	7.21	1.9
	4/26/2016	95	30	2.0 U	43	6.46	0.0
	10/21/2016[5]	43	13	2.0UJ	NM	NM	1.1
MW-82D1 [1]	10/24/2006	NA	NA	NA	-119	1.93	6.14
	10/25/2006	NA	NA	NA	-154	0.00	9.36
	10/26/2006	8 J	4 J	1100	-142	2.77	6.32
	11/30/2006	8.8	7.9	1900	-158	0.00	1.86
	12/20/2006	8.2	15	2500	-149	0.00	1.98

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-82D1 [1]	1/25/2007	50	130	5500	-145	1.21	1.94
(cont'd)	4/20/2007	5 U	5 U	860	-153	0.76	2.79
	7/25/2007	120	780 J	3600	95	15.15	2.58
	10/18/2007	19	24	430	125	0.73	5.25
	1/23/2008	14/14	48/49	1600/1600	-38	1.89	5.82
	4/25/2008	38	160	85	108	0.13	1.49
	7/18/2008	64	230	2.2	96	3.38	NM
	10/30/2008	110	230	790	309	<20	NM
	4/13/2009	47	160	1.7 J	328	5.35	0.21
	10/20/2009	21	84	5.0 U	231	8.08	0.26
	5/12/2010	16	64	5.0 U	53	7.01	0.0
	11/17/2010	110	63	3.2 J	307	8.00	NM
	5/19/2011	33/32	48/49	72/76	277	6.70	0.0
	12/1/2011	12	23	9.8	NM	14.35	NM
	5/23/2012	13 J	28	1.0 J	138	7.91	5.0
	10/26/2012	17	23	34	95	7.18	0.67
	5/1/2013[5]	14	18	41	NM	NM	NM
	10/25/2013[5]	14	18	12	NM	NM	NM
	4/25/2014	16	20	1.7 J	177	5.83	0.00
	10/30/2014	32 J	27 J	0.84 J	56	6.75	1.40
	4/24/2015	28	24	0.95 J	7	16.00	0.00
	10/21/2015	26	21	2.0 U	-31	11.27	1.59
	4/26/2016	37	21	2.0 U	98	9.29	1.08
	10/19/2016	24	22	2.0UJ	-7	12.23	0.14
MW-82D2 [1]	10/24/2006	NA	NA	NA	-166	0.38	10.44
	10/25/2006	NA	NA	NA	-95	1.98	11.64
	10/26/2006	61 J	48	1300	-110	3.37	8.60
	11/30/2006	88	78	1300	-179	0.00	2.31
	12/20/2006	52	50	600	-178	0.00	0.34
	1/25/2007	150	110	180	-147	1.70	2.01
	4/20/2007	130	91	47	-183	0.61	1.91
	7/25/2007	320 J	170 J	80	-192	0.50	6.56
	10/18/2007	34	3 J	2100	-359	2.93	1.22
	1/23/2008	150	84	160	-147	1.51	4.74
	4/24/2008	25	18	5	-352	0	2.43
	7/18/2008	21	14	10	-472	0.00	16.32
	10/30/2008	110	230	790	-3	0.84	3.01
	4/13/2009	130	91	3.5 J	282	>20	0.05
	10/20/2009	86	56	96	-260	0.07	1.13
	5/12/2010	100	92	7.1	-137	0.00	1.0
	11/18/2010	71	74	8.3	276	0.83	1.2
	4/27/2011	90	58	5.0 U	-19	3.38	1
	12/1/2011	42	46	6.7	NM	11.74	NM
	5/23/2012	9.1 J	22	5.0 U	123	7.97	5
	10/26/2012	11	17	3.1 J	56	>20	3.2
	5/1/2013	7.5	5.0 J	5.0 U	238	8.33	>5.0
	10/25/2013	4.2 J	3.9 J	5.0 U	-127	11.22	0
	4/25/2014	3.0 J	3.9 J	5.0 U	73	3.38	0.13
	10/30/2014	6.2	4.7 J	5.0 U	76	0.88	0
	4/24/2015	7.3	5.0 U	2.0 U	132	15.04	0
	10/21/2015	6.0	5.3	2.0 U	-61	13.98	2.9
	4/26/2016	3.2 J	3.4 J	2.0 U	62	0.34	0.0
	10/19/2016	5.0UJ	5.0U	2.0UJ	-13	4.34	0.3
MW-83D1 [1]	10/24/2006	NA	NA	NA	70	0.00	1.94
	10/25/2006	NA	NA	NA	-146	0.00	0.23
	10/26/2006	31	290	140	-64	2.06	0.06
	1/30/2007	44	320	130	6	1.74	0.01
	4/18/2007	5 U	29	7.7	-70	0.00	0.0
	7/17/2007	130	360	310	-14	0.41	0.04
	10/12/2007	68	200	220	64	3.00	0.13

Table 4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-83D1 [1]	1/22/2008	140	420	51	174	8.34	0.12
(cont'd)	4/17/2008	40	160	2	151	2.32	0.03
	7/15/2008	130 J	340	34	216	1.91	NM
	10/24/2008	110/110	200/200	2/2	291	8.31	0.04
	4/8/2009	80	190	4.3 J	274	1.44	0.09
	10/14/2009	110	260	3.8 J	361	13.17	0.41
	5/5/2010	96	240	260	284	3.50	NM
	11/15/2010	39	180	13	271	9.14	0.0
	4/7/2011	52 J	180 J	30 J	135	4.18	0.0
	11/30/2011	13	150	8.4	NM	>20	NM
	5/23/2012	9.8 J	120	1.2 J	132	12.32	0.0
	10/24/2012	25	180	5.0 U	276	7.22	0.0
	5/1/2013	30	290	1.4 J	212	19.10	2.9
	10/29/2013	45	200	9	NM	13.65	0.5
	4/29/2014[5]	40	210	2.1 J	NM	NM	NM
	10/30/2014	50 J	200 J	2.6 J	112	11.80	1.2
	4/24/2015	37	41	2.0 U	181	17.82	0.2
	10/22/2015	48	140	1.5 J	59	7.04	1.2
	4/26/2016	55	120	1.1 J	109	7.63	0.1
	10/21/2016	59	100	2.0UJ	128	10.05	0.1
MW-83D2 [1]	10/24/2006	NA	NA	NA	241	>19.99	9.88
	10/25/2006	NA	NA	NA	179	>20	0.0
	10/26/2006	17	110	74	171	>20	0.06
	1/29/2007	13	75	22	249	13.20	0.0
	4/18/2007	3 J	23	1 J	97	0.00	0.0
	7/17/2007	7.9	43	1 J	289	>19.99	0.08
	10/15/2007	2 J	10	2 U	279	11.44	0.23
	1/22/2008	3	12	2 U	328	>20	0.14
	4/17/2008	5/4 J	22/21	2 U/2 U	295	>20	0.04
	7/15/2008	8.3 J	46	2 U	270	8.50	0.04
	10/21/2008	2 J	14	2 U	297	0.92	0.00
	4/8/2009	5.2	30	5.0 U	370	20.00	0.01
	10/13/2009	6	34	5.0 U	380	19.81	0.01
	5/6/2010	18	110	5.0 U	190	11.32	NM
	11/16/2010	6.2	42	5.0 U	370	16.45	0.0
	4/7/2011	17	96	5.0 U	249	17.54	0.0
	11/30/2011	12/12	98/150	5.0 U/8.1	NM	16.99	NM
	5/23/2012	1.8 J	21	5.0 U	79	12.67	0.0
	10/24/2012	7	71	5.0 U	225	9.81	0.0
	5/1/2013	28	74	5.0 U	162	12.34	1.0
	10/29/2013	40	170	5.0 U	-63	8.73	0.3
	4/29/2014	19	100	5.0 U	172	8.38	0.0
	10/30/2014[5]	43 J	150 J	5.0 U	NM	NM	NM
	4/24/2015	27	94	2.0 U	240	19.73	0.6
	10/22/2015[5]	53	120	2.0 U	NM	NM	NM
	4/26/2016	66	140	2.0 U	129	1.30	0.0
	10/21/2016[5]	93	170	2.0UJ	NM	NM	0.4
MW-84D1 [1]	10/24/2006	NA	NA	NA	50	7.89	1.44
	10/25/2006	NA	NA	NA	86	8.03	1.37
	10/26/2006	47	350	430	78	6.51	1.19
	1/30/2007	66	640	150	160	7.53	1.24
	4/24/2007	32	560	11	282	>20	0.05
	7/24/2007	47	180	12	301	>20	0.05
	10/17/2007	15/15	48/56	2.1/2.4	304	8.81	0.62
	1/28/2008	19	32	2 U	303	>20	0.0
	4/24/2008	3 J	4 J	2 U	210	0.6	0.03
	7/17/2008	7.1	12	2 U	95	14.51	0.13
	10/29/2008	7	7	2 U	319	12.18	0.0
	4/9/2009	23	24	5.0 U	214	13.34	0.0

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-84D1 [1]	10/19/2009	5.0 U	2.3 J	5.0 U	271	10.98	0.19
(cont'd)	5/12/2010	1.4 J	5.0 U	5.0 U	127	9.85	NM
	11/18/2010	3.9 J	3.5 J	5.0 U	207	7.94	NM
	4/27/2011	27/33	8.5/10	5.0 U/5.0 U	210	7.54	NM
	12/1/2011	94	35	0.52 J	NM	13.98	NM
	5/24/2012	4.3 J	4.4 J	5.0 U	185	10.30	0.00
	10/26/2012	80	54	5.0 U	72	7.29	1.08
	5/1/2013	81	29	5.0 U	250	12.62	0.72
	10/25/2013	83	35	5.0 U	23	12.48	1.50
	4/25/2014	41	30	5.0 U	134	6.86	0.26
	10/23/2014	51	25	5.0 U	110	7.66	2.00
	4/24/2015	54	21	2.0 U	169	14.19	0.00
	10/21/2015	50	23	2.0 U	-9	6.83	2.76
	4/26/2016	23	18	2.0 U	168	3.91	0.88
	10/20/2016	33	19	2.0UJ	-10	6.52	0.00
MW-84D2 [1]	10/24/2006	NA	NA	NA	-90	4.69	1.53
	10/25/2006	NA	NA	NA	-47	2.84	0.27
	10/26/2006	19 J	92	140	-77	2.67	0.64
	1/29/2007	15	94	150	7	3.91	0.18
	4/24/2007	69	510	33	138	16.31	0.30
	7/24/2007	59	440	20	139	>20	0.21
	10/17/2007	16	170	7.1	34	4.68	0.23
	1/28/2008	27	250 J	5	97	9.91	0.79
	4/23/2008	11	100	2 U	6	3.96	0.09
	7/17/2008	20	130	2 U	13	14.05	0.27
	10/29/2008	21	110	2 U	160	8.33	0.25
	4/9/2009	15 J	74 J	5.0 U	70	10.15	0.08
	10/16/2009	14	110	5.0 U	135	14.65	1.45
	5/25/2010	23 J	190	1.6 J	-20	11.75	0.0
	11/18/2010	8.6	79	5.0 U	-21	0.79	0.0
	4/15/2011	1.0 J	9.4	5.0 U	-49	0.37	0.0
	12/1/2011	7.7	110	5.0 U	NM	11.00	NM
	5/24/2012	5.7	75	5.0 U	114	4.83	0.5
	10/26/2012	5.4	65	5.0 U	-28	3.14	5.0
	5/1/2013[5]	50	170	5.0 U	NM	NM	NM
	10/25/2013	21	120	5.0 U	-45	12.51	NA
	4/25/2014	28	150	5.0 U	21	1.72	0.26
	10/23/2014	19	100	5.0 U	54	3.49	1.30
	4/24/2015	22	92	2.0 U	89	8.35	0.00
	10/21/2015	20	78	2.0 U	-87	8.85	5.00
	4/26/2016[5]	15	58	2.0 U	NM	NM	NM
	10/20/2016[5]	15	59	2.0UJ	NM	NM	0.00
MW-85S [2]	4/20/2011	3.6 J	5.0 U	5.0 U	46	4.38	0.5
	10/26/2012	2.0 J	0.60 J	0.89 J	NM	NM	NM
	2/4/2013	2.5 J	5.0 U	5.0 U	NM	NM	NM
	4/30/2013	1.0 J	5.0 U	5.0 U	180	7.88	>5.0
	7/24/2013	5.0 U	5.0 U	5.0 U	12	1.39	0.4
	10/28/2013[5]	5.0 U	5.0 U	5.0 U	NM	NM	NM
	1/27/2014	0.97 J	5.0 U	5.0 U	112	11.37	NM
	4/24/2014	0.99 J	5.0 U	5.0 U	161	5.97	0.0
	7/17/2014	1.1 J	5.0 U	5.0 U	26	4.98	NM
	10/31/2014	2.3 J	5.0 U	5.0 U	20	9.22	1.4
	4/23/2015[5]	5.0 U	5.0 U	2.0 U	NM	NM	NM
	10/20/2015	0.75 J	5.0 U	2.0 U	-44	29.15	0.4
	5/18/2016[5]	5.0 U	5.0 U	2.0 U	NM	NM	NM
	10/18/2016	5.0UJ	5.0U	2.0UJ	-45	2.63	0.0
MW-85I [2]	4/20/2011	5.2	5.0 U	5.0 U	93	2.90	2.4
	10/26/2012	2.6 J	0.54 J	5.0 U	NM	NM	NM
	2/4/2013	1.9 J	5.0 U	5.0 U	NM	NM	NM

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-85I [2]	4/30/2013	1.7 J	0.68 J	5.0 U	-57	5.63	>5.0
(cont'd)	7/24/2013	1.3 J	0.53 J	5.0 U	-139	0.42	0.1
	10/28/2013	2.7 J	5.0 U	5.0 U	-137	10.87	1.3
	1/27/2014	2.2 J	0.78 J	5.0 U	-61	10.43	NM
	4/24/2014	1.2 J	5.0 U	5.0 U	87	10.21	0.19
	7/17/2014	1.2 J	0.67 J	5.0 U	92	5.36	2.30
	10/31/2014	1.2 J	0.68 J	5.0 U	24	9.22	>5.0
	4/23/2015	2.4 J	5.0 U	2.0 U	59	6.55	0.34
	10/20/2015	2.2 J	5.0 U	2.0 U	-3	17.60	NM
	4/25/2016	3.4 J	2.5 J	2.0 U	237	15.03	NM
	10/18/2016	5.5	5.0U	2.0UJ	-124	0.33	0.00
MW-85D1 [2]	4/20/2011	34/31	10/9.9	70/70	-33	3.75	(3)
	10/26/2012	5.0 U	5.0 U	9.9	18	>20	5.0
	2/4/2013	5.8	9.2	17	1	7.26	2.0
	4/30/2013	15	14	1.4 J	28	9.02	>5.0
	7/24/2013	9.5	17	4.4 J	-130	2.06	>5.0
	10/28/2013[5]	22	26	7.9	NM	NM	NM
	1/27/2014	25	21	12	-83	11.37	NM
	4/24/2014	30	23	5.7	50	6.35	0.0
	7/17/2014	20	26	7.2	39	4.68	2.0
	10/31/2014	13	16	5.0 U	-10	11.29	>5.0
	4/23/2015	4.6 J	14	2.0 U	120	11.43	0.0
	10/20/2015	3.3 J	9.7	2.0 U	33	21.24	0.0
	4/25/2016	4.1 J	10	2.0 U	186	10.27	0.0
	10/18/2016	6.9	12	2.0UJ	19	11.24	0.0
MW-85D2 [2]	4/20/2011	170	160	1100	-190	1.59	4.0
	10/26/2012	66	37	280	29	14.34	5.0
	2/4/2013	21/23	24/25	40/40	NM	NM	NM
	4/30/2013	9.2	21	25	155	7.90	>5.0
	7/24/2013	27	44	15	6	1.89	1.6
	10/28/2013	5.7	8.3	2.6 J	-98	3.03	0.7
	1/27/2014	11	21	2.3 J	-98	12.81	NM
	4/24/2014	5.9	13	0.93 J	36	9.77	0.09
	7/17/2014	6.8	14	5.0 U	13	2.82	2.60
	10/31/2014	4.7 J	12	5.0 U	-46	7.77	1.60
	4/23/2015	1.8 J	5.0 U	2.0 U	141	11.07	NM
	10/20/2015[5]	1.0 J	4.3 J	2.0 U	NM	NM	NM
	4/25/2016	2.3 J	5.4	2.0 U	174	5.79	0.24
	10/18/2016	11	21	4.9J	27	9.45	NM
MW-86D1 [2]	4/18/2011	2.7 J	5.0 U	14	-107	0.74	2.0
	10/24/2012	2.4 J	0.66 J	36	67	>20	0.68
	2/6/2013	6.3	5.0 U	44	87	14.5	1.0
	4/29/2013	6	1.5 J	62	135	5.99	2.5
	7/24/2013	3.1 J	1.3 J	24	-103	2.61	0.0
	10/29/2013[5]	5	1.8 J	78	NM	NM	NM
	1/23/2014	6.7	1.6 J	150	27	14.90	NM
	4/29/2014	8.2	1.3 J	160	25	3.56	0.1
	7/17/2014	9.5	0.89 J	180	-102	4.35	3.0
	10/31/2014	13	1.3 J	110	39	6.42	0.0
	4/24/2015	6.4	5.0 U	33	-37	7.48	0.1
	10/26/2015	3.0 J	5.0 U	2.0 U	-59	10.56	0.6
	4/28/2016	2.3 J	5.0 U	2.0 U	56	0.46	0.2
	10/21/2016	5.0UJ	5.0U	2.0UJ	87	1.30	0.1
MW-86D2 [2]	4/18/2011	19	280	5.0 U	-107	1.24	3.0
	10/24/2012	8.2	170	5.0 U	-115	2.49	0.39
	2/6/2013	17	370	0.54 J	-45	13.05	2.0
	4/29/2013	17	320	0.51 J	-64	5.44	3.4
	7/24/2013	13	270	5.0 U	-165	0.93	1.8
	10/29/2013	10	200	5.0 U	-43	4.30	0.0

Table 4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-86D2 [2]	1/23/2014	14	240	5.0 U	-101	12.18	0.0
(cont'd)	4/29/2014	17	230	5.0 U	168	5.83	0.0
	7/17/2014[5]	15	170	0.79 J	NM	NM	NM
	10/31/2014	12	180	5.0 U	39	6.63	0.7
	4/24/2015	9.9	130	2.0 U	-89	10.90	0.0
	10/26/2015	7.4	83	2.0 U	-59	8.69	0.1
	4/28/2016	9.8	58	2.0 U	24	2.12	0.5
	10/21/2016	12	62	2.0UJ	-77	0.00	0.0
MW-87D1 [1]	10/24/2006	NA	NA	NA	234	0.70	0.17
	10/25/2006	NA	NA	NA	221	0.00	0.35
	10/26/2006	96 J	320	230	226	2.63	0.05
	1/24/2007	74	410	220	248	0.78	0.10
	4/17/2007	56	470	160	169	0.00	0.14
	7/17/2007	83	400	190	223	0.44	0.09
	10/8/2007	37	190	190	203	4.39	0.40
	4/16/2008	52	240	4	322	8.35	0.05
	10/21/2008	99	360	10	463	>20	0.00
	4/7/2009	10	22	5.0 U	289	8.62	0.00
	10/13/2009	100	410	16	379	16.18	0.17
	5/3/2010	170/170	360/330	41/44	282	5.74	0.0
	11/29/2010	5.0 U/3.8 J	4.8 J/17	5.0 UJ/5.0 UJ	192	2.75	0.0
	4/19/2011	150	420	250	300	3.72	0.0
	11/30/2011	95	300	3.2 J	NM	13.98	NM
	5/24/2012	73 J	270	75	149	11.51	1.4
	11/5/2012	53	290	2.1 J	105	>20	1.6
	5/2/2013[5]	43	160	1.4 J	NM	NM	NM
	10/28/2013	26	36	5.0 U	-67	13.76	0.1
	4/29/2014	88	58	2.2 J	201	8.53	0.0
	7/21/2014	140	22	5.0 U	177	13.90	1.4
	10/31/2014	150	19	5.0 U	123	12.91	1.3
	4/24/2015	130	23	2.0 U	-75	19.54	1.7
	10/22/2015	130	18	2.0 U	179	8.49	3.8
	4/26/2016	99	11	2.0 U	71	9.20	0.2
	10/21/2016	66	10	2.0UJ	168	9.77	0.5
MW-87D2 [1]	10/24/2006	NA	NA	NA	212	4.00	0.08
	10/25/2006	NA	NA	NA	137	6.68	0.09
	10/26/2006	13	77	5 U	226	4.53	0.02
	1/24/2007	25	96	5 U	131	3.64	0.25
	4/17/2007	14	56	5 U	106	3.89	0.09
	7/16/2007	16	54	2 U	145	3.31	0.07
	10/9/2007	14	32	2 U	287	7.45	0.12
	4/16/2008	12	23	2 U	288	5.39	0.01
	10/21/2008	17	31	2 U	440	9.66	0.00
	4/7/2009	76	370	5.0 U	346	9.90	0.06
	10/13/2009	15	43	5.0 U	341	5.30	0.26
	5/5/2010	18	55	5.0 U	222	4.15	NM
	11/15/2010	35	470	2.7 J	397	12.41	0.0
	4/18/2011	22	75	5.0 U	234	3.46	0.0
	11/30/2011	18	110	5.0 U	NM	11.08	NM
	5/24/2012	16 J/15 J	180/180	5.0 U/5.0 U	NM	NM	2.1
	11/5/2012	25	170	5.0 U	86	>20	1.0
	5/2/2013	35	170	5.0 U	312	15.02	2.2
	10/28/2013	150	150	5.0 U	9	4.86	0.4
	4/29/2014	200	110	5.0 U	160	5.63	0.0
	7/21/2014	420	98	5.0 U	206	7.98	0.0
	10/31/2014	380	120	5.0 U	149	10.72	3.1
	4/24/2015	300	100	2.0 U	172	14.19	2.8
	10/22/2015	470	150	2.0 U	184	7.70	0.5
	4/26/2016	420	170	5.0 U	231	3.15	0.5
	10/21/2016[5]	NA	NA	NA	168	3.61	NM

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-88D1 (1)	10/24/2006	NA	NA	NA	-43	0.00	11.04
	10/25/2006	NA	NA	NA	-13	0.00	10.20
	10/26/2006	39 J	9	58	33	3.36	6.56
	1/30/2007	36	7	74	-45	1.16	2.01
	4/19/2007	32	13	330	172	11.88	1.84
	7/26/2007	37	28 J	1500	232	9.48	0.74
	10/16/2007	66	270	1100	3	0.02	5.47
	4/25/2008	20	27	310	225	5.95	0.52
	10/30/2008	40	29	320	339	>20	0.00
	4/13/2009	27	17	410	205	16.71	0.31
	10/21/2009	18/14	24/24	510/330	253	>20	0.47
	5/11/2010	28	32	320	177	19.00	0.50
	11/17/2010	14	20	440	366	13.04	0.0
	4/15/2011	19	19	160	184	14.39	0.0
	12/1/2011	15	20	11	NM	17.16	NM
	5/24/2012	5.4 J	14	11	65	8.82	0.0
	10/26/2012	12	17	8.2	83	10.88	1.15
	5/1/2013	5.4	6.8	0.92 J	202	13.77	1.22
	10/28/2013(5)	12	12	3.2 J	NM	NM	NM
	4/25/2014	8.7	14	1.1 J	197	8.44	0.06
	10/30/2014	12 J	26 J	3.1 J	82	12.59	0.31
	4/24/2015	19	26	2.1	150	14.59	NM
	10/21/2015	16	23	2.0 U	31	9.74	5.00
	4/26/2016	14	17	1.2 J	136	9.45	0.36
	10/19/2016	21	14	2.0UJ	29	12.12	0.00
MW-88D2 (1)	10/24/2006	NA	NA	NA	-282	1.44	18.96
	10/25/2006	NA	NA	NA	-253	1.97	11.40
	10/26/2006	140 J	180	3200	-212	0.00	NM
	1/25/2007	180/190	180/190	3400/2900	-315	0.82	0.16
	4/19/2007	390	330	1200	-219	0.37	2.17
	7/26/2007	97/94	57 J/56 J	2000/1800	-333	0.44	1.21
	10/16/2007	41	25	31	-291	3.04	9.39
	4/25/2008	280 J	130	230	40	8.02	2.65
	10/31/2008	250	83 J	230	45	8.94	2.70
	4/14/2009	200	86	59	41	9.94	0.98
	10/20/2009	47	43	130	-3	4.67	4.49
	5/11/2010	130	85	81	-5	5.70	0.50
	1/20/2011	56	22	160 J	232	5.58	0.00
	4/19/2011	27	10	170	-585	3.35	0
	12/1/2011	24	12	110	NM	9.81	NM
	5/24/2012	1.7 J	1.7 J	91	22	5.73	0
	10/26/2012	1.7 J	0.82 J	5.0 U	NM	NM	NM
	5/1/2013	14	17 J	38 J	154	11.30	1.56
	10/28/2013	5.0 U	5.0 U	5.0 U	52	12.83	0.46
	4/25/2014	5.0 U	5.0 U	0.85 J	62	2.83	0.00
	10/30/2014	19 J	16 J	5.0 U	91	14.22	0.86
	4/24/2015	15	11	2.0 U	26	8.59	NM
	10/21/2015	15	9.7	2.0 U	-44	9.18	5.00
	4/26/2016	9.2	8.3	2.0 U	67	1.56	0.0
	10/19/2016(5)	NA	NA	NA	-16	0.95	NM
MW-89D1 (2)	4/21/2011	37	47	63	-142	1.57	6.0
	10/24/2012	2.9 J	5.0 U	6.7	17	9.68	0.0
	2/6/2013	20	10	25	-70	8.99	0.0
	4/29/2013	12	8.3	60	-125	5.49	3.8
	7/24/2013	6.9	3.1 J	31	-198	0.43	1.8
	10/28/2013	6.2	2.8 J	51	-52	2.56	0.5
	1/27/2014	15	14	72	239	12.43	NM
	4/24/2014	7.2	3.5 J	22	-88	3.67	0.0
	7/17/2014	17	7.3	19	-45	2.42	3.6
	10/31/2014	37	23	4.6 J	51	19.08	>5.0

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-89D1 [2]	4/23/2015	37	26	6.9	101	7.52	NM
(cont'd)	10/20/2015	12	8.2	4.3	21	22.43	1.5
	4/25/2016	8.9	12	4.2	-10	2.00	0.1
	10/18/2016	18	20	7.9J	-21	0.00	0.2
MW-89D2 [2]	4/21/2011	27	16	24	-154	2.43	1.0
	10/24/2012	1.7 J	2.4 J	21	-95	10.73	0.0
	2/6/2013	5	4.6 J	20	-122	10.05	0.0
	4/29/2013	1.2 J	1.9 J	26	-244	4.49	3.0
	7/24/2013	1.1 J	2.1 J	12	-250	0.75	2.7
	10/28/2013	1.6 J	2.4 J	13	-63	9.45	0.8
	1/27/2014[5]	2.7 J	4.0 J	12	NM	NM	NM
	4/24/2014	1.8 J	2.7 J	6.1	-27	4.26	0.0
	7/17/2014	3.9 J	5.6	3.7 J	-40	2.13	2.0
	10/31/2014	5.8	9.4	6.5	6	12.01	1.8
	4/23/2015[5]	10	13	2.3	NM	NM	NM
	10/20/2015	5.7	9.4	2.0 U	-72	19.70	2.2
	4/25/2016	6.7	6.0	2.0 U	-30	0.27	0.4
	10/18/2016	13	8.3	2.0UJ	-119	0.66	0.0
MW-90D1 [2]	4/25/2007	110	44	6300	-100	0.93	2.30
	4/13/2011	29	12	4100	-103	0.34	NM
	10/25/2012[5]	2.0 J	5.0 U	810	NM	NM	NM
	2/6/2013[5]	27	6.7	2500	NM	NM	NM
	4/30/2013[5]	3.9 J	2.3 J	780	NM	NM	NM
	7/23/2013[5]	32	16	290	NM	NM	NM
	10/25/2013[5]	22	13	84	NM	NM	NM
	1/23/2014[5]	17	18	1600	NM	NM	NM
	4/23/2014[5]	42	24	600	NM	NM	NM
	7/18/2014[5]	33	11	27	NM	NM	NM
	10/21/2014[5]	16	9.9	37	NM	NM	NM
	4/24/2015[5]	25	9.6	3.0	NM	NM	NM
	10/23/2015[5]	23	9.5	1.9 J	NM	NM	NM
	4/27/2016[5]	5.0 U	8.4	2.0 U	NM	NM	NM
	10/21/2016[5]	21	9.6	2.0UJ	NM	NM	NM
MW-90D2 [2]	4/25/2007	46	220 J	49	-47	1.38	1.76
	5/17/2010	26	68	2.1 J	-112	0.00	2.5
	4/14/2011	33	51	1.2 J	12	4.03	1.0
	2/6/2013[5]	120	37	3.1 J	NM	NM	NM
	4/30/2013[5]	57	25	1.8 J	NM	NM	NM
	7/23/2013[5]	43	29	5.0 U	NM	NM	NM
	10/25/2013[5]	44	23	5.0 U	NM	NM	NM
	1/23/2014[5]	39	25	2.9 J	NM	NM	NM
	4/23/2014[5]	37	26	1.5 J	NM	NM	NM
	7/18/2014[5]	22	22	5.0 U	NM	NM	NM
	10/21/2014[5]	6.1	3.5 J	5.0 U	NM	NM	NM
	4/24/2015[5]	26	21	2.0 U	NM	NM	NM
	10/23/2015[5]	74	23	2.0 U	NM	NM	NM
	4/27/2016[5]	27	11	2.0 U	NM	NM	NM
	10/21/2016[5]	6	6.9	2.0UJ	NM	NM	NM
Voluntary Wells							
MW-52S	3/13/2007	25	19	2400	5	1.64	1.66
MW-52I	3/14/2007	14	5	6	259	5.85	0.04
MW-52D	3/14/2007	410	39	5 U	226	3.07	0.11
MW-58D	10/26/2006	20	120	5 U	21	2.42	4.30
	5/18/2010	18	47	5.0 U	30	0.00	1.8

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-58D	11/21/2011	8.6	56	5.0 U	74	0.30	NR
(cont'd)	5/23/2013	15 J	110	5.0 U	167	5.94	2
	11/14/2014[5]	500 U	6500	500 U	NM	NM	NM
	6/2/2016	28	6300	2.0 U	-44	9.46	0.0
	11/2/2016	38J	5000	2.0U	-12	0.00	0.1
MW-58D1	10/26/2006	20	150	5 U	-101	2.58	8.80
	5/19/2010	18	44	5.0 U	-50	0.00	2.2
	11/21/2011	2.5 J	20	5.0 U	-48	0.52	NR
	5/23/2013[5]	12 J	73	5.0 U	NM	NM	NM
	11/14/2014[5]	250 U	4300	250 U	NM	NM	NM
	6/2/2016	34	5800	2.0 U	-25	10.58	0.1
	11/2/2016	32J	4400	2.0U	46	0.00	1.6
MW-58D2	10/25/2006	19 J	120	5 U	-198	0.00	5.16
	4/29/2013	13	74	5.0 U	-81	7.70	3.87
	10/24/2014	20	4900	5.0 U	-10	20.87	0.00
	5/18/2016	38	7600	2.0 U	47	9.57	0.22
	10/19/2016	37	3200	2.0UJ	-46	0.00	0.72
MW-59D1	10/25/2006	10 J	32	5 U	-20	0.58	3.24
	11/29/2011	3.5 J	12	5.0 U	-43	0.30	NR
MW-59D2	10/25/2006	11 J	40	5 U	-99	0.47	2.00
	11/29/2011	2.5 J	8.1	5.0 U	-128	0.10	NR
	5/18/2016[5]	5.0 U	5.5	2.0 U	NM	NM	NM
	10/19/2016	5.0U	5.7	2.0UJ	-137	1.01	0.14
MW-59D	10/26/2006	10	58	5 U	-108	0.00	2.65
	11/29/2011	5.3	13	5.0 U	49	0.35	NR
MW-60S	5/23/2013	45	150	5.0 U	-233	4.74	>5.0
MW-60I	5/23/2013	43	200	5.0 U	-93	3.77	>5.0
MW-60D	5/23/2013	64	99	5.0 U	-204	4.60	2.43
MW-60D1	4/30/2013	1.6 J	26	5.0 U	-108	5.84	>5.0
MW-61S	10/19/2009	7.4	10	5.0 U	372	>20	0.02
	5/10/2010	5.4	8.1 U	3.5 J	100	10.95	0.0
MW-62I	5/16/2007	5.1	1 J	3 J	59	0.00	0.69
	5/25/2010	5.1 J	5.0 U	4.2 J	14.8	0.00	4.2
	11/16/2015[5]	14	3.4 J	8.9	NM	NM	2.5
MW-62D	5/16/2007	5 U	5 U	5 U	-125	0.00	0.38
	5/25/2010	2.4 J	8.2	8	-200	0.00	6.2
	11/16/2015	2.5 J	2.0 J	2.3	116	10.94	0.0
MW-64S [2]	4/26/2007	3 J	2 J	8.7	-114	0.00	2.4
	5/24/2010	1.5 J	5.0 U	2.1 J	-98	0.00	4.0
MW-64I [2]	4/26/2007	5	3 J	16	-121	0.00	1.9
	5/24/2010	5.0 UJ	5.0 U	12	-110	0.00	4.0
MW-64D [2]	4/26/2007	5.1	4 J	14	-115	0.00	2.0
	5/24/2010	5.0 UJ	5.0 U	11	-107	0.00	2.3
MW-66D2 [2]	4/25/2013	100	110	5.0 U	-44	6.58	0.2
	10/29/2013	43	58	5.0 U	-111	3.88	0.3
	4/25/2014	47	61	5.0 U	53	4.55	0.7
	10/27/2014	22	25	5.0 U	166	3.42	2.8
	4/23/2015	10	15	2.0 U	161	13.98	NM
	10/21/2015[5]	5.8	10	2.0 U	NM	NM	NM
	4/25/2016	2.9 J	8.0	2.0 U	-4	13.29	0.2
	10/18/2016	1.4J	2.2J	2.0UJ	35	0.02	NM
MW-67S [2]	5/20/2010	26/27	37/39	87/95	-170	0.00	7.0
	11/22/2011	1.5 J	8.7	47	-35	0.14	NR
	4/25/2013	2.8 J	19	140	45	5.14	1.9
	10/29/2013	4.6 J	16	100	-161	2.49	1.0
	4/25/2014	4.9 J	9.6	38	77	2.76	0.0
	10/24/2014[5]	18	19	6.2	NM	NM	NM
	4/23/2015	6	5.4	2.0 U	155	12.71	0.4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
MW-67S [2]	10/21/2015	1.7 J	2.5 J	2.0 U	177	11.68	NM
(cont'd)	4/25/2016	58	44	2.0 U	104	20.69	0.7
	10/19/2016	41	66	2.0UJ	26	0.29	0.2
MW-67D [2]	5/20/2010	74/73	280/280 J	5.0 U/5.0 U	-187	1.30	0.2
	11/22/2011	6.2	58	5.0 U	129	2.97	NR
	4/25/2013	8.6	32	5.0 U	45	11.98	1.9
	10/29/2013	11	36	5.0 U	-204	3.78	0.0
	4/25/2014	4.8 J	25	5.0 U	2	5.35	0.0
	10/24/2014[5]	1.4 J	4.3 J	5.0 U	NM	NM	NM
	4/23/2015	2.9 J	5.0 U	2.0 U	-274	9.51	NM
	10/21/2015[5]	5.0 U	2.1 J	2.0 U	NM	NM	NM
	4/25/2016	5.0 J	1.2 J	2.0 U	53	4.62	0.3
	10/19/2016	5.0U	5.0U	2.0UJ	50	2.37	0.1
MW-68S [2]	11/28/2011	83	110	690	-107	0.05	NR
	4/25/2013	11	27	940	-190	6.84	1.9
	10/29/2013	6.8	11	580	-128	3.58	1.0
	4/25/2014	99	81	270	-50	2.49	0.0
	10/24/2014	67	93	400	68	21.08	0.0
	4/23/2015	77	110	2.0 U	-15	15.09	NM
	10/21/2015	65	110	260	47	9.22	NM
	4/25/2016	62	100	220	1	24.40	0.0
	10/19/2016	87	120	230J	-201	0.47	0.1
MW-68D [2]	5/19/2010	320	970	34	-29	0.00	2.4
	11/28/2011	47	290	1.2 J	-38	0.97	NR
	4/25/2013	36	160	1.3 J	-174	5.88	0.7
	10/29/2013	19	78	5.0 U	-91	4.12	0.2
	4/25/2014	7.3	47	5.0 U	-71	5.27	0.0
	10/24/2014	2.2 J	14	5.0 U	36	12.79	0.0
	4/23/2015[5]	1.8 J	6.8	1.0 J	NM	NM	NM
	10/21/2015[5]	1.7 J	5.9	2.0 U	NM	NM	NM
	4/25/2016	5.0 U	4.3 J	2.0 U	37	9.21	0.0
	10/19/2016	5.0U	4.6J	2.0UJ	-39	0.50	0.0
MW-92D1	4/12/2011	5.7	1.3 J	100	-190	1.13	4.0
	4/24/2013	3.7 J	6.2	79	12	6.57	3.0
	10/27/2014	3.4 J	4.6 J	51	-18	2.62	4.1
	10/23/2015	3.9 J	6.2	42	32	6.61	1.0
MW-92D2	4/25/2011	690	12	5.0 U	-156	2.00	1.5
	4/24/2013	280	17	5.0 U	-104	5.52	>5.0
	10/27/2014	92	8.2	5.0 U	-120	2.20	75.0
	10/23/2015	30	5.4	2.0 U	-77	8.07	0.1
MW-93D1	4/26/2011	21	3.7 J	190	-191	2.18	2.5
	4/24/2013	14	4.5 J	20	-140	5.16	2.2
	10/27/2014	16	2.3 J	7.0	33	3.10	2.3
	10/23/2015	8	1.2 J	3.8	11	9.79	0.2
MW-93D2	4/26/2011	110	15	5.0 U	-219	2.96	2.0
	4/23/2013	24	21	5.0 U	-105	4.58	4.5
	10/27/2014	1.0 J	5.0 U	5.0 U	-12	2.98	3.4
	10/23/2015	5.0 U	5.0 U	2.0 U	-105	9.40	0.0
Northrop Wells							
GP-1 (Well 1)	9/25/2006	NR	NA	ND	NR	NR	NR
	10/23/2006	NR	NA	ND	NR	NR	NR
	11/13/2006	NR	NA	ND	NR	NR	NR
	12/18/2006	NR	634	ND	NR	NR	NR
	1/15/2007	NR	547	ND	NR	NR	NR
	2/12/2007	NR	373	ND	NR	NR	NR
	3/12/2007	NR	439	ND	NR	NR	NR
	4/16/2007	NR	473	ND	NR	NR	NR
	5/14/2007	NR	587	ND	NR	NR	NR

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
GP-1 (Well 1) (cont'd)	6/18/2007	NR	414	ND	NR	NR	NR
	7/23/2007	NR	410	ND	NR	NR	NR
	8/13/2007	NR	333	ND	NR	NR	NR
	9/11/2007	NR	452	ND	NR	NR	NR
	10/15/2007	NR	285	ND	NR	NR	NR
	11/12/2007	NR	428	ND	NR	NR	NR
	12/18/2007	NR	371	ND	NR	NR	NR
	1/14/2008	NR	273	ND	NR	NR	NR
	2/18/2008	NR	373	ND	NR	NR	NR
	3/17/2008	NR	212	ND	NR	NR	NR
	4/14/2008	NR	233	ND	NR	NR	NR
	5/19/2008	NR	195	ND	NR	NR	NR
	6/16/2008	NR	113	ND	NR	NR	NR
	7/15/2008	NR	353	ND	NR	NR	NR
	8/18/2008	NR	54	ND	NR	NR	NR
	9/22/2008	NR	78	ND	NR	NR	NR
	10/13/2008	NR	78	ND	NR	NR	NR
	11/18/2008	NR	145	ND	NR	NR	NR
	12/16/2008	NR	82	ND	NR	NR	NR
	1/05/2009	NR	106	ND	NR	NR	NR
	2/16/2009	NR	186	ND	NR	NR	NR
	3/16/2009	NR	202	ND	NR	NR	NR
	4/13/2009	NR	203	ND	NR	NR	NR
	5/18/2009	NR	217	ND	NR	NR	NR
	6/15/2009	NR	93	ND	NR	NR	NR
	7/21/2009	NR	156	ND	NR	NR	NR
	8/18/2009	NR	126	ND	NR	NR	NR
	9/16/2009	NR	112	ND	NR	NR	NR
	10/20/2009	NR	132	ND	NR	NR	NR
	11/16/2009	NR	173	ND	NR	NR	NR
	12/4/2009	NR	151	ND	NR	NR	NR
	1/18/2010	NR	106	ND	NR	NR	NR
	2/15/2010	NR	108	ND	NR	NR	NR
	3/15/2010	NR	149	ND	NR	NR	NR
	4/20/2010	NR	368	ND	NR	NR	NR
	7/28/2010	NR	NA	ND	NR	NR	NR
	8/20/2010	NR	101	ND	NR	NR	NR
	5/08/2012	48	410	ND	NR	NR	NR
	12/11/2012	51	410	ND	NR	NR	NR
	2/18/2013	49	360	ND	NR	NR	NR
	6/06/2013	48	380	ND	NR	NR	NR
	8/21/2013	48/44	400/390	ND/ND	NR	NR	NR
	2/24/2014	39	400	ND	NR	NR	NR
	6/10/2014	40	490	ND	NR	NR	NR
	9/11/2014	35	730	ND	NR	NR	NR
	11/13/2014	39	695	ND	NR	NR	NR
	3/16/2015	41	713	ND	NR	NR	NR
	5/05/2015	31	748	ND	NR	NR	NR
	9/09/2015	35	852	ND	NR	NR	NR
	12/12/2015	31	768	ND	NR	NR	NR
	3/14/2016	30	792	ND	NR	NR	NR
	8/17/2016	28	838	ND	NR	NR	NR
GP-3 (Well 3R)	09/25/2006	NR	NR	100	NR	NR	NR
	10/23/2006	NR	NR	122	NR	NR	NR
	11/13/2006	NR	NR	143	NR	NR	NR
	12/18/2006	NR	3968	148	NR	NR	NR
	1/15/2007	NR	3038	121	NR	NR	NR
	2/12/2007	NR	2545	81	NR	NR	NR
	3/12/2007	NR	2200	74	NR	NR	NR
	4/16/2007	NR	2476	49	NR	NR	NR

Table 4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)
GP-3 (Well 3R) (cont'd)	5/14/2007	NR	3107	144	NR	NR	NR
	6/18/2007	NR	2268	92	NR	NR	NR
	7/23/2007	NR	2900	128	NR	NR	NR
	8/13/2007	NR	1964	113	NR	NR	NR
	9/11/2007	NR	2013	114	NR	NR	NR
	10/15/2007	NR	2080	117	NR	NR	NR
	11/12/2007	NR	2123	113	NR	NR	NR
	12/18/2007	NR	2264	130	NR	NR	NR
	1/14/2008	NR	1655	109	NR	NR	NR
	2/18/2008	NR	1472	143	NR	NR	NR
	3/17/2008	NR	1700	146	NR	NR	NR
	4/14/2008	NR	1717	130	NR	NR	NR
	5/19/2008	NR	985	81	NR	NR	NR
	6/16/2008	NR	1196	86	NR	NR	NR
	7/15/2008	NR	1106	89	NR	NR	NR
	8/18/2008	NR	907	51	NR	NR	NR
	9/22/2008	NR	1083	101	NR	NR	NR
	10/13/2008	NR	1130	98	NR	NR	NR
	11/18/2008	NR	846	112	NR	NR	NR
	12/16/2008	NR	1227	83	NR	NR	NR
	1/12/2009	NR	862	93	NR	NR	NR
	2/16/2009	NR	1159	104	NR	NR	NR
	3/16/2009	NR	1082	112	NR	NR	NR
	4/13/2009	NR	1410	153	NR	NR	NR
	0/18/2009	NR	1012	151	NR	NR	NR
	6/15/2009	NR	856	94	NR	NR	NR
	7/21/2009	NR	1180	148	NR	NR	NR
	8/18/2009	NR	1226	151	NR	NR	NR
	9/16/2009	NR	1462	163	NR	NR	NR
	10/20/2009	NR	1591	178	NR	NR	NR
	11/16/2009	NR	1262	182	NR	NR	NR
	12/14/2009	NR	1262	179	NR	NR	NR
	1/18/2010	NR	1263	188	NR	NR	NR
	2/15/2010	NR	1191	177	NR	NR	NR
	3/15/2010	NR	852	134	NR	NR	NR
	4/20/2010	NR	890	173	NR	NR	NR
	6/21/2010	NR	450	135	NR	NR	NR
	7/19/2010	NR	308	137	NR	NR	NR
	8/12/2010	NR	132	155	NR	NR	NR
	5/08/2012	58	1700	140	NR	NR	NR
	12/11/2012	51	1500	84	NR	NR	NR
	2/18/2013	53	1400	72	NR	NR	NR
	6/06/2013	54	1400	60	NR	NR	NR
	8/21/2013	57	1200	58	NR	NR	NR
	2/24/2014 [6]	38	98	38	NR	NR	NR
	6/10/2014 [6]	40	140	36	NR	NR	NR
	9/11/2014 [6]	43	270	36	NR	NR	NR
	11/13/2014 [6]	44	394	35	NR	NR	NR
	3/16/2015 [6]	44	493	29	NR	NR	NR
	5/05/2015 [6]	34	533	18	NR	NR	NR
	9/09/2015 [6]	37	557	13	NR	NR	NR
	12/15/2015 [6]	34	510	10	NR	NR	NR
	3/14/2016 [6]	31	529	9	NR	NR	NR
	8/17/2016 [6]	33	579	5	NR	NR	NR
MW-3-1	1/30/2012 [7]	150	240	170	NR	NR	NR
	3/28/2012	56	220	1300	NR	NR	NR
	6/19/2013	7.8	37	78	NR	NR	NR
	6/5/2015	12	68	4.8	NR	NR	NR
	11/11/2015	11	58	5.2	NR	NR	NR

Table 4

Select Laboratory and Field Parameter Results
Hooker Ruco Site
Hicksville, New York

Well	Date Sampled	PCE (µg/L)	TCE (µg/L)	VCM (µg/L)	ORP (mV)	DO (mg/L)	Fe^{+2} (mg/L)

Notes:

(1) Pilot System Monitoring Well
(2) Remainder of System Monitoring Well
(3) Black colored water prevented reading on colorimetric meter
(4) Orange colored water prevented reading on colorimeter meter
(5) Insufficient sample volume to obtain measurement/reading.
(6) Sample from replacement well 3R
(7) Sample collected from vertical profile boring at depth 439 ft bgs.

NA - Not analyzed
NM - Not measured (insufficient sample volume for all samples subsequent to 11/30/2011)
NR - Not reported by Northrop.
U - Not detected at associated value
J - Estimated concentration

Well Status December 31, 2016
Operable Unit-3 Biosparge System
Hooker/Ruco Site, Hicksville, New York

Well Designation	Date Completed	Well Functional	Comments/Proposed Action
IW-1D1A	04/28/11	Y	
IW-1D1L	04/28/11	Y	
IW-1D2A	04/28/11	Y	
IW-2D1A	04/8/11	Y	
IW-2D1L	04/8/11	Y	
IW-2D2A	04/8/11	Y	
IW-3D1A	03/25/11	Y	
IW-3D1L	03/25/11	Y	
IW-3D2A	03/25/11	Y	
IW-4D1A	01/27/11	Y	
IW-4D1L	01/27/11	Y	
IW-4D2A	01/27/11	Y	
IW-5D1A	04/12/11	Y	Actuator replaced May 26, 2016, injections restarted.
IW-5D1L	04/12/11	Y	
IW-5D2A	04/12/11	Y	Actuator replaced May 26, 2016, injections restarted.
IW-6D1A	01/17/11	Y	
IW-6D1L	01/17/11	Y	
IW-6D2A	01/17/11	Y	
IW-7D1A	03/29/11	Y	
IW-7D1L	03/29/11	Y	
IW-7D2A	03/29/11	Y	
IW-15D1A	10/05/10	Y	
IW-15DlL	10/05/10	Y	
IW-15D2A	10/05/10	N	DO in downgradient MW-87 >2.0 mg/L. No action planned.
IW-16D1A	11/01/05	N	DO in downgradient MW-83 >2.0 mg/L. No action planned.
IW-16D1L	11/01/05	Y	
IW-16D2A	11/01/05	Y	
IW-17D1A	12/01/05	Y	
IW-17D1L	12/01/05	Y	
IW-17D2A	12/01/05	N	Attempts to restart air injection on May 2 and 3 using higher pressures were not successful. DO in downgradient MW-81 >2.0 mg/L. No further action planned.
IW-18D1A	01/09/06	N	DO in downgradient MW-84 >2.0 mg/L. No action planned.
IW-18D1L	01/09/06	Y	
IW-18D2A	01/09/06	Y	
IW-19D1A	01/13/06	N	DO in downgradient MW-82/88 >2.0 mg/L. No action planned.
IW-19D1L	01/13/06	Y	
IW-19D2A	01/13/06	N	DO in downgradient MW-82/88 >2.0 mg/L. No action planned.
IW-20D1A	10/13/10	Y	
IW-20D1L	10/13/10	Y	
IW-20D2A	10/13/10	Y	
IW-21D1A	10/23/10	Y	
IW-21D1L	10/23/10	Y	
IW-21D2A	10/23/10	Y	
IW-22D1A	11/03/10	Y	
IW-22D1L	11/03/10	Y	
IW-22D2A	11/03/10	Y	
MW-50D1	02/23/95	N	Abandoned by Bayer during site closure.
MW-50D2	02/13/95	N	Abandoned by Bayer during site closure.
MW-51D1	10/24/95	N	Well no longer needed to monitor remediation of VCM subplume.
MW-51D2	10/02/95	N	Well no longer needed to monitor remediation of VCM subplume.
MW-52S	01/17/96	N	Abandoned March 2007
MW-52I	12/14/95	N	Abandoned March 2007
MW-52D	12/12/95	N	Abandoned March 2007
MW-53I	06/08/95	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-53D1	06/19/95	N	Well no longer needed to monitor remediation of VCM subplume. Well paved over.

Well Status December 31, 2016
Operable Unit-3 Biosparge System
Hooker/Ruco Site, Hicksville, New York

Well Designation	Date Completed	Well Functional	Comments/Proposed Action
MW-53D2	06/05/95	Y	Well no longer needed to monitor remediation of VCM subplume. Obstruction in well prevents sampler insertion.
MW-56S	01/26/96	N	Abandoned October 2000
MW-56I	01/25/96	N	Abandoned October 2000
MW-57S	01/23/96	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-57I	01/25/96	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-58D	03/26/02	Y	
MW-58D1	03/26/02	Y	
MW-58D2	03/26/02	Y	
MW-59D	04/06/02	N	VCM subplume can be monitored using Northrop well MW-3-1.
MW-59D1	04/06/02	N	VCM subplume can be monitored using Northrop well MW-3-1.
MW-59D2	04/06/02	Y	Previously lodged sampler retrieved from well in April 2016 allowing well to be sampled.
MW-60D1	03/05/02	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-60S	03/08/02	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-60I	03/08/02	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-60D	03/08/02	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-61S	02/22/02	Y	Well no longer needed to monitor remediation of VCM subplume.
MW-61I	02/22/02	N	Obstruction at 130 ftbgs prevents insertion of sampler. Monitoring of MW-61D2 sufficient to monitor VCM subplume.
MW-61D1	02/22/02	N	Obstruction at 130 ftbgs prevents insertion of sampler. Monitoring of MW-61D2 sufficient to monitor VCM subplume.
MW-61D2	03/12/02	Y	
MW-62I	05/14/02	Y	
MW-62D	04/20/02	Y	
MW-63S	02/18/02	Y	
MW-63I	02/18/02	Y	
MW-63D1	02/18/02	Y	
MW-63D2	02/18/02	Y	
MW-64S	02/09/02	N	Well no longer needed to monitor remediation of VCM subplume. Sampler stuck in well.
MW-64I	02/09/02	N	Well no longer needed to monitor remediation of VCM subplume. Sampler stuck in well.
MW-64D	02/09/02	N	Well no longer needed to monitor remediation of VCM subplume. Sampler stuck in well.
MW-66D2	06/08/02	Y	
MW-66I	06/19/02	N	Remediation of VCM subplume is adequately monitored by MW-66D2. Well no longer needed.
MW-66D1	06/19/02	N	Remediation of VCM subplume is adequately monitored by MW-66D2. Well no longer needed.
MW-67S	01/11/03	Y	
MW-67D	01/11/03	Y	
MW-68S	02/09/03	Y	
MW-68D	02/09/03	Y	
MW-70D1	02/02/11	Y	Cam locks starting to stick. To be replaced prior to next sampling event.
MW-70D2	02/02/11	Y	
MW-72D1	03/16/11	Y	
MW-72D2	03/16/11	Y	
MW-73D1	02/11/11	Y	Cam locks starting to stick. To be replaced prior to next sampling event.
MW-73D2	02/11/11	Y	
MW-75D1	05/02/11	Y	
MW-75D2	05/02/11	Y	
MW-76S	03/03/11	Y	No future sampling of this well is recommended.
MW-76I	03/03/11	Y	No future sampling of this well is recommended.
MW-76D1	02/15/11	Y	Test weight fell and became stuck in bottom of well in October 2015; samplers were able to be inserted and retrieved properly.
MW-76D2	02/15/11	Y	
MW-77D1	02/26/11	N	Samplers stuck in well. Monitoring of MW-77D2 sufficient to monitor VCM Subplume. Abandonment of MW-77D1 could adversely impact functionality of MW-77D2. No action
MW-77D2	02/26/11	Y	

Table 5

Well Status December 31, 2016
Operable Unit-3 Biosparge System
Hooker/Ruco Site, Hicksville, New York

Well Designation	Date Completed	Well Functional	Comments/Proposed Action
MW-81D1	11/01/05	Y	
MW-81D2	11/01/05	Y	
MW-82D1	02/15/06	Y	
MW-82D2	02/15/06	Y	
MW-83D1	11/06/05	Y	
MW-83D2	11/06/05	Y	
MW-84D1	04/12/06	Y	
MW-84D2	04/12/06	Y	
MW-85S	12/04/10	Y	No future sampling of this well is recommended.
MW-85I	12/04/10	Y	No future sampling of this well is recommended.
MW-85D1	12/02/10	Y	
MW-85D2	12/02/10	Y	Cam locks starting to stick. To be replaced prior to next sampling event.
MW-86D1	11/11/10	Y	Cam locks starting to stick. To be replaced prior to next sampling event.
MW-86D2	11/11/10	Y	Cam locks starting to stick. To be replaced prior to next sampling event.
MW-87D1	10/04/05	Y	
MW-87D2	10/04/05	Y	
MW-88D1	03/21/06	Y	
MW-88D2	03/21/06	Y	
MW-89D1	12/19/10	Y	
MW-89D2	12/19/10	Y	
MW-90D1	03/28/06	Y	
MW-90D2	03/28/06	Y	Cam locks starting to stick. To be replaced prior to next sampling event.
MW-92D1	03/11/11	Y	
MW-92D2	03/11/11	Y	
MW-93D1	03/03/11	Y	
MW-93D2	03/03/11	Y	
VZ-1S	03/15/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-1D	03/15/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-2S	02/12/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-2D	02/12/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-4S	04/30/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-4D	04/30/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-5S	03/11/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-5D	03/11/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-6S	02/26/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-6D	02/26/11	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-10S	01/19/06	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-10D	01/19/06	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-11S	02/28/06	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-11D	02/28/06	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-12S	12/05/10	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-12D	12/05/10	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-14S	10/07/05	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-14D	10/07/05	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-15S	11/04/05	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-15D	11/04/05	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-16S	01/23/06	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-16D	01/23/06	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-17S	12/20/10	Y	Well no longer scheduled to monitor remediation of VCM subplume.
VZ-17D	12/20/10	Y	Well no longer scheduled to monitor remediation of VCM subplume.

Notes:

NA Not Applicable

Attachment A
QA/QC Review
October/November Biosparge System Performance Monitoring

Memorandum

December 9, 2016

To:	Klaus Schmidtke	Ref. No.:	006883
From:	Kathy Willy/adh/16	Tel:	716-205-1942

Subject: **Analytical Results and Full Validation**
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

1. Introduction

This document details a validation of analytical results for groundwater samples collected in support of the Semiannual Groundwater Monitoring at the Hicksville site during October-November 2016. Samples were submitted to Eurofins Spectrum Analytical, located in North Kingstown, Rhode Island. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spike (MS) samples. The assessment of analytical and in-house data included checks for: data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review", United States Environmental Protection Agency (USEPA) 540-R-10-011, January 2010

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008

These items will subsequently be referred to as the "Guidelines" in this Memorandum.

GHD
2055 Niagara Falls Boulevard Niagara Falls New York 14304 USA
T 716 297 6150 **F** 716 297 2265 **W** www.ghd.com

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

Prior to volatile organic compound (VOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the method requires the analysis of specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC analysis periods. All tuning criteria were met, indicating that proper optimization of the instrumentation was achieved.

4. Initial Calibration - Organic Analyses

To quantify VOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

i) All relative response factors (RRFs) must be greater than or equal to 0.05 (0.01 for poor responders).

ii) The percent relative standard deviation (RSD) values must not exceed 20.0 percent (40.0 percent for poor responders) or a minimum correlation coefficient (R) of 0.995 and minimum coefficient of determination (R^2) of 0.99 if linear and quadratic equation calibration curves, respectively, are used.

The initial calibration data for VOCs were reviewed. All compounds met the above criteria for sensitivity and linearity with the exception of vinyl chloride and tetrachloroethene, which showed some variability. A summary of qualified results is presented in Table 4.

5. Initial Calibration – Inorganic Analyses

Initial calibration of the instruments ensures that they are capable of producing satisfactory quantitative data at the beginning of a series of analyses. For instrumental general chemistry analyses, a calibration blank and a minimum of five standards must be analyzed to establish the analytical curve, and resulting correlation coefficients (R) must be 0.995 or greater.

After the analyses of the calibration curves, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves. All analyte recoveries from the analyses of the ICVs must be within the following control limits:

Analytical Method	Parameter	Control Limits
Instrumental Wet Chemistry	Total Organic Carbon (TOC), ammonia, nitrate, nitrite	85 - 115%

Upon review of the data, it was determined that the calibration curves and ICVs were analyzed at the proper frequencies and that all of the above-specified criteria were met. The laboratory effectively demonstrated that the instrumentation used for general chemistry analyses were properly calibrated prior to sample analysis.

6. Continuing Calibration - Organic Analyses

To ensure that instrument calibration for VOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

i) All RRF values must be greater than or equal to 0.05 (0.01 for poor responders).

ii) Percent difference (%D) values must not exceed 25 percent (40 percent for poor responders).

Calibration standards were analyzed at the required frequency, and the results met the above criteria for instrument sensitivity and stability with the exception of acetone which showed some variability. A summary of qualified results is presented in Table 5.

7. Continuing Calibration - Inorganic Analyses

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration verification (CCV) standards are analyzed on a regular basis. Each CCV is deemed acceptable if all analyte recoveries are within the control limits specified above for the ICVs. If some of the CCV analyte recoveries are outside the control limits, samples analyzed before and after the CCV, up until the previous and proceeding CCV analyses, are affected.

For this study, CCVs were analyzed at the proper frequency. All analyte recoveries reported for the CCVs were within the specified limits.

8. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures. Additionally, initial and continuing calibration blanks (ICBs/CCBs) are routinely analyzed after each ICV/CCV for the inorganic parameters.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

8.1 Organic Analyses

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

8.2 Inorganic Analyses

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

9. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

10. Internal Standards (IS) Analyses

IS data were evaluated for all VOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

i) The retention time of the IS must not vary more than ±30 seconds from the associated calibration standard.

ii) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard.

All VOC IS recoveries and retention times met the above criteria.

11. Laboratory Control Sample Analyses

LCS and laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

11.1 Organic Analyses

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the exception of a high recovery of acetone. Associated positive sample results were qualified as estimated to reflect the implied high bias. A summary of qualified results is presented in Table 6.

11.2 Inorganic Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy with the exception of a high recovery of ammonia-N. Associated positive sample results were qualified as estimated to reflect the implied high bias. A summary of qualified results is presented in Table 6.

12. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed at the proper frequency.

12.1 Organic Analyses

MS/MSD analyses were not performed on investigative samples from this sampling event.

12.2 Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision with the exception of some high recoveries for ammonia-N. Associated sample results were qualified as estimated to reflect the implied high bias. A summary of qualified results is presented in Table 7.

13. Field QA/QC Samples

The field QA/QC consisted of five trip blank samples and three rinse blank samples.

13.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, five trip blanks were submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

13.2 Rinse Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, three rinse blanks were submitted for analysis, as identified in Table 1. All results were non-detect for the analytes of interest with the exception of some low concentrations of phosphorous and TOC. Associated sample results with concentration similar to that found in the blanks were qualified as non-detect. A summary of qualified results is presented in Table 8.

14. Analyte Reporting

The laboratory reported detected results down to the laboratory's Method Detection Limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the reporting limit (RL) in Table 2.

15. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

16. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

					Analysis/Parameters					
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**Ammonia**	**Nitrate, Nitrite**	**Phosphorous**	**VOCs**	**TOC**	**Comments**
GW101816TB001	MW-66D2	Groundwater	10/18/2016	10:28	x	x	x	x	x	
GW101816TB002	MW-89D1	Groundwater	10/18/2016	10:56	x	x	x	x	x	
GW101816TB003	MW-89D2	Groundwater	10/18/2016	11:13	x	x	x	x	x	
GW101816TB004	MW-85I	Groundwater	10/18/2016	11:33	x	x	x	x	x	
GW101816TB005	MW-85S	Groundwater	10/18/2016	11:57	x	x	x	x	x	
GW101816TB006	MW-85D1	Groundwater	10/18/2016	12:28	x	x	x	x	x	
GW101816TB007	MW-85D2	Groundwater	10/18/2016	12:45	x	x	x	x	x	
GW101916TB008	MW-63D1	Groundwater	10/19/2016	09:13	x	x	x	x	x	
GW101916TB009	MW-63D2	Groundwater	10/19/2016	09:20	x	x	x	x	x	
GW101916TB010	MW-58D2	Groundwater	10/19/2016	10:12	x	x	x	x	x	
GW101916TB011	MW-59D2	Groundwater	10/19/2016	10:40	x	x	x	x	x	
GW101916TB012	MW-68S	Groundwater	10/19/2016	11:25	x	x	x	x	x	
GW101916TB013	MW-68D	Groundwater	10/19/2016	11:37	x	x	x	x	x	
GW101916TB014	MW-67S	Groundwater	10/19/2016	12:00	x	x	x	x	x	
GW101916TB015	MW-67D	Groundwater	10/19/2016	12:15	x	x	x	x	x	
GW101916TB016	MW-82D2	Groundwater	10/19/2016	13:10	x	x	x	x	x	
GW101916TB017	MW-82D1	Groundwater	10/19/2016	13:23	x	x	x	x	x	
GW101916TB018	MW-88D2	Groundwater	10/19/2016	13:48	x	x	x	x		
GW101916TB019	MW-88D1	Groundwater	10/19/2016	14:00	x	x	x	x	x	
GW101916TB020	Field Blank	Groundwater	10/19/2016	14:15	x	x	x	x	x	
GW102016TB021	MW-75D1	Groundwater	10/20/2016	09:56	x	x	x	x	x	
GW102016TB022	MW-75D2	Groundwater	10/20/2016	10:07	x	x	x	x	x	
GW102016TB023	MW-72D2	Groundwater	10/20/2016	10:33	x	x	x	x	x	
GW102016TB024	MW-72D1	Groundwater	10/20/2016	10:45	x	x	x	x	x	
GW102016TB025	MW-70D1	Groundwater	10/20/2016	11:08	x	x	x	x	x	
GW102016TB026	MW-70D2	Groundwater	10/20/2016	11:20	x	x	x	x	x	

Table 1

Sample Collection and Analysis Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

					Analysis/Parameters					
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**Ammonia**	**Nitrate, Nitrite**	**Phosphorous**	**VOCs**	**TOC**	**Comments**
GW102016TB027	MW-76S	Groundwater	10/20/2016	12:10	x	x	x	x	x	
GW102016TB028	MW-76I	Groundwater	10/20/2016	12:20	x	x	x	x	x	
GW102016TB029	MW-76D1	Groundwater	10/20/2016	12:40	x	x	x	x	x	
GW102016TB030	MW-76D2	Groundwater	10/20/2016	13:00	x	x	x	x	x	
GW102016TB031	MW-84D1	Groundwater	10/20/2016	13:40	x	x	x	x	x	
GW102016TB032	MW-84D2	Groundwater	10/20/2016	13:53	x	x	x	x	x	
GW102016TB033	-	Water	10/20/2016	-	x	x	x	x	x	Field Blank
GW102116TB034	MW-73D1	Groundwater	10/21/2016	08:55	x	x	x	x	x	
GW102116TB035	MW-73D2	Groundwater	10/21/2016	09:12	x	x	x	x	x	
GW102116TB036	MW-77D2	Groundwater	10/21/2016	09:30	x	x	x	x	x	
GW102116TB037	MW-90D2	Groundwater	10/21/2016	09:43					x	
GW102116TB038	MW-90D1	Groundwater	10/21/2016	09:50					x	
GW102116TB039	MW-86D1	Groundwater	10/21/2016	11:20	x	x	x	x	x	
GW102116TB040	MW-86D2	Groundwater	10/21/2016	11:40	x	x	x	x	x	
GW102116TB041	MW-81D1	Groundwater	10/21/2016	12:00	x	x	x	x	x	
GW102116TB042	MW-81D2	Groundwater	10/21/2016	12:10	x	x	x	x	x	
GW102116TB043	MW-61D2	Groundwater	10/21/2016	12:30	x	x	x	x	x	
GW102116TB044	MW-83D1	Groundwater	10/21/2016	12:45	x	x	x	x	x	
GW102116TB045	MW-83D2	Groundwater	10/21/2016	13:00					x	
GW102116TB046	MW-87D1	Groundwater	10/21/2016	13:20	x	x	x	x	x	
GW102116TB047	MW-87D2	Groundwater	10/21/2016	13:30	x	x	x	x		
GW102116TB048	-	Water	10/21/2016	-	x	x	x	x	x	Field Blank
GW11216TB049	MW-63S	Groundwater	11/02/2016	10:30	x	x	x	x	x	
GW11216TB050	MW-63I	Groundwater	11/02/2016	10:45	x	x	x	x	x	
GW11216TB051	MW-58D	Groundwater	11/02/2016	11:35	x	x	x	x	x	
GW11216TB052	MW-58D1	Groundwater	11/02/2016	11:30	x	x	x	x	x	

Table 1

Sample Collection and Analysis Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters					Comments
					Ammonia	Nitrate, Nitrite	Phosphorous	VOCs	TOC	
GW11216TB053	-	Water	11/02/2016	-	x	x	x	x	x	Field Blank
TRIP BLANK 10/21/16	-	Water	10/21/2016	-					x	Trip Blank
TRIP BLANK 11216	-	Water	11/02/2016	-					x	Trip Blank
TRIP BLANK_10/18/16	-	Water	10/18/2016	-					x	Trip Blank
Trip Blank_10/19/16	-	Water	10/19/2016	-					x	Trip Blank
TRIP BLANK_10/20/16	-	Water	10/20/2016	-					x	Trip Blank

Notes:

TOC - Total Organic Carbon
VOCs - Volatile Organic Compounds
- - Not applicable

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-58D	MW-58D1	MW-58D2	MW-59D2	MW-61D2	MW-63D1	MW-63D2
Sample Name:		GW11216TB051	GW11216TB052	GW101916TB010	GW101916TB011	GW102116TB043	GW101916TB008	GW101916TB009
Sample Date:		11/02/2016	11/02/2016	10/19/2016	10/19/2016	10/21/2016	10/19/2016	10/19/2016
Parameters	**Unit**							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	10	11	11	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	28	23	29	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	5.0 U	9.8 J	5.0 U	5.0 U	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	12	34	13	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	38 J	32 J	37	5.0 U	28	11	5.0 J
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5000	4400	3200	5.7	45	5.0 U	5.0 U
Vinyl chloride	µg/L	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-58D	MW-58D1	MW-58D2	MW-59D2	MW-61D2	MW-63D1	MW-63D2
Sample Name:		GW11216TB051	GW11216TB052	GW101916TB010	GW101916TB011	GW102116TB043	GW101916TB008	GW101916TB009
Sample Date:		11/02/2016	11/02/2016	10/19/2016	10/19/2016	10/21/2016	10/19/2016	10/19/2016
Parameters	**Unit**							
General Chemistry								
Ammonia-N	mg/L	2.28 J	3.73 J	2.94 J	3.98 J	3.66 J	0.100 U	0.100 U
Nitrate (as N)	mg/L	2.44	0.515	2.00 U	2.00 U	2.00 U	1.50	1.81
Nitrite (as N)	mg/L	1.17	0.500 U	2.00 U	2.00 U	2.00 U	1.00 U	1.00 U
Phosphorus	mg/L	0.020 U	0.022 U	0.018	0.094	0.054	0.014	0.019
Total organic carbon (TOC)	mg/L	2.64	0.920 J	1.14	2.35	1.00 U	0.690 J	0.670 J

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-63I	MW-63S	MW-66D2	MW-67D	MW-67S	MW-68D
Sample Name:		GW11216TB050	GW11216TB049	GW101816TB001	GW101916TB015	GW101916TB014	GW101916TB013
Sample Date:		11/02/2016	11/02/2016	10/18/2016	10/19/2016	10/19/2016	10/19/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	11	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 UJ	5.0 UJ	1.4 J	5.0 U	41	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	2.2 J	5.0 U	66	4.6 J
Vinyl chloride	µg/L	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-63I	MW-63S	MW-66D2	MW-67D	MW-67S	MW-68D
Sample Name:		GW11216TB050	GW11216TB049	GW101816TB001	GW101916TB015	GW101916TB014	GW101916TB013
Sample Date:		11/02/2016	11/02/2016	10/18/2016	10/19/2016	10/19/2016	10/19/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	0.100 U	0.077 J	1.15 J	3.04 J	0.545 J	1.17 J
Nitrate (as N)	mg/L	1.20	2.51	2.00 U	2.00 U	2.00 U	1.79 J
Nitrite (as N)	mg/L	0.500 U	1.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorus	mg/L	0.020 U	0.020 U	0.020 U	0.287	0.288	0.051
Total organic carbon (TOC)	mg/L	0.697 J	2.52	6.80	1.64	1.23	0.756 J

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-68S	MW-70D1	MW-70D2	MW-72D1	MW-72D2	MW-73D1
Sample Name:		GW101916TB012	GW102016TB025	GW102016TB026	GW102016TB024	GW102016TB023	GW102116TB034
Sample Date:		10/19/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/21/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	4.2 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	9.1	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	7.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	9.6	5.0 U	5.0 U	5.0 U	46	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	87	5.0 U	5.0 U	5.0 U	170	4.3 J
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	120	5.0 U	5.0 U	5.0 U	19	5.0 U
Vinyl chloride	µg/L	230 J	4.7 J	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-68S	MW-70D1	MW-70D2	MW-72D1	MW-72D2	MW-73D1
Sample Name:		GW101916TB012	GW102016TB025	GW102016TB026	GW102016TB024	GW102016TB023	GW102116TB034
Sample Date:		10/19/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/21/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	1.29 J	0.187 J	0.347 J	0.078 J	0.368 J	0.138 J
Nitrate (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Nitrite (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorus	mg/L	0.131	0.164	0.094	0.037	0.086	0.173
Total organic carbon (TOC)	mg/L	0.841 J	0.966 J	2.18	0.961 J	0.533 J	1.00 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-73D2	MW-75D1	MW-75D2	MW-76D1	MW-76D2	MW-76I
Sample Name:		GW102116TB035	GW102016TB021	GW102016TB022	GW102016TB029	GW102016TB030	GW102016TB028
Sample Date:		10/21/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	2.4 J	5.0 U	4.4 J	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	29	5.0 U	5.0 U	2.1 J	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	11	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	2.0 UJ	2.0 UJ	18 J	2.0 J	2.0 UJ	2.0 UJ
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-73D2	MW-75D1	MW-75D2	MW-76D1	MW-76D2	MW-76I
Sample Name:		GW102116TB035	GW102016TB021	GW102016TB022	GW102016TB029	GW102016TB030	GW102016TB028
Sample Date:		10/21/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	0.957 J	0.198 J	0.617 J	0.234 J	0.486 J	0.218 J
Nitrate (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Nitrite (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorus	mg/L	0.42	0.050	0.024	0.21	0.072	0.102
Total organic carbon (TOC)	mg/L	1.00 U	7.31	8.18	0.616 J	1.00	1.72

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-76S	MW-77D2	MW-81D1	MW-81D2	MW-82D1	MW-82D2
Sample Name:		GW102016TB027	GW102116TB036	GW102116TB041	GW102116TB042	GW101916TB017	GW101916TB016
Sample Date:		10/20/2016	10/21/2016	10/21/2016	10/21/2016	10/19/2016	10/19/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	7.6	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	6.7	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	21	7.1	6.2	16	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	170	45	43	24	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	37	53	13	22	5.0 U
Vinyl chloride	µg/L	2.0 UJ	2.0 UJ	2.1 J	2.0 UJ	2.0 UJ	2.0 UJ
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-76S	MW-77D2	MW-81D1	MW-81D2	MW-82D1	MW-82D2
Sample Name:		GW102016TB027	GW102116TB036	GW102116TB041	GW102116TB042	GW101916TB017	GW101916TB016
Sample Date:		10/20/2016	10/21/2016	10/21/2016	10/21/2016	10/19/2016	10/19/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	0.328 J	1.41 J	0.397 J	1.16 J	0.066 J	0.497 J
Nitrate (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Nitrite (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorus	mg/L	0.087	0.16	0.013	0.078	0.021	0.087
Total organic carbon (TOC)	mg/L	3.09	1.00 U	1.00 U	1.21	0.459 J	0.530 J

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-83D1	MW-83D2	MW-84D1	MW-84D2	MW-85D1	MW-85D2
Sample Name:		GW102116TB044	GW102116TB045	GW102016TB031	GW102016TB032	GW101816TB006	GW101816TB007
Sample Date:		10/21/2016	10/21/2016	10/20/2016	10/20/2016	10/18/2016	10/18/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.1	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	4.4 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	8.6	18	5.0 U	3.6 J	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	59	93	33	15	6.9	11
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	100	170	19	59	12	21
Vinyl chloride	µg/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	4.9 J
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-83D1	MW-83D2	MW-84D1	MW-84D2	MW-85D1	MW-85D2
Sample Name:		GW102116TB044	GW102116TB045	GW102016TB031	GW102016TB032	GW101816TB006	GW101816TB007
Sample Date:		10/21/2016	10/21/2016	10/20/2016	10/20/2016	10/18/2016	10/18/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	0.317 J	-	0.100 U	0.089 J	0.100 U	0.855 J
Nitrate (as N)	mg/L	1.44 J	-	5.18	2.00	2.00 U	2.00 U
Nitrite (as N)	mg/L	2.00 U	-	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorus	mg/L	0.702	-	0.063	0.101	0.020 U	0.222
Total organic carbon (TOC)	mg/L	1.00 U	-	0.632 J	0.918 J	0.996 J	0.602 J

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-85I	MW-85S	MW-86D1	MW-86D2	MW-87D1	MW-87D2
Sample Name:		GW101816TB004	GW101816TB005	GW102116TB039	GW102116TB040	GW102116TB046	GW102116TB047
Sample Date:		10/18/2016	10/18/2016	10/21/2016	10/21/2016	10/21/2016	10/21/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Acetone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	9.4	5.0 U	-
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Tetrachloroethene	µg/L	5.5	5.0 U	5.0 U	12	66	-
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	62	10	-
Vinyl chloride	µg/L	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	-
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-85I	MW-85S	MW-86D1	MW-86D2	MW-87D1	MW-87D2
Sample Name:		GW101816TB004	GW101816TB005	GW102116TB039	GW102116TB040	GW102116TB046	GW102116TB047
Sample Date:		10/18/2016	10/18/2016	10/21/2016	10/21/2016	10/21/2016	10/21/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	0.212 J	0.063 J	0.649 J	1.60 J	0.100 U	0.106 J
Nitrate (as N)	mg/L	2.26	2.46	2.00 U	2.00 U	2.00 U	3.06
Nitrite (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Phosphorus	mg/L	0.050 U	0.194	0.18	0.57	0.067	0.083
Total organic carbon (TOC)	mg/L	0.580 J	0.550 J	1.58	1.04	1.00 U	1.00 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Location ID:		MW-88D1	MW-88D2	MW-89D1	MW-89D2	MW-90D1	MW-90D2
Sample Name:		GW101916TB019	GW101916TB018	GW101816TB002	GW101816TB003	GW102116TB038	GW102116TB037
Sample Date:		10/19/2016	10/19/2016	10/18/2016	10/18/2016	10/21/2016	10/21/2016
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	-	1.7 J	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	33 J
Benzene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	7.1	-	6.5	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	4.1 J	-	41	5.0 U	7.4	5.3
cis-1,3-Dichloropropene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	21	-	18	13	21	6.0
Toluene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	14	-	20	8.3	9.6	6.9
Vinyl chloride	µg/L	2.0 UJ	-	7.9 J	2.0 UJ	2.0 UJ	2.0 UJ
Xylenes (total)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

	Location ID:	MW-88D1	MW-88D2	MW-89D1	MW-89D2	MW-90D1	MW-90D2
	Sample Name:	GW101916TB019	GW101916TB018	GW101816TB002	GW101816TB003	GW102116TB038	GW102116TB037
	Sample Date:	10/19/2016	10/19/2016	10/18/2016	10/18/2016	10/21/2016	10/21/2016
Parameters	**Unit**						
General Chemistry							
Ammonia-N	mg/L	0.065 J	1.90 J	0.165 J	0.130 J	-	-
Nitrate (as N)	mg/L	2.00 U	2.00 U	3.94	2.86	-	-
Nitrite (as N)	mg/L	2.00 U	2.00 U	2.00 U	2.00 U	-	-
Phosphorus	mg/L	0.010 U	0.029	0.073	0.010 U	-	-
Total organic carbon (TOC)	mg/L	0.944 J	1.64	8.03	3.93	-	-

Notes:

J - Estimated concentration
U - Not detected at the associated reporting limit
UJ - Not detected; associated reporting limit is estimated
- - Not applicable

Table 3

Analytical Methods and Holding Time Criteria
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
TCL VOC	SW-846 8260 [1]	Water	-	14
Ammonia	E350.1 [3]	Water	-	28
Phosphorous	SM 4500P [2]	Water	-	28
Nitrate, Nitrite	E353.2 [3]	Water	-	48 hr.
Total Organic Carbon (TOC)	415.1 [3]	Water	-	28

Notes:

1 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
2 - "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with subsequent revisions
3 - "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-020, March 1983 with subsequent revisions
4 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999
TCL - Target Compound List
VOC - Volatile Organic Compounds
- - Not applicable

Table 4

Qualified Sample Results Due to Outlying Initial Calibration Results
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Analyte	Calibration Date (mm/dd/yyyy)	RRF	%RSD or Curve Coefficient	Associated Sample ID	Qualified Result	Units
VOCs	Vinyl chloride	10/24/2016	-	38.9	GW101816TB001	2.0 UJ	µg/L
					GW101816TB002	7.9 J	µg/L
					GW101816TB003	2.0 UJ	µg/L
					GW101816TB004	2.0 UJ	µg/L
					GW101816TB005	2.0 UJ	µg/L
					GW101816TB006	2.0 UJ	µg/L
					GW101816TB007	4.9 J	µg/L
					GW101916TB008	2.0 UJ	µg/L
					GW101916TB009	2.0 UJ	µg/L
					GW101916TB010	2.0 UJ	µg/L
					GW101916TB011	2.0 UJ	µg/L
					GW101916TB012	230 J	µg/L
					GW101916TB013	2.0 UJ	µg/L
					GW101916TB014	2.0 UJ	µg/L
					GW101916TB015	2.0 UJ	µg/L
					GW101916TB016	2.0 UJ	µg/L
					GW101916TB017	2.0 UJ	µg/L
					GW101916TB019	2.0 UJ	µg/L
					GW102016TB021	2.0 UJ	µg/L
					GW102016TB022	18 J	µg/L
					GW102016TB023	2.0 UJ	µg/L
					GW102016TB024	2.0 UJ	µg/L
					GW102016TB025	4.7 J	µg/L
					GW102016TB026	2.0 UJ	µg/L
					GW102016TB027	2.0 UJ	µg/L
					GW102016TB028	2.0 UJ	µg/L
					GW102016TB029	2.0 J	µg/L
					GW102016TB030	2.0 UJ	µg/L
					GW102016TB031	2.0 UJ	µg/L
					GW102016TB032	2.0 UJ	µg/L
					GW102116TB034	2.0 UJ	µg/L
					GW102116TB035	2.0 UJ	µg/L

Table 4

Qualified Sample Results Due to Outlying Initial Calibration Results
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Analyte	Calibration Date (mm/dd/yyyy)	RRF	%RSD or Curve Coefficient	Associated Sample ID	Qualified Result	Units
VOCs Continued	Vinyl chloride	10/24/2016	-	38.9	GW102116TB036	2.0 UJ	µg/L
					GW102116TB037	2.0 UJ	µg/L
					GW102116TB038	2.0 UJ	µg/L
					GW102116TB039	2.0 UJ	µg/L
					GW102116TB040	2.0 UJ	µg/L
					GW102116TB041	2.1 J	µg/L
					GW102116TB042	2.0 UJ	µg/L
					GW102116TB043	2.0 UJ	µg/L
					GW102116TB044	2.0 UJ	µg/L
					GW102116TB045	2.0 UJ	µg/L
					GW102116TB046	2.0 UJ	µg/L
VOCs	Tetrachloroethene	11/04/2016	-	36.8	GW11216TB049	5.0 UJ	µg/L
					GW11216TB050	5.0 UJ	µg/L
					GW11216TB051	38 J	µg/L
					GW11216TB052	32 J	µg/L

Notes:

VOCs - Volatile Organic Compounds
RRF - Relative Response Factor
%RSD - Percent Relative Standard Deviation
J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated
- - Not applicable

Table 5

Qualified Sample Results Due to Outlying Continuing Calibration Results
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Analyte	Calibration Date (mm/dd/yyyy)	RRF	%D	Associated Sample ID	Qualified Result	Units
VOCs	Acetone	10/28/2016	-	48.8	GW101916TB011	9.8 J	µg/L
					GW101916TB014	5.0 UJ	µg/L
					GW102016TB023	5.0 UJ	µg/L
					GW102016TB028	5.0 UJ	µg/L
					GW102016TB029	5.0 UJ	µg/L
					GW102016TB030	5.0 UJ	µg/L
					GW102016TB031	5.0 UJ	µg/L
					GW102016TB032	5.0 UJ	µg/L
					GW102116TB034	5.0 UJ	µg/L
					GW102116TB035	5.0 UJ	µg/L
					GW102116TB036	5.0 UJ	µg/L
					GW102116TB037	33 J	µg/L

Notes:

VOCs - Volatile Organic Compounds
%D - Percent difference
RRF - Relative Response Factor
J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated
- - Not applicable

Table 6

Qualified Sample Results Due to Outlying LCS/LCSD Results
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Analyte	LCS Date (mm/dd/yyyy)	LCS % Recovery	LCSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Associated Sample ID	Qualified Result	Units
VOCs	Acetone	10/28/2016	147	149	1	40 - 140	20	GW101916TB011	9.8 J	µg/L
								GW102116TB037	33 J	µg/L
General Chemistry	Ammonia-N	11/11/2016	114	-	-	90 - 110	-	GW11216TB049	0.077 J	mg/L
								GW11216TB051	2.28 J	mg/L
								GW11216TB052	3.73 J	mg/L

Notes:

LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
RPD - Relative Percent Difference
VOCs - Volatile Organic Compounds
J - Estimated concentration
- - Not applicable

Table 7

Qualified Sample Results Due to Outlying MS/MSD Results
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
General Chemistry	GW101816TB001	Ammonia-N	113	113	0.4	90 - 110	20	1.15 J	mg/L
	GW101816TB002							0.165 J	mg/L
	GW101816TB003							0.130 J	mg/L
	GW101816TB004							0.212 J	mg/L
	GW101816TB005							0.063 J	mg/L
	GW101816TB007							0.855 J	mg/L
	GW101916TB010							2.94 J	mg/L
	GW101916TB011							3.98 J	mg/L
	GW101916TB012							1.29 J	mg/L
	GW101916TB013							1.17 J	mg/L
	GW101916TB014							0.545 J	mg/L
	GW101916TB015							3.04 J	mg/L
	GW101916TB016							0.497 J	mg/L
	GW101916TB017							0.066 J	mg/L
	GW101916TB018							1.90 J	mg/L
	GW101916TB019							0.065 J	mg/L
General Chemistry	GW102016TB021	Ammonia-N	112	111	0.3	90 - 110	20	0.198 J	mg/L
	GW102016TB022							0.617 J	mg/L
	GW102016TB023							0.368 J	mg/L
	GW102016TB024							0.078 J	mg/L
	GW102016TB025							0.187 J	mg/L
	GW102016TB026							0.347 J	mg/L
	GW102016TB027							0.328 J	mg/L
	GW102016TB028							0.218 J	mg/L
	GW102016TB029							0.234 J	mg/L
	GW102016TB030							0.486 J	mg/L
	GW102016TB032							0.089 J	mg/L

Table 7

Qualified Sample Results Due to Outlying MS/MSD Results
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
General Chemistry	GW102116TB034	Ammonia-N	118	119	1	90 - 110	20	0.138 J	mg/L
	GW102116TB035							0.957 J	mg/L
	GW102116TB036							1.41 J	mg/L
	GW102116TB039							0.649 J	mg/L
	GW102116TB040							1.60 J	mg/L
	GW102116TB041							0.397 J	mg/L
	GW102116TB042							1.16 J	mg/L
	GW102116TB043							3.66 J	mg/L
	GW102116TB044							0.317 J	mg/L
	GW102116TB047							0.106 J	mg/L

Notes:

MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
J - Estimated concentration

Table 8

Qualified Sample Data Due to Analyte Concentrations in the Rinse Blanks
Semiannual Groundwater Monitoring
Glenn Springs Holdings, Inc.
Hicksville, New York
October-November 2016

Parameter	Rinse Blank ID	Blank Date (dd/mm/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
General Chemistry	GW11216TB053	11/02/2016	Phosphorus	0.206	GW11216TB052	0.022	0.022 U	mg/L
General Chemistry	GW102116TB048	10/21/2016	TOC	0.256 J	GW102116TB034	0.830 J	1.00 U	mg/L
					GW102116TB035	0.888 J	1.00 U	mg/L
					GW102116TB036	0.542 J	1.00 U	mg/L
					GW102116TB041	0.948 J	1.00 U	mg/L
					GW102116TB043	0.429 J	1.00 U	mg/L
					GW102116TB044	0.788 J	1.00 U	mg/L
					GW102116TB046	0.651 J	1.00 U	mg/L
					GW102116TB047	0.595 J	1.00 U	mg/L

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
TOC - Total Organic Carbon