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A Subsidiary of Occidental Petroleum Corporation

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January 15, 2009

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

Re: Quarterly Report – Fourth Quarter 2008 (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

Dear Mr. Negrelli:

Consistent with Sections 42, 91, and 55 of the above-referenced orders and the USEPA approved 100% Biosparge System Design Report, this letter and attached Tables 1 through 4 provide the Quarterly Progress Report covering October through December 2008. This report covers OU-1, OU-2 and OU-3. Please note that the next Quarterly Progress Report will be submitted by April 15, 2009 and will cover January through March 2009.

Quarterly Progress Report

The following activities were performed in October through December 2008.

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)

Supplemental Treatment System

- Operation and monitoring of the GP-1/GP-3 supplemental treatment system continued.
- The potassium permanganate bed was changed out on October 2, 2008.
- The carbon bed was changed out on November 6, 2008.
- Evaluations of possible upgrade alternatives for the supplemental treatment system are ongoing.

Biosparge System (see Figure 1 for system layout)

- An evaluation of the first year of operation of Phase I of the biosparge system was submitted on January 15, 2008. Proposed modifications to the existing system and finalization of potential well locations for the remainder of the middle fence are on hold pending receipt of USEPA approval and negotiations with the property owner (Blackman Plumbing). Once approved by both parties, the proposed design modifications will be applied to the remainder of the biosparge system which is yet to be constructed. Once approved the proposed operational modifications will be applied to the entire biosparge system.
- Notification of the eighth quarterly Phase I biosparge system sampling event was emailed to the USEPA and their oversight contractor on October 3, 2008.
- The quarterly performance monitoring of the biosparge system was performed from October 21 to 31, 2008. The groundwater analytical results and QA/QC review for the quarterly performance monitoring are attached.
- GSHI worked with Steel Equities (owner of the former Northrop Plant 12 property) where sections of the North fence line of the biosparge system have been installed. Installation of the subsurface components of the North fence line was coordinated with Steele Equities during ongoing development of the property. Installation started on September 29, 2008 and was completed the week of December 22, 2008.
- The biosparge system was shut down on December 8, 2008 due to the observed release of air with approximately 100 gallons of groundwater from monitoring well MW-61D2. It is believed that the source of air was the injection at well IW-16D1A. Based on the estimated volume of groundwater discharged and the most recent groundwater concentrations for Well MW-61D2, the calculated mass discharged was not a reportable quantity. The cause of the release was insufficient tightening of the screw-on cap after completion of the October 2008 groundwater sample collection event. The need to properly tighten the well caps has been reinforced with the sample collection personnel.

A measure of the change from anaerobic to aerobic conditions is an increase in the dissolved oxygen (DO) concentrations in the groundwater. As shown in the attached figures, the DO concentrations have achieved the target concentration of 2 mg/L in all monitoring wells except for MW-82D2 (DO = 0.82 mg/L). The DO concentration in MW-82D2 was 0.0 mg/L prior to start-up of the biosparge system in October 2006. As shown on Figure 1, this well is located approximately midway between existing injection well nest IW-19 and future injection well nest IW-20. It is anticipated that when IW-20 is

installed and becomes operational, the DO concentration in MW-82D2 will further increase and achieve the target concentration of 2 mg/L.

Another measure of the change from anaerobic to aerobic conditions is the microbial population and the ratio of aerobic versus anaerobic microorganisms. The results of the microbial analyses (Table 3), show that in April/May 2006 prior to the beginning of biosparging in October 2006, the total anaerobic microbial populations were greater than the total aerobic microbial populations in 22 of the 47 samples. By October 2007, the total aerobic microbial populations in 14 of the 15 monitoring wells were greater than the anaerobic populations with low level populations of cis-1,2-DCE specific degrading microbes starting to appear. By October 2008, the population of the aerobic cis-1,2-DCE specific microbes had increased significantly, in many wells by as much as a factor of 10 (e.g., MW-87D2 from 1.00E+01 to 3.90E+02). Direct testing of vinyl chloride monomer (VCM) utilization could not be performed in the laboratory due to the volatility of VCM. However, VCM is known to degrade under the same conditions as cis-1,2-DCE and some of the cis-1,2-DCE specific organisms are involved in the degradation of both. Thus, the fact that specific organisms that degrade cis-1,2-DCE under aerobic conditions were found in the examined groundwater samples supports the assertion that VCM is also being degraded.

According to the October 2008 data, the cis-1,2-DCE specific microbial population counts exceed the total microbial population counts. This seemingly contrary occurrence is the result of the method in which the microbes were counted. The total microbial count method used involved plating the groundwater on a carbon-rich media which is assumed to facilitate the growth of most microbes. However, since groundwater is traditionally considered a carbon-poor environment, the fairly large number of microbes present in groundwater adapted to carbon-poor conditions do not grow on a carbon rich media and hence the count is negatively skewed.

Specific microbial population counts being greater than total counts is a favorable sign, since it suggests that the microbes are well adapted to the groundwater conditions and are able to use the available carbon sources (in this case cis-1,2-DCE and VCM). This demonstrates that the air injections are increasing the oxygen levels in the formation and thereby improving the aerobic conditions by which the biodegradation of the VCM can occur.

As part of the biosparge system monitoring program, soil gas samples of the vadose zone have also been collected. The results (see Table 4) show that VCM concentrations were non-detect in all of the vadose zone wells except for low level concentrations in VZ-10S (29 ppbv), VZ-14D (6.1 ppbv), VZ-15D (16 ppbv), and VZ-16D (157 ppbv). The October 2008 VCM concentrations are consistent with the concentrations of prior sampling events (see Table 4).

Summary of Biosparge Pilot System

To date the biosparge system has operated successfully as demonstrated by the following:

i) the dissolved oxygen levels in the groundwater are increasing;
ii) the VCM concentrations are decreasing as a result of the microbial biodegradation processes; and
iii) the aerobic total and cis-1,2-DCE specific microbial population counts are increasing.

Planned First Quarter 2009 Activities

- The following activities are planned for the first quarter of 2009:

i) Continue operation and monitoring of the GP-1/GP-3 supplemental system;
ii) Backfill Sumps 1 and 2 on the former Hooker/Ruco Site once the property transfer is completed;
iii) Re-start operation of the biosparge system the week of January 19, 2009; and
iv) Changeout of the supplemental treatment system carbon bed is planned for the week of March 2, 2009.

- Pursuant to the USEPA approved 100% Design Report, the October 2008 sampling event was the last quarterly sampling event for Phase I of the Biosparge System. Henceforth, the frequency for Phase I sampling and reporting will be semi-annual until modified with USEPA approval.
- The following activities are pending an approval or review by an outside party or Agency. The follow-up schedule is based on receipt of the review or approval:

i) Awaiting USEPA review of the draft Declaration of Covenants and Restrictions for the Site, submitted on April 20, 2006 by Bayer;
ii) Awaiting USEPA review of the Phase I As-Built drawings, O&M Manual, and HASP submitted February 1, 2007; and
iii) Awaiting USEPA review of the proposed modifications for the physical and operational components of the biosparge system submitted on January 15, 2008. Following approval, GSHI will complete preparation of the bid documents for construction of the remainder of the middle fence. In accordance with the 100% Design Report, additional injection wells will be installed at 100-foot spacings west of IW-16 and east of IW-19 to a location where the groundwater VCM concentration is ≤ 40 µg/L. The number and locations of groundwater and vadose zone monitoring wells will be based on the number and locations of the additional injection wells installed.

Should you have any questions on the above, please do not hesitate to contact me at (972) 687-7511 or e-mail at jeffrey_kogut@oxy.com.

Sincerely yours,

Jeffrey A. Kogut
Project Manager

Enclosure

cc: P. Olivio (USEPA)
K. Lynch (USEPA)
M. E. Wieder (USEPA)
S. Scharf (NYSDEC – pdf on CD)
M. Popper (CDM)
T. Kelly (Nassau County)
W. Baldwin (Bayer)
J. Kay (CRA)

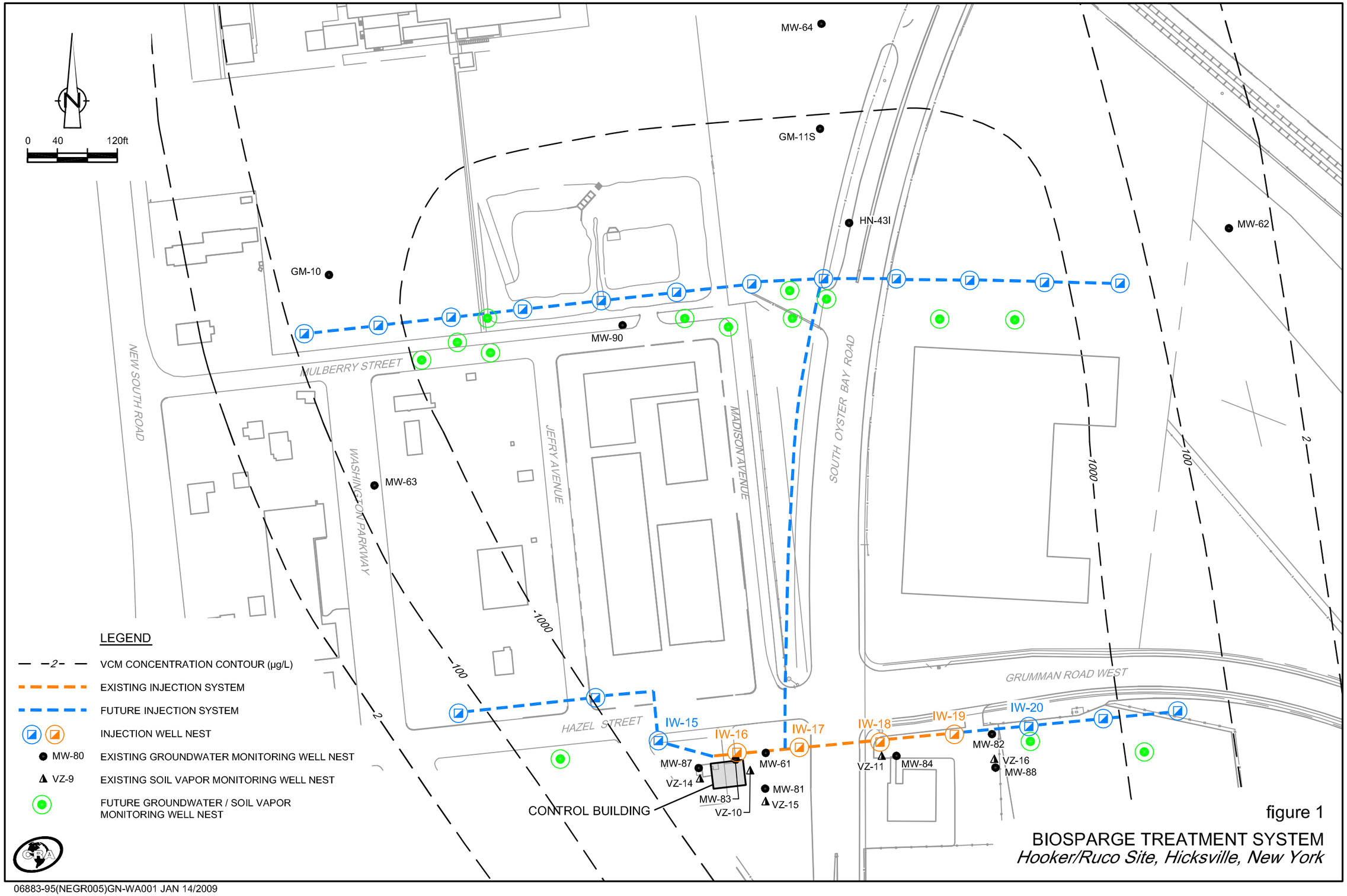
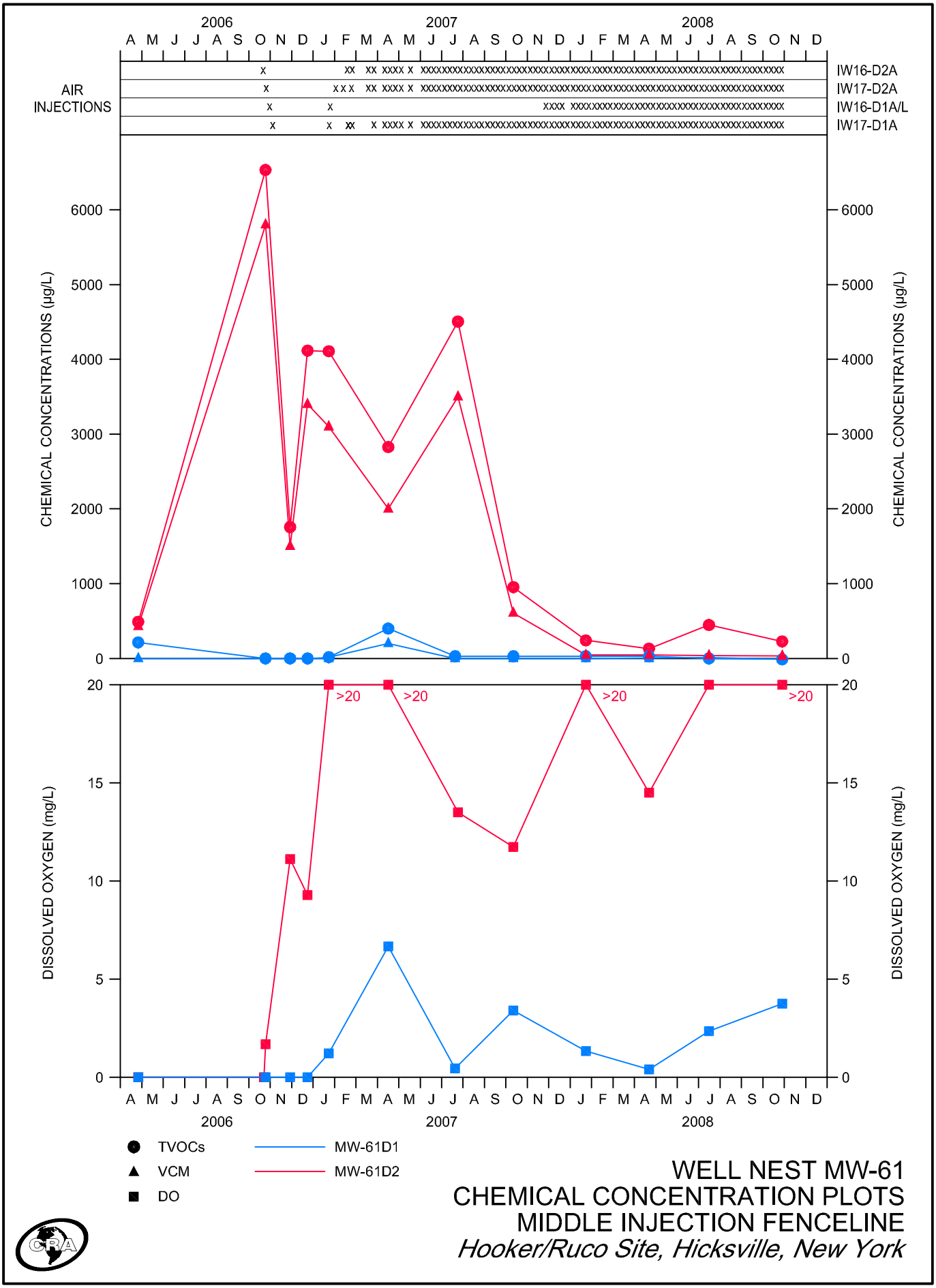


figure 1

BIOSPARGE TREATMENT SYSTEM

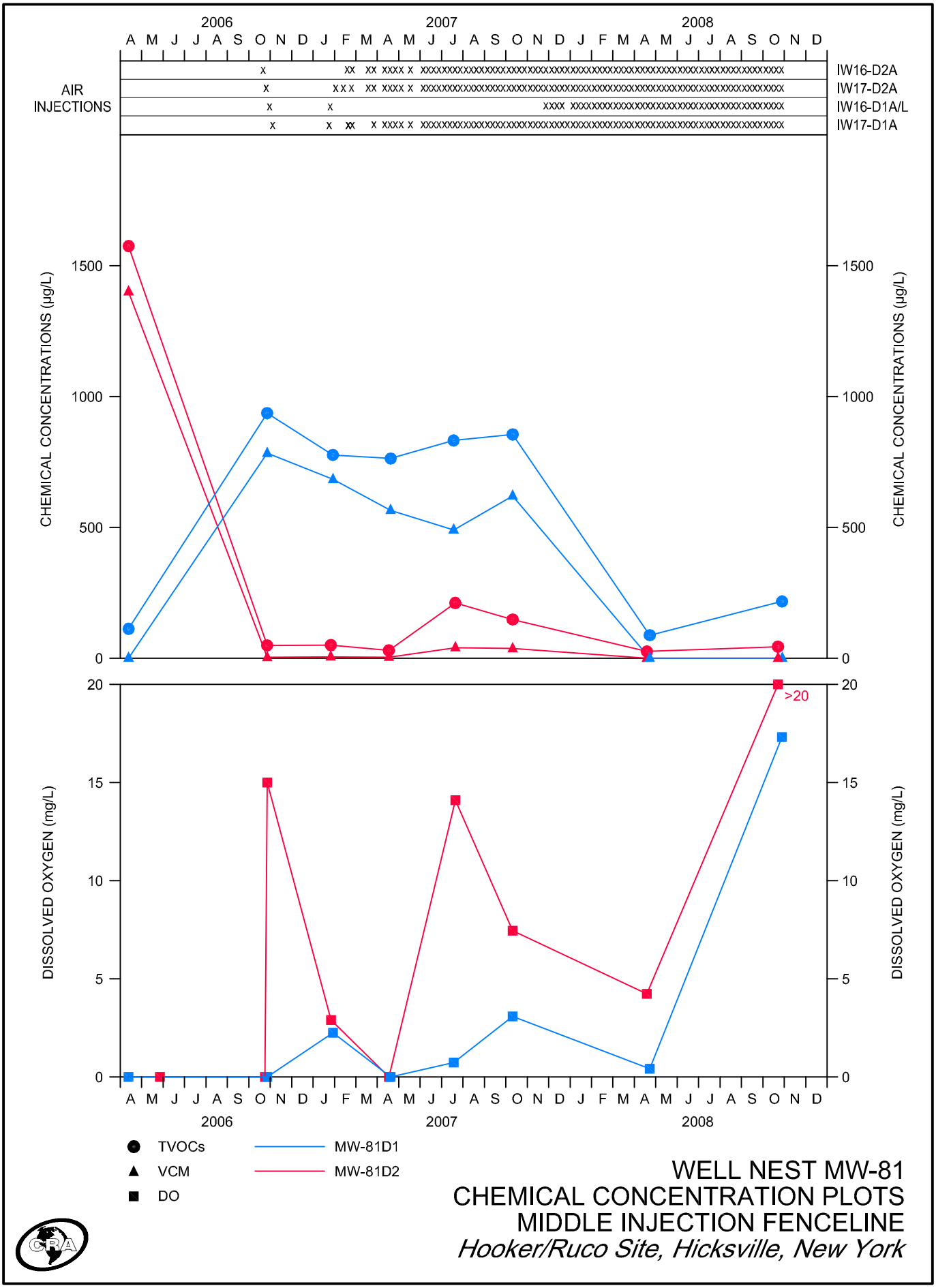
Hooker/Ruco Site, Hicksville, New York

06883-95(NEGR005)GN-WA001 JAN 14/2009

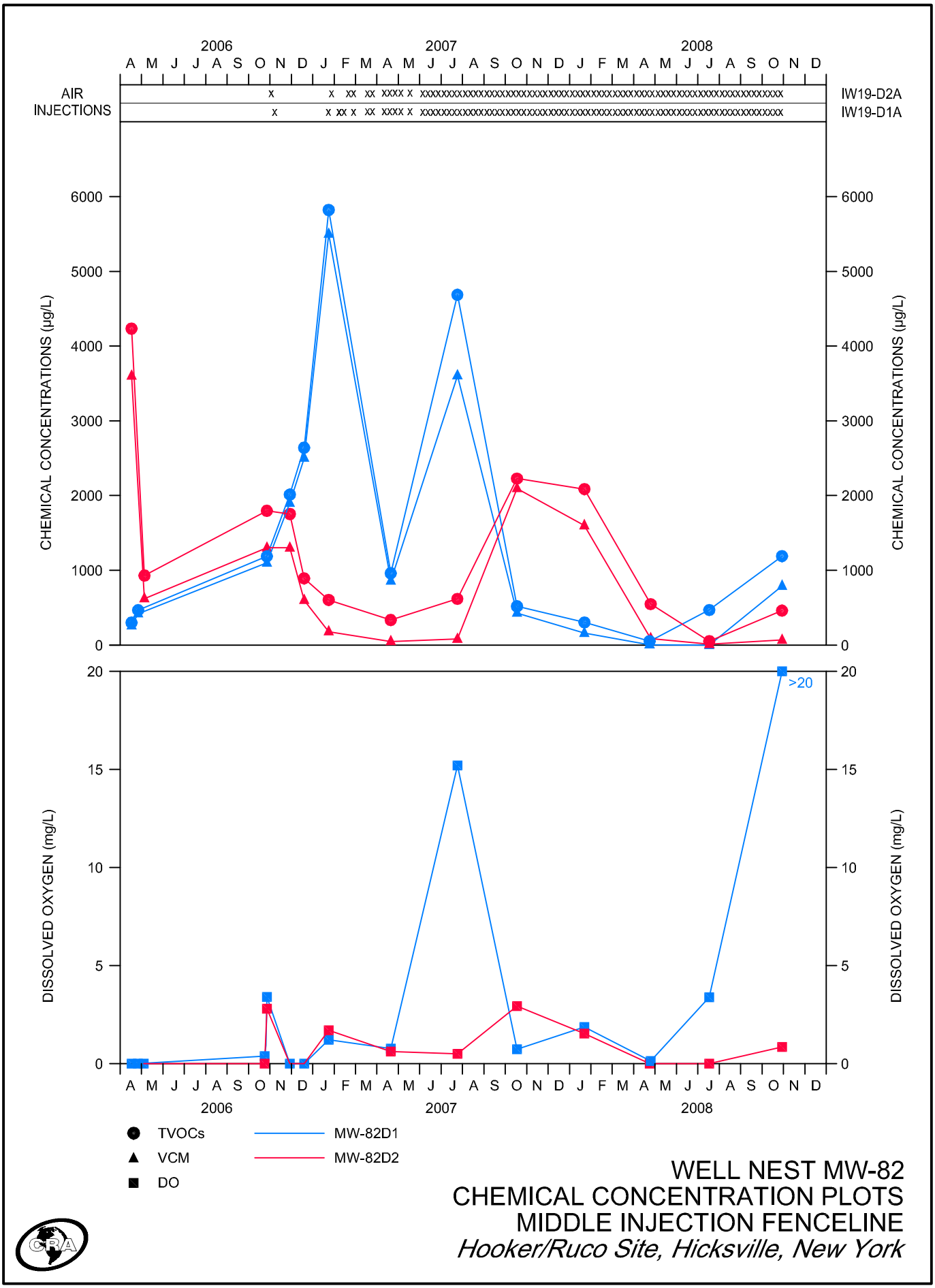


WELL NEST MW-61
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE

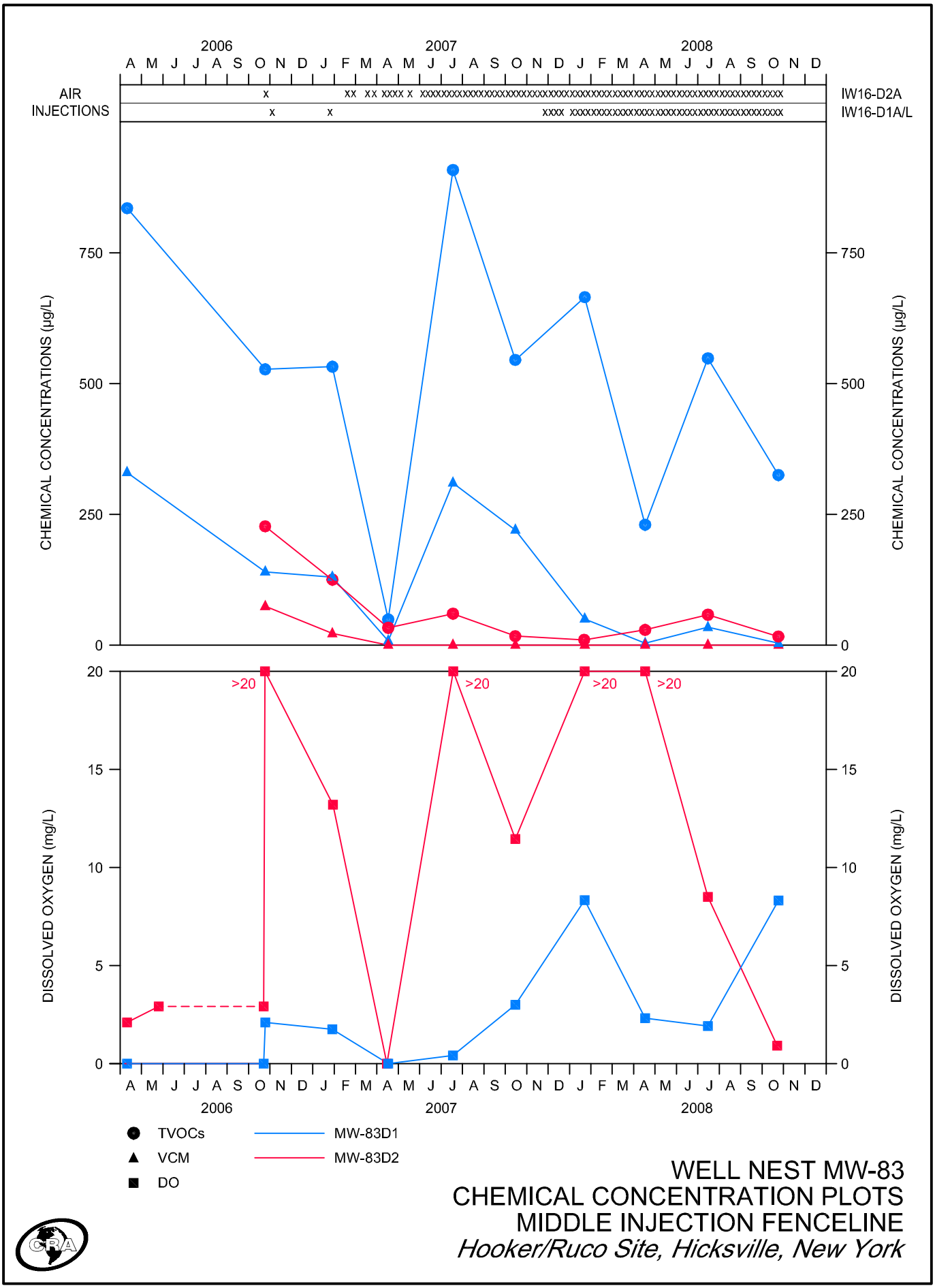
Hooker/Ruco Site, Hicksville, New York



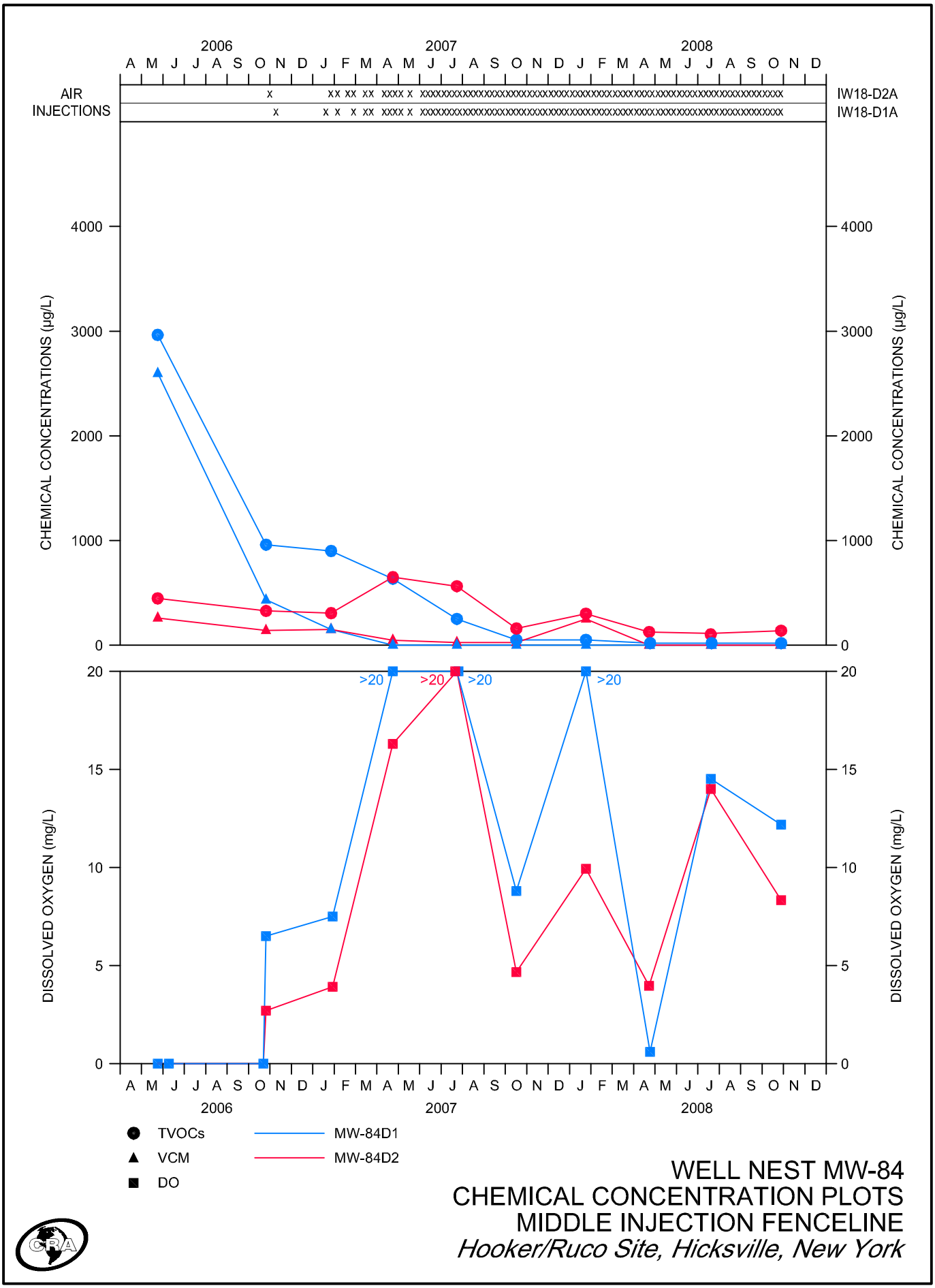
WELL NEST MW-81
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York



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

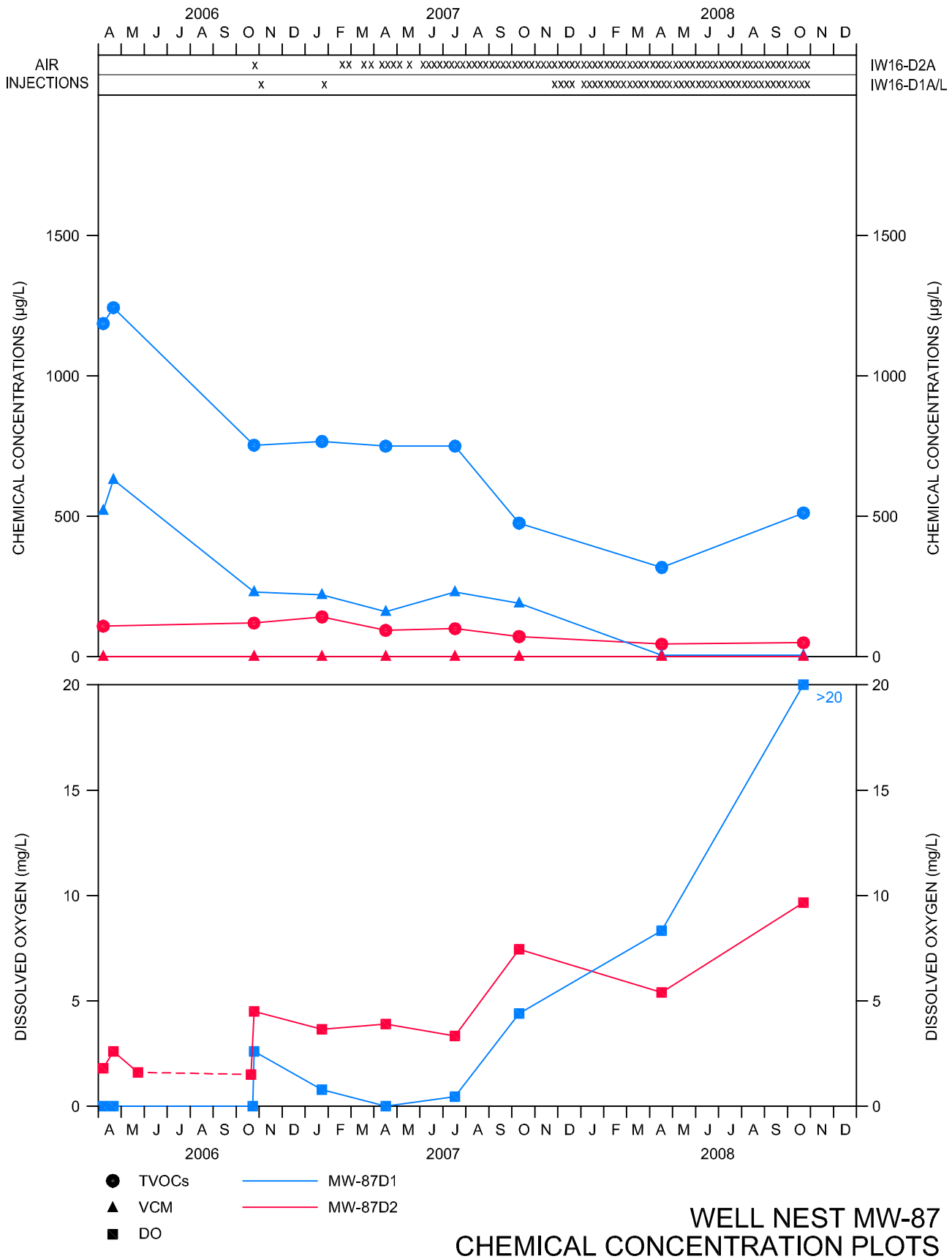


WELL NEST MW-83
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

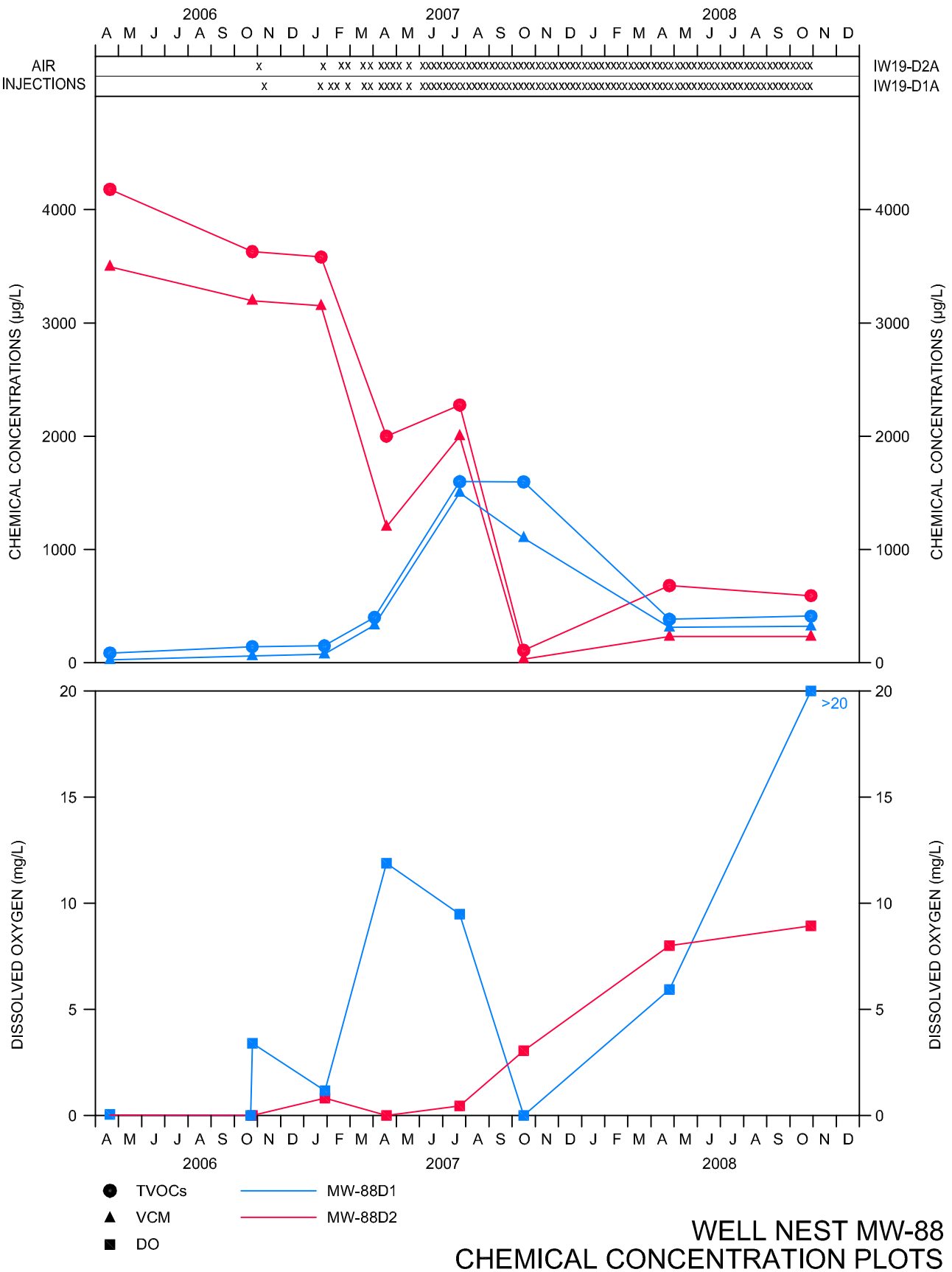


WELL NEST MW-84
CHEMICAL CONCENTRATION PLOTS
MIDDLE INJECTION FENCELINE
Hooker/Ruco Site, Hicksville, New York

06883-95(NEGR005)GN-WA006 JAN 09/2009



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



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

TABLE 1

MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Groundwater Investigations Beyond the Ruco Property (OU-3)

October through December 2008

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

TABLE 1

MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Groundwater Investigations Beyond the Ruco Property (OU-3)

October through December 2008

Task and Activity	*Percentage of Activity Completed*	*Start Date*	*Scheduled Completion Date*	*Completion Date*
• 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
• 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

TABLE 1

MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

Groundwater Investigations Beyond the Ruco Property (OU-3)

October through December 2008

Task and Activity	*Percentage of Activity Completed*	*Start Date*	*Scheduled Completion Date*	*Completion Date*
• 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
• 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
• Evalution/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	September 29, 2008		December 23, 2008

TABLE 2

SUMMARY OF PURGING FINAL STABILIZATION PARAMETER VALUES
HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Well	*Date Sampled*	*Drawdown from Initial Water Level* [(1)] *(feet)*	*Well Screen Volumes Purged*	*pH (S.U.)*	*Temperature (Celsius)*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Fe^{+2} (mg/L)*
MW-52 S	4/7/2006	0.03	4.3	5.62	14.3	0.199	-7	0.00	0.0	1.60
	3/13/2007	0.20	6.1	6.34	14.8	0.652	5	1.64	58.4	1.66
MW-52 I	4/13/2006	0.04	4.5	4.56	15.0	0.121	303	9.77	12.4	0.05
	3/14/2007	0.05	4.9	5.42	14.6	0.192	259	5.85	44.8	0.04
MW-52D	3/14/2007	0.00	5.3	5.67	14.7	0.314	226	3.07	307	0.11
MW-58 D	10/26/2006	0.01	3.4	5.69	16.8	0.192	21	2.42	58.1	4.30
MW-58 D1	10/26/2006	0.14	3.2	6.34	16.9	0.222	-101	2.58	68.6	8.80
MW-58 D2	10/25/2006	0.11	2.8	6.95	17.3	0.266	-198	0.00	15.1	5.16
MW-59 D1	10/25/2006	0.00	2.0	6.07	17.4	0.432	-20	0.58	261	3.24
MW-59 D2	10/25/2006	0.02	5.5	6.50	17.5	0.452	-99	0.47	240	2.00
MW-59 D	10/26/2006	0.07	4.5	10.29	17.1	0.364	-108	0.00	9.6	2.65
MW-61 I	4/28/2006	0.00	4.6	5.68	14.3	0.221	139	0.00	121	1.76
	5/8/2006	0.08	1.9	4.86	14.9	0.182	136	0.00	64.7	1.49
	5/18/2006	0.20	2.9	4.90	16.1	0.155	123	0.00	571	2.16
	5/30/2006	0.20	5.7	5.10	15.7	0.167	118	0.00	110	2.61
	10/24/2006	0.14	4.3	5.53	15.1	0.999	102	0.00	166	2.76
	10/25/2006	0.00	4.1	5.32	15.1	0.202	112	0.41	370	3.04
	10/26/2006	0.02	3.9	5.33	14.6	0.251	133	0.00	900	2.49
	11/29/2006	0.10	5.1	5.58	14.8	0.242	60	0.00	397	1.96
	11/29/2006	0.10	5.1	5.58	14.8	0.242	60	0.00	397	1.96
	12/21/2006	0.08	5.2	5.20	14.4	0.185	118	0.00	18.2	2.17
	1/24/2007	-0.05	4.5	5.54	14.9	0.275	101	1.93	46.4	1.84
	4/19/2007	0.00	6.1	5.88	14.7	0.320	124	3.21	254	0.03
	10/11/2007	0.22	10.7	5.61	15.6	0.193	50	3.56	33.6	3.12
	1/24/2008	-0.02	6.2	5.56	14.5	0.216	86	1.44	87.2	3.11
	4/23/2008	0.23	9.3	5.88	15.2	0.216	60	0.45	0	2.83
	7/16/2008	0.20	4.0	5.60	16.6	0.183	69	2.78	0	10.82
	10/28/2008	0.26	5.6	5.02	14.9	0.199	351	7.11	4.2	1.11
MW-61 D1	4/28/2006	0.00	4.7	6.07	14.5	0.210	122	0.00	356	1.78
	5/8/2006	0.05	5.7	5.07	15.0	0.210	101	0.00	172	2.77
	5/18/2006	0.16	2.9	5.18	16.2	0.170	91	0.00	>999	>3.30
	5/30/2006	0.25	4.5	5.27	15.9	0.196	93	0.00	138	4.66
	10/24/2006	0.01	4.4	5.49	15.2	0.999	110	0.00	72.4	2.30
	10/25/2006	0.08	4.1	5.33	15.1	0.201	107	0.65	129	3.74
	10/26/2006	0.03	3.9	5.41	14.9	0.273	109	0.00	86	2.99
	11/29/2006	0.00	3.6	5.72	14.9	0.246	54	0.00	310	1.92
	12/21/2006	0.08	5.8	5.29	14.6	0.192	90	0.00	80.7	2.59
	1/23/2007	0.00	8.1	5.73	14.3	0.389	54	1.21	137	1.84
	4/19/2007	0.14	8.1	6.19	14.6	0.304	79	6.66	95.9	0.26
	7/20/2007	0.23	11.7	5.31	16.4	0.163	83	0.44	20	3.30
	10/10/2007	0.00	4.9	5.84	15.5	0.198	26	3.39	27.2	4.20
	1/24/2008	0.18	5.4	5.58	14.4	0.244	78	1.33	38.7	3.21
	4/22/2008	0.08	13.1	5.90	15.5	0.220	60	0.41	321	2.91
	7/16/2008	0.36	6.2	5.42	16.1	0.158	87	2.35	0	2.13
	10/28/2008	0.06	1.8	4.88	15.1	0.182	335	3.75	215	0.21
MW-61 D2	4/28/2006	0.05	6.4	7.03	15.2	0.230	-186	0.00	413	2.00
	5/5/2006	0.00	10.5	6.65	15.1	0.370	-160	0.00	>999	10.08
	5/18/2006	0.30	4.9	6.63	16.1	0.294	-127	0.00	999	>3.30
	5/30/2006	0.00	4.4	6.32	15.8	0.249	-100	0.00	84.6	2.99
	10/24/2006	0.10	6.4	6.22	14.9	0.904	37	0.00	>999	0.15
	10/25/2006	0.20	4.4	5.77	15.1	0.236	27	1.42	316	5.46
	10/26/2006	0.25	4.2	5.63	14.9	0.233	62	1.94	550	4.04
	11/29/2006	0.00	4.4	6.25	14.8	0.253	110	11.12	>999	1.91
	12/21/2006	0.19	5.1	5.58	14.2	0.216	120	9.28	89.4	2.36
	1/23/2007	0.10	5.1	6.62	14.0	0.273	131	>20	>999	0.89
	4/23/2007	0.05	8.6	5.38	15.1	0.189	361	>20	231	0.21
	7/23/2007	0.04	5.1	5.19	17.6	0.219	71	13.45	>999	1.34
	10/11/2007	0.00	2.0	5.95	15.4	0.211	300	11.71	>999	0.21
	1/24/2008	-17.50	5.3	6.30	13.1	0.195	326	>20	228	0.78
	4/22/2008	7.38	6.0	6.73	14.1	0.239	248	14.49	>999	0.09
	7/15/2008	0.24	3.6	6.40	16.0	0.187	173	19.99	486	0.08
	10/27/2008	NM	6.7	5.92	15.6	0.222	381	>20	220	0.18
MW-62I	5/16/2007	0.10	7.1	5.31	14.1	0.278	59	0.00	113	0.69
MW-62D	5/16/2007	0.15	5.4	10.56	14.9	0.119	-125	0.00	570	0.38
MW-63 D1	5/23/2006	0.20	2.4	5.03	15.9	0.152	230	0.00	0.0	0.13
MW-63 D2	5/24/2006	-0.21	5.5	5.30	15.0	0.152	246	0.41	6.5	NM
	6/14/2006	0.05	5.1	5.01	16.3	0.171	222	0.92	3.5	NM

TABLE 2

SUMMARY OF PURGING FINAL STABILIZATION PARAMETER VALUES
HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Well	*Date Sampled*	*Drawdown from Initial Water Level* [(1)] *(feet)*	*Well Screen Volumes Purged*	*pH (S.U.)*	*Temperature (Celsius)*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Fe^{+2} (mg/L)*
MW-63 S	5/19/2006	0.12	2.4	5.20	14.8	0.150	238	0.16	411	0.18
MW-63 I	5/23/2006	0.20	4.6	5.09	15.4	0.154	241	0.00	0.0	0.03
MW-64 S	3/23/2006	0.10	2.9	5.83	14.3	0.188	-18	0.00	13.8	4.71
	4/26/2007	0.00	5.3	6.71	14.2	0.304	-114	0.00	53.6	2.37
MW-64 I	3/24/2006	-0.01	3.6	5.87	14.1	0.203	-38	0.00	0.0	3.21
	4/26/2007	0.00	6.1	6.78	14.2	0.317	-121	0.00	17.5	1.87
MW-64D	4/26/2007	0.00	2.7	6.72	14.6	0.324	-115	0.00	22.9	1.98
MW-66 D2	4/3/2006	0.03	5.2	5.23	15.2	0.197	-16	0.00	24.3	4.50
MW-67 S	3/28/2006	0.35	5.2	5.88	15.7	0.206	-117	0.00	271	4.36
MW-67 D	3/29/2006	0.47	4.3	5.64	17.1	0.223	86	0.50	>999	4.22
MW-68 S	4/6/2006	-0.10	5.1	8.87	17.4	0.144	-281	0.00	27.8	0.60
MW-68 D	3/31/2006	0.10	5.1	5.67	17.6	0.165	-150	0.00	440	4.86
MW-81 D1	4/12/2006	0.16	2.9	6.44	14.5	0.228	-65	0.00	132	1.47
	5/2/2006	0.05	2.9	5.44	15.1	0.303	-31	0.00	0.9	3.20
	5/17/2006	0.00	3.9	6.04	16.8	0.263	-75	0.00	86.4	2.81
	5/25/2006	0.07	2.5	5.62	15.6	0.268	-32	0.00	31.1	>3.3
	10/24/2006	0.08	4.0	5.72	14.5	0.420	15	2.26	14	3.23
	10/25/2006	0.21	0.7	5.77	15.3	0.349	-55	3.01	0.0	9.76
	10/26/2006	-0.08	1.3	6.02	14.7	0.321	-25	0.00	0.0	10.12
	1/29/2007	-0.07	6.1	6.19	13.1	0.429	-55	2.26	704	2.36
	4/19/2007	0.18	5.3	6.20	14.2	0.380	-128	0.00	629	2.06
	7/23/2007	0.07	5.3	6.13	15.9	0.247	-22	0.74	9.2	5.19
	10/9/2007	0.00	7.9	6.02	15.8	0.228	-77	3.08	5.1	4.98
	4/21/2008	0.06	3.6	6.67	15.5	0.181	-99	0.92	0.0	2.69
	10/28/2008	0.00	4.0	5.13	15.3	0.215	292	17.31	336	2.04
MW-81 D2	4/12/2006	0.05	2.4	5.79	15.2	0.357	-51	0.00	4.1	5.04
	5/4/2006	0.00	5.8	6.12	16.8	0.204	-6	1.10	119	1.37
	5/18/2006	0.12	3.4	8.18	15.1	0.220	-58	0.00	906	>3.30
	5/26/2006	0.21	3.2	8.58	15.8	0.225	-129	0.00	>999	>3.3
	10/24/2006	0.09	3.2	6.33	14.5	0.263	78	16.87	396	2.37
	10/25/2006	-0.04	1.9	6.49	15.7	0.251	73	17.96	170	0.40
	10/26/2006	0.21	1.9	7.64	15.1	0.229	93	15.00	>999	0.74
	1/24/2007	-0.05	5.9	7.21	13.1	0.234	-39	2.90	>999	0.98
	4/18/2007	0.00	1.3	9.84	12.5	0.301	-110	0.00	519	2.71
	7/19/2007	0.08	2.6	6.03	17.6	0.181	48	14.10	121	1.48
	10/10/2007	0.18	7.5	6.72	15.3	0.180	35	7.45	413	9.39
	4/18/2008	0.00	2.4	6.50	15.8	0.171	81	4.23	130	0.45
	10/22/2008	0.10	1.8	7.20	15.6	0.147	107	>20	0.0	0.09
MW-82 D1	4/17/2006	0.00	2.8	6.88	16.4	0.391	-126	0.00	10.8	1.28
	4/25/2006	0.12	4.9	6.23	17.2	0.351	-170	0.00	281	1.89
	5/11/2006	0.10	2.4	6.39	16.5	0.356	-190	0.00	150	4.32
	5/25/2006	0.00	6.6	6.27	17.8	0.341	-200	0.00	226	5.22
	5/31/2006	0.00	5.0	6.98	20.8	0.374	-214	0.00	297	5.28
	10/24/2006	0.23	0.9	6.44	14.5	0.411	-119	1.93	202	6.14
	10/25/2006	0.00	1.6	7.37	14.5	0.491	-154	0.00	9	9.36
	10/26/2006	0.02	1.0	6.63	16.0	0.317	-142	2.77	116	6.32
	11/30/2006	-0.30	2.6	7.39	15.8	0.463	-158	0.00	252	1.86
	12/20/2006	0.05	2.3	6.89	12.9	0.327	-149	0.00	146	1.98
	1/25/2007	0.05	5.7	7.25	12.9	0.440	-145	1.21	48.8	1.94
	4/20/2007	0.05	2.6	6.76	18.1	0.305	-153	0.76	357	2.79
	7/25/2007	0.05	3.0	5.39	23.0	0.186	95	15.15	73	2.58
	10/18/2007	0.04	3.6	6.04	18.1	0.219	125	0.73	339	5.25
	1/23/2008	0.00	4.2	6.13	13.3	0.239	-38	1.89	7.8	5.82
	4/25/2008	0.45	4.3	4.35	17.5	0.183	108	0.13	81.2	1.49
	7/18/2008	0.03	5.3	5.73	17.6	0.147	96	3.38	0	NM
	10/30/2008	0.00	3.7	4.79	15.9	0.168	309	<20	137	NM

TABLE 2

SUMMARY OF PURGING FINAL STABILIZATION PARAMETER VALUES
HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Well	*Date Sampled*	*Drawdown from Initial Water Level* [(1)] *(feet)*	*Well Screen Volumes Purged*	*pH (S.U.)*	*Temperature (Celsius)*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Fe^{+2} (mg/L)*
MW-82 D2	4/17/2006	0.08	3.6	6.14	16.2	0.256	-152	0.00	636	5.12
	4/24/2006	0.00	4.3	7.34	15.7	0.295	-367	0.00	315	1.64
	5/25/2006	0.00	2.9	6.06	17.2	0.239	-140	0.00	95	3.02
	6/5/2006	0.05	3.0	6.52	17.7	0.251	-139	0.00	65.1	6.40
	5/31/2006	0.00	3.9	6.54	16.7	0.239	-125	0.00	27.9	6.58
	10/24/2006	0.07	4.1	6.91	16.3	0.231	-166	0.38	234	10.44
	10/25/2006	-0.08	1.0	6.07	15.4	0.282	-95	1.98	6.8	11.64
	10/26/2006	0.14	1.3	6.23	17.5	0.260	-110	3.37	59	8.60
	11/30/2006	0.00	2.7	7.48	16.6	0.313	-179	0.00	37.9	2.31
	12/20/2006	0.00	3.4	7.11	14.1	0.226	-178	0.00	14.1	0.34
	1/25/2007	0.00	3.2	7.23	13.5	0.284	-147	1.70	66.1	2.01
	4/20/2007	0.00	3.4	6.87	18.9	0.182	-183	0.61	182	1.91
	7/25/2007	0.05	3.7	6.49	18.9	0.211	-192	0.50	47	6.56
	10/18/2007	0.05	5.2	9.88	20.6	0.499	-359	2.93	760	1.22
	1/23/2008	0.00	4.2	6.59	13.9	0.183	-147	1.51	61.5	4.74
	4/24/2008	0.28	2.9	7.80	19.0	0.217	-352	0.00	0	2.43
	7/18/2008	0.00	4.7	7.66	25.0	0.153	-472	0.00	0	16.32
	10/30/2008	0.00	1.9	5.62	15.4	0.169	-3	0.84	138	3.01
MW-83 D1	4/11/2006	0.08	4.3	10.04	15.3	0.472	-195	0.00	648	0.20
	5/1/2006	0.07	4.5	10.35	17.1	0.518	-125	0.00	178	0.44
	5/16/2006	0.01	5.7	11.56	13.5	0.978	-235	0.00	>999	1.20
	5/24/2006	0.05	6.3	10.89	16.0	0.375	-211	0.00	350	1.36
	10/24/2006	0.20	1.0	11.70	13.1	1.190	70	0.00	108	1.94
	10/25/2006	0.11	2.0	12.80	14.4	0.990	-146	0.00	102	0.23
	10/26/2006	0.24	3.1	10.30	14.1	0.561	-64	2.06	9.9	0.06
	1/30/2007	0.03	5.3	11.07	13.4	0.342	6	1.74	79.4	0.01
	4/18/2007	0.00	4.9	10.70	12.7	0.256	-70	0.00	690	0.00
	7/17/2007	0.00	2.4	10.70	16.3	0.271	-14	0.41	12	0.04
	10/12/2007	0.00	12.4	10.10	15.3	0.226	64	3.00	127	0.13
	1/22/2008	0.03	4.4	10.52	13.5	0.283	174	8.34	0.0	0.12
	4/17/2008	0.00	8.4	10.08	14.6	0.275	151	2.32	163	0.03
	7/15/2008	0.03	8.0	9.26	14.9	0.103	216	1.91	0	NM
	10/24/2008	0.03	4.1	8.65	15.6	0.264	291	8.31	35.1	0.04
MW-83 D2	5/2/2006	-0.25	3.6	6.00	15.0	0.235	50	1.70	0.0	0.49
	5/16/2006	0.08	4.5	6.88	15.0	0.224	42	2.02	0.0	0.02
	5/25/2006	0.13	2.4	6.61	15.5	0.216	73	2.91	0.0	0.00
	10/24/2006	0.09	4.9	6.56	13.7	0.226	241	>19.99	17.5	9.88
	10/25/2006	0.10	1.2	6.18	14.3	0.297	179	>20	92	0.00
	10/26/2006	0.10	1.5	6.46	13.1	0.216	171	>20	0.0	0.06
	1/29/2007	0.00	2.9	6.55	10.3	0.197	249	13.20	69.3	0.00
	4/18/2007	0.21	3.4	8.16	13.0	0.233	97	0.00	103	0.00
	7/17/2007	0.04	3.0	6.42	17.3	0.147	289	>19.99	25	0.08
	10/15/2007	0.15	13.0	5.92	15.6	0.140	279	11.44	0	0.23
	1/22/2008	0.11	5.3	6.76	13.3	0.174	328	>20	0.0	0.14
	4/17/2008	0.10	11.1	6.35	15.2	0.169	295	>20	0.0	0.04
	7/15/2008	0.34	4.1	7.00	*	0.140	270	8.50	0	0.04
	10/21/2008	0.12	2.6	6.26	14.9	0.120	297	0.92	2.9	0.00
MW-84 D1	5/23/2006	0.09	1.7	6.25	16.1	0.301	-71	0.00	18.5	3.19
	5/26/2006	0.00	3.4	6.45	16.8	0.305	-118	0.00	91.9	4.50
	6/6/2006	0.15	4.1	6.55	16.6	0.280	-139	0.00	10.3	5.50
	6/8/2006	0.00	5.1	6.58	16.3	0.263	-163	0.00	10.4	2.35
	10/24/2006	0.00	4.7	5.46	15.7	0.197	50	7.89	54.7	1.44
	10/25/2006	0.06	1.3	6.32	15.4	0.296	86	8.03	0.0	1.37
	10/26/2006	0.04	2.9	6.19	15.8	0.300	78	6.51	77	1.19
	1/30/2007	0.00	3.6	6.16	13.1	0.254	160	7.53	188	1.24
	4/24/2007	0.00	3.6	6.49	16.5	0.249	282	>20	113	0.05
	7/24/2007	0.10	5.1	6.26	19.2	0.137	301	>20	6.9	0.05
	10/17/2007	0.21	4.9	6.45	15.8	0.143	304	8.81	85	0.62
	1/28/2008	0.07	4.5	6.46	13.9	0.157	303	>20	70.4	0.00
	4/24/2008	0.04	4.4	7.34	17.2	0.165	210	0.60	83	0.03
	7/17/2008	0.17	2.8	6.93	20.0	0.141	95	14.51	0	0.13
	10/29/2008	0.03	2.8	5.69	14.1	0.125	319	12.18	231	0.00

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SUMMARY OF PURGING FINAL STABILIZATION PARAMETER VALUES
HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Well	*Date Sampled*	*Drawdown from Initial Water Level* [(1)] *(feet)*	*Well Screen Volumes Purged*	*pH (S.U.)*	*Temperature (Celsius)*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Fe^{+2} (mg/L)*
MW-84 D2	5/23/2006	0.15	3.9	6.74	17.4	0.246	-131	0.00	780	12.68
	5/30/2006	0.20	2.4	6.59	18.8	0.241	-152	2.70	595	3.18
	6/6/2006	0.00	5.7	7.17	16.8	0.219	-221	0.00	228	2.70
	6/8/2006	0.00	3.0	6.78	16.5	0.220	-162	0.00	230	3.78
	10/24/2006	0.00	6.8	8.47	14.9	0.295	-90	4.69	131	1.53
	10/25/2006	-0.02	1.0	8.68	15.1	0.395	-47	2.84	127	0.27
	10/26/2006	-0.01	5.0	8.00	15.5	0.393	-77	2.67	>999	0.64
	1/29/2007	0.00	1.9	9.97	12.2	0.322	7	3.91	199	0.18
	4/24/2007	0.10	6.7	10.22	16.5	0.339	138	16.31	470	0.30
	7/24/2007	0.10	8.9	10.33	20.6	0.313	139	>20	200	0.21
	10/17/2007	0.09	4.7	10.88	17.1	0.396	34	4.68	817	0.23
	1/28/2008	0.00	6.5	11.01	13.8	0.789	97	9.91	187	0.79
	4/23/2008	0.20	12.9	10.97	16.8	0.575	6	3.96	603	0.09
	7/17/2008	0.16	4.1	10.05	18.1	0.287	13	14.05	>999	0.27
	10/29/2008	0.00	2.4	10.12	15.6	0.351	160	8.33	320	0.25
MW-87 D1	4/5/2006	-0.04	2.9	5.04	12.8	0.197	142	0.00	64	0.99
	4/20/2006	0.02	3.9	4.94	17.5	0.184	218	0.00	43.8	0.30
	5/4/2006	0.02	2.6	5.03	16.2	0.187	231	0.00	0.0	0.34
	5/15/2006	0.02	2.0	5.28	15.1	0.165	207	0.00	66.2	0.27
	10/24/2006	0.25	4.5	5.45	14.9	0.229	234	0.70	5.4	0.17
	10/25/2006	-0.01	2.8	5.23	15.9	0.224	221	0.00	0.0	0.35
	10/26/2006	0.03	2.1	5.26	15.0	0.192	226	2.63	22.2	0.05
	1/24/2007	0.10	2.1	5.31	14.7	0.200	248	0.78	11.0	0.10
	4/17/2007	0.10	5.3	5.47	14.5	0.999	169	0.00	62	0.14
	7/17/2007	0.00	4.0	5.30	17.2	0.186	223	0.44	54	0.09
	10/8/2007	0.00	5.7	5.30	19.1	0.229	203	4.39	17.3	0.40
	4/16/2008	0.07	9.0	5.04	15.7	0.193	322	8.35	220	0.05
	10/21/2008	0.00	3.4	4.34	15.0	0.193	463	>20	16.2	0.00
MW-87 D2	4/5/2006	0.00	2.8	5.21	14.1	0.172	121	1.81	129	1.14
	4/25/2006	-0.05	5.1	5.40	15.5	0.163	149	2.62	42.8	0.20
	5/15/2006	0.32	4.3	5.80	15.4	0.152	104	1.59	54.8	NM
	5/24/2006	0.10	4.9	5.45	16.2	0.155	163	1.62	0.0	1.36
	10/24/2006	0.13	3.9	5.69	15.5	0.183	212	4.00	131	0.08
	10/25/2006	0.06	1.5	5.34	15.5	0.173	137	6.68	25.5	0.09
	10/26/2006	-0.03	2.1	5.37	15.2	0.160	226	4.53	0.0	0.02
	1/24/2007	0.00	4.7	5.61	13.3	0.186	131	3.64	160	0.25
	4/17/2007	0.00	5.3	5.83	14.5	0.228	106	3.89	0.9	0.09
	7/16/2007	0.00	2.0	5.65	17.8	0.168	145	3.31	5.1	0.07
	10/9/2007	0.18	2.9	5.57	16.2	0.172	287	7.45	60.1	0.12
	4/16/2008	0.00	6.9	5.37	15.9	0.174	288	5.39	0.0	0.01
	10/21/2008	0.08	1.6	4.65	16.9	0.158	440	9.66	27	0.00
MW-88 D1	4/19/2006	0.08	2.9	6.09	17.9	0.273	-90	0.00	>999	9.64
	4/26/2006	0.32	6.7	5.99	16.7	0.204	-53	0.00	589	4.96
	5/10/2006	0.25	4.2	5.68	15.4	0.200	-2	0.00	393	2.75
	5/30/2006	0.00	3.6	5.90	17.1	0.188	-65	3.13	408	3.62
	6/1/2006	0.10	5.0	6.13	19.9	0.188	-73	0.00	367	5.12
	10/24/2006	0.06	1.8	6.06	15.6	0.252	-43	0.00	88.6	11.04
	10/25/2006	0.09	1.4	5.86	15.3	0.233	-13	0.00	4.7	10.20
	10/26/2006	0.00	3.4	5.59	15.6	0.317	33	3.36	415	6.56
	1/30/2007	0.10	2.9	6.12	11.8	0.193	-45	1.16	257	2.01
	4/19/2007	0.03	4.9	5.84	15.4	0.187	172	11.88	334	1.84
	7/26/2007	0.22	2.0	5.75	22.4	0.249	232	9.48	284	0.74
	10/16/2007	0.00	2.5	6.35	17.7	0.226	3	0.02	92	5.47
	4/25/2008	0.11	2.8	6.11	17.8	0.226	225	5.95	967	0.52
	10/30/2008	NM	3.8	5.06	15.8	0.200	339	>20	14.1	0.00

TABLE 2

SUMMARY OF PURGING FINAL STABILIZATION PARAMETER VALUES
HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Well	*Date Sampled*	*Drawdown from Initial Water Level* [(1)] *(feet)*	*Well Screen Volumes Purged*	*pH (S.U.)*	*Temperature (Celsius)*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Fe^{+2} (mg/L)*
MW-88 D2	4/20/2006	0.00	3.7	6.25	17.4	0.244	-152	0.00	951	6.16
	5/10/2006	0.03	3.5	8.05	16.6	0.330	-331	0.00	>999	9.44
	6/1/2006	0.00	4.9	7.24	18.5	0.287	-210	0.00	>999	12.95
	6/7/2006	0.10	4.3	8.44	15.9	0.320	-380	0.00	>999	12.52
	10/24/2006	0.00	5.8	9.10	15.8	0.387	-282	1.44	>999	18.96
	10/25/2006	0.17	1.0	9.44	15.0	0.426	-253	1.97	>999	11.40
	10/26/2006	0.00	1.5	7.33	17.7	0.286	-212	0.00	>999	NM
	1/25/2007	0.00	8.5	9.17	11.3	0.323	-315	0.82	993	0.16
	4/19/2007	0.10	4.0	7.13	16.8	0.278	-219	0.37	>999	2.17
	7/26/2007	0.31	2.5	9.18	31.2	0.427	-333	0.44	>999	1.21
	10/16/2007	0.03	5.7	7.48	18.2	0.192	-291	3.04	145	9.39
	4/25/2008	1.60	4.3	6.28	17.0	0.164	40	8.02	>999	2.65
	10/31/2008	0.00	5.3	6.64	17.5	0.191	45	8.94	435	2.70
MW-90 D1	6/13/2006	0.10	7.8	6.25	17.0	0.230	-112	0.00	76.8	4.10
	4/25/2007	0.00	4.9	6.07	16.1	0.231	-100	0.93	542	2.30
MW-90 D2	6/13/2006	0.05	7.8	5.91	18.4	0.191	-9	0.20	95.3	3.06
	4/25/2007	0.05	4.7	5.95	15.3	0.209	-47	1.38	102	1.76

Notes:

(1) Negative indicates groundwater level during purging higher than initial water level
NM - Not measured
* - Probe malfunctioned.

TABLE 3

MICROBIAL POPULATION COUNTS
FORMER HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Sample/ Parameter	*Units*	*MW-87D1*									
		4/5/2006		***4/20/2006***		***5/2/2006***		***10/8/2007***		***10/22/2008***	
Total Aerobic Microbial Population	***(CFUs/mL)***	6.80E+02		1.31E+03		6.92E+03		3.20E+02		4.70E+02	
Aerobic Specific Microbial Population	***(CFUs/mL)***	2.50E+01	(1)	2.10E+02	(1)	8.80E+02	(1)	8.50E+01	(2)	2.75E+02	(2)
Total Anaerobic Microbial Population	***(CFUs/mL)***	2.32E+03		5.30E+02		3.40E+03		6.50E+01		1.70E+02	
Anaerobic Specific Microbial Population	***(CFUs/mL)***	1.10E+02	(1)	2.10E+02	(1)	6.95E+02	(1)	2.50E+01	(2)	2.90E+02	(2)

Sample/ Parameter	*Units*	*MW-87D2*							
		4/5/2006		*4/25/2006*		***10/9/2007***		***10/21/2008***	
Total Aerobic Microbial Population	***(CFUs/mL)***	1.26E+04		6.28E+03		8.00E+02		9.00E+01	
Aerobic Specific Microbial Population	***(CFUs/mL)***	1.22E+03	(1)	7.65E+02	(1)	1.00E+01	(2)	3.90E+02	(2)
Total Anaerobic Microbial Population	***(CFUs/mL)***	2.57E+04		7.00E+01		3.00E+01		2.35E+02	
Anaerobic Specific Microbial Population	***(CFUs/mL)***	1.02E+04	(1)	1.13E+03	(1)	1.50E+01	(2)	4.55E+02	(2)

Sample/ Parameter	*Units*	*MW-83D1*							
		4/11/2006		***5/1/2006***		***10/12/2007***		***10/23/2008***	
Total Aerobic Microbial Population	***(CFUs/mL)***	1.10E+02		3.00E+01		1.55E+02		6.50E+01	
Aerobic Specific Microbial Population	***(CFUs/mL)***	5.00E+01	(1)	1.15E+02	(1)	2.00E+01	(2)	5.10E+02	(2)
Total Anaerobic Microbial Population	***(CFUs/mL)***	1.55E+02		1.45E+02		4.00E+01		1.05E+02	
Anaerobic Specific Microbial Population	***(CFUs/mL)***	1.00E+02	(1)	5.00E+01	(1)	2.00E+01	(2)	3.15E+02	(2)

Sample/ Parameter	*Units*	*MW-83D2*				
		5/2/2006		***10/15/2007***		***10/22/2008***
Total Aerobic Microbial Population	***(CFUs/mL)***	6.50E+02		8.60E+02		3.20E+02
Aerobic Specific Microbial Population	***(CFUs/mL)***	8.80E+02	(1)	6.00E+01	(2)	8.10E+02 (2)
Total Anaerobic Microbial Population	***(CFUs/mL)***	2.08E+04		1.05E+02		4.75E+02
Anaerobic Specific Microbial Population	***(CFUs/mL)***	5.30E+02	(1)	2.50E+01	(2)	4.20E+02 (2)

TABLE 3

MICROBIAL POPULATION COUNTS
FORMER HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Sample/ Parameter	*Units*	*MW-88D2*					
		4/20/2006		*10/16/2007*		*10/31/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	1.40E+04		1.40E+04		2.72E+03/2.39E+03	
Aerobic Specific Microbial Population	*(CFUs/mL)*	2.65E+02	(1)	5.00E+01	(2)	7.70E+02/6.00E+02	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	1.28E+04		2.75E+02		6.28E+03/4.80E+03	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	1.38E+03	(1)	1.45E+02	(2)	1.11E+03/9.40E+02	(2)

Sample/ Parameter	*Units*	*MW-81D1*							
		4/12/2006		*5/2/2006*		*10/9/2007*		*10/28/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	1.45E+04		3.05E+02		5.20E+02		2.10E+02/2.60E+02	
Aerobic Specific Microbial Population	*(CFUs/mL)*	6.95E+02	(1)	7.00E+01	(1)	no growth	(2)	6.55E+02/1.82E+03	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	1.85E+04		1.05E+04		5.00E+01		8.50E+02/6.60E+02	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	3.15E+02	(1)	1.65E+02	(1)	no growth	(2)	1.71E+03/2.20E+03	(2)

Sample/ Parameter	*Units*	*MW-81D2*							
		4/12/2006		*5/4/2006*		*10/10/2007*		*10/23/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	2.01E+04		1.29E+04		1.58E+04		1.21E+03	
Aerobic Specific Microbial Population	*(CFUs/mL)*	1.00E+02	(1)	1.29E+04	(1)	1.80E+02	(2)	1.27E+03	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	2.47E+04		1.36E+03		3.85E+02		3.12E+03	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	3.45E+02	(1)	1.60E+03	(1)	1.50E+01	(2)	7.90E+02	(2)

Sample/ Parameter	*Units*	*MW-88D1*							
		4/19/2006		*4/26/2006*		*10/16/2007*		*10/30/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	1.97E+04		2.29E+04		7.44E+03		2.60E+02	
Aerobic Specific Microbial Population	*(CFUs/mL)*	5.00E+01	(1)	4.74E+03	(1)	no growth	(2)	3.82E+03	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	2.12E+04		1.18E+04		8.50E+02		4.28E+03	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	7.45E+02	(1)	5.08E+03	(1)	no growth	(2)	3.10E+03	(2)

TABLE 3

MICROBIAL POPULATION COUNTS
FORMER HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Sample/ Parameter	*Units*	*MW-84D1*					
		5/23/2006		*10/17/2007*		*10/29/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	2.72E+03		3.30E+03		6.50E+01	
Aerobic Specific Microbial Population	*(CFUs/mL)*	4.70E+02	(1)	8.50E+01	(2)	2.16E+03	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	2.65E+04		2.12E+03		1.48E+03	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	2.40E+03	(1)	7.50E+01	(2)	1.31E+03	(2)

Sample/ Parameter	*Units*	*MW-84D2*					
		5/23/2006		*10/17/2007*		*10/29/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	6.02E+03		1.41E+03		6.00E+01	
Aerobic Specific Microbial Population	*(CFUs/mL)*	2.50E+01	(1)	1.40E+02	(2)	2.60E+02	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	1.50E+04		6.50E+01		2.50E+01	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	5.94E+03	(1)	no growth	(2)	1.00E+01	(2)

Sample/ Parameter	*Units*	*MW-61I*							
		4/28/2006		*5/8/2006*		*10/11/2007*		*10/28/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	1.24E+04		1.71E+04		9.60E+02		1.25E+02	
Aerobic Specific Microbial Population	*(CFUs/mL)*	7.68E+03	(1)	4.00E+04	(1)	no growth	(2)	3.45E+02	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	9.60E+02		9.40E+02		1.20E+02		2.40E+02	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	7.95E+02		9.90E+02		1.50E+01		4.60E+02	(2)

Sample/ Parameter	*Units*	*MW-61D1*							
		4/28/2006		*5/8/2006*		*10/10/2007*		*10/28/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	1.80E+04		1.49E+04		8.30E+02		3.45E+02	
Aerobic Specific Microbial Population	*(CFUs/mL)*	6.12E+03	(1)	2.74E+03	(1)	4.00E+01	(2)	2.32E+03	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	1.33E+03		6.10E+02		4.00E+01		7.90E+02	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	9.40E+02	(1)	2.60E+02	(1)	2.50E+01	(2)	2.60E+03	(2)

TABLE 3

MICROBIAL POPULATION COUNTS
FORMER HOOKER RUCO SITE
HICKSVILLE, NEW YORK

Sample/ Parameter	*Units*	*MW61D2*							
		4/28/2006		*5/5/2006*		*10/11/2007*		*10/27/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	2.39E+04		1.26E+04		1.79E+03		9.50E+01	
Aerobic Specific Microbial Population	*(CFUs/mL)*	3.26E+03	(1)	6.24E+03	(1)	1.50E+01	(2)	7.20E+02	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	1.58E+04		1.71E+04		1.60E+02		8.50E+01	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	4.24E+03		1.26E+04		1.50E+01		4.45E+02	(2)

Sample/ Parameter	*Units*	*MW-82D1*							
		4/17/2006		*4/25/2006*		*10/18/2007*		*10/30/2008*	
Total Aerobic Microbial Population	*(CFUs/mL)*	4.26E+04		1.63E+04		4.00E+03		4.10E+02	
Aerobic Specific Microbial Population	*(CFUs/mL)*	1.30E+02	(1)	8.45E+02	(1)	4.10E+02	(2)	3.42E+03	(2)
Total Anaerobic Microbial Population	*(CFUs/mL)*	2.10E+04		1.28E+03		9.00E+03		3.30E+03	
Anaerobic Specific Microbial Population	*(CFUs/mL)*	8.08E+03	(1)	2.04E+03	(1)	1.05E+02	(2)	5.96E+03	(2)

Sample/ Parameter	*Units*	*MW-82-D2*								*Sterile Water*
		4/17/2006		*4/24/2006*		*10/18/2007*		*10/30/2008*		*10/18/2007*
Total Aerobic Microbial Population	*(CFUs/mL)*	1.12E+04		1.87E+04		1.04E+04		8.80E+02		no growth
Aerobic Specific Microbial Population	*(CFUs/mL)*	1.00E+01	(1)	2.40E+03	(1)	6.64E+03	(2)	6.65E+02	(2)	no growth
Total Anaerobic Microbial Population	*(CFUs/mL)*	1.09E+04		1.08E+04		9.68E+03		4.64E+03		no growth
Anaerobic Specific Microbial Population	*(CFUs/mL)*	3.50E+01	(1)	8.25E+02	(1)	1.00E+01	(2)	1.17E+03	(2)	no growth

Notes:

CFUs = Colony Forming Units
Values are averages of duplicates
Microbial Counts - Method 9215B Adapted from Standard Methods for the Examination of Water and Wastewater 17th ed.
(1) - TCE Specific
(2) - DCE Specific

TABLE 4

PRIMARY DETECTED COMPOUNDS IN VADOSE ZONE AIR
BIOSPARGE SYSTEM
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

	VZ-10S					
Parameter	***11/28/2006***	***7/25/2007***	***10/15/2007***	***1/24/2008***	***7/18/2008***	***10/27/2008***
Acetone	12,000	51,000	4,500	14,200	1,390	13,800
Ethanol	ND	24	ND	54	57	43
Methyl Ethyl Ketone	160,000	1,220,000	144,000	277,000	36,200	347,000
Methyl Chloride	ND	ND	114	106	154	139
Tetrachloroethene	ND	1.9J	ND	ND	ND	3.5
Tetrahydrofuran	100,000	480,000	56,500	96,600	13,500	125,000
Toluene	960	21	13	5.6	11	13
Vinyl Chloride	ND	28	18	21	28	29

	VZ-10D					
Parameter	***11/28/2006***	***7/25/2007***	***10/15/2007***	***1/24/2008***	***7/18/2008***	***10/27/2008***
Acetone	ND/ND	9.8	16	3.5/1.7	8.5	7.2
Ethanol	ND/ND	23	8.4	13/11	5.2	ND
Methyl Ethyl Ketone	22/22	104	629	88/41	42	374
Tetrachloroethene	1.1/0.92	2.6	9.2	14/9.4	8.8	8.4
Tetrahydrofuran	13/14	28	506	45/24	6.8	250
Toluene	ND/ND	ND	ND	0.38/ND	ND	ND
Vinyl Chloride	0.68/ND	ND	ND	ND/ND	ND	ND

Notes:

(1) Units are ppbv.

TABLE 4

PRIMARY DETECTED COMPOUNDS IN VADOSE ZONE AIR
BIOSPARGE SYSTEM
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

	VZ-11S					
Parameter	***11/28/2006***	***7/25/2007***	***10/15/2007***	***1/24/2008***	***7/18/2008***	***10/29/2008***
Acetone	5.7	6.7	4.7	3.7	4.1	1.7
Ethanol	6.1	7.0	1.5	16	2.3	1.9
Methyl Ethyl Ketone	100	119	96	360	21	8.1
Methyl Chloride	ND	ND	ND	ND	ND	ND
Tetrachloroethene	2.3	3.3	6.6	3.2	20	23
Tetrahydrofuran	96	30	35	183	4.9	29
Toluene	4.3	0.2	ND	ND	0.20	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND

	VZ-11D						
Parameter	***10/26/2006***	***11/28/2006***	***7/25/2007***	***10/15/2007***	***1/24/2008***	***7/18/2008***	***10/30/2008***
Acetone	ND	ND/12	32	213	61	5.7	2.6
Ethanol	ND	4.1/5.4	14	5.9	24	3.0	3.3
Methyl Ethyl Ketone	7,600	780/700	5,540	49,800	4,880	26	77
Methyl Chloride	ND	ND	ND	58	4.4	ND	ND
Tetrachloroethene	ND	4.8/4.6	0.7	5.2	5.6	18	16
Tetrahydrofuran	1,900	190/140	912	15,500	1,560	6.9	23
Toluene	ND	ND1.3	0.4	ND	ND	0.34	ND
Vinyl Chloride	ND	ND	ND	2.5	ND	ND	ND

Notes:

(1) Units are ppbv.

TABLE 4

PRIMARY DETECTED COMPOUNDS IN VADOSE ZONE AIR
BIOSPARGE SYSTEM
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

	VZ-14S		
Parameter	***11/28/2006***	***10/15/2007***	***10/27/2008***
Acetone	3.5	4.4	8.2
Ethanol	ND	4.6	2.2
Methyl Ethyl Ketone	80	41	167
Tetrachloroethene	1.5	10	103
Tetrahydrofuran	39	53	113
Vinyl Chloride	0.90	ND	ND

	VZ-14D		
Parameter	***11/28/2006***	***10/15/2007***	***10/27/2008***
Acetone	150	3,600	2,600
Ethanol	ND	ND	6.1
Methyl Ethyl Ketone	4,200	351,000	128,000
Methyl Chloride	ND	101	93
Tetrachloroethene	ND	6.4	11
Tetrahydrofuran	2,800	306,000	118,000
Vinyl Chloride	17	6.7	6.1

Notes:

(1) Units are ppbv.

TABLE 4

PRIMARY DETECTED COMPOUNDS IN VADOSE ZONE AIR
BIOSPARGE SYSTEM
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

	VZ-15S		
Parameter	***11/28/2006***	***10/16/2007***	***10/29/2008***
Acetone	ND	30	2.8
Methyl Ethyl Ketone	15,000	7,370	224
Methyl Chloride	ND	ND	ND
Tetrachloroethene	ND	ND	9.2
Tetrahydrofuran	4,700	1,690	52
Vinyl Chloride	ND	ND	ND

	VZ-15D		
Parameter	***11/28/2006***	***10/16/2007***	***10/29/2008***
Acetone	16	51	12
Methyl Ethyl Ketone	150	2,340	268
Methyl Chloride	19	7.2	88
Tetrachloroethene	590	16,000	6.3
Tetrahydrofuran	16	ND	6,290
Vinyl Chloride	ND	7.8	16

Notes:

(1) Units are ppbv.

TABLE 4

PRIMARY DETECTED COMPOUNDS IN VADOSE ZONE AIR
BIOSPARGE SYSTEM
HOOKER/RUCO SITE
HICKSVILLE, NEW YORK

	VZ-16S	
Parameter	***10/17/2007***	***10/30/2008***
Acetone	2.9	2.5
Carbon Disulfide	ND	ND
Chloroethane	ND	ND
Ethanol	1.9	0.71
Methyl Ethyl Ketone	9.6	1.7
Methyl Chloride	ND	0.35
Tetrachloroethene	12	2.4
Tetrahydrofuran	31	2.8
Toluene	2.6	1.1
Vinyl Chloride	ND	ND

	VZ-16D	
Parameter	***10/17/2007***	***10/30/2008***
Acetone	144,000	145,000
Carbon Disulfide	120,000	60,000
Chloroethane	120,000	152
Ethanol	ND	ND
Methyl Ethyl Ketone	3,240,000	2,580,000
Methyl Chloride	120,000	60,000
Tetrachloroethene	3.6	6.4
Tetrahydrofuran	1,500,000	1,530,000
Toluene	44	28
Vinyl Chloride	262	157

Notes:

(1) Units are ppbv.

CONESTOGA-ROVERS
& ASSOCIATES

E-Mail Date: January 5, 2009
E-Mail To: Klaus Schmidtke
c.c.: Kathleen Willy
E-Mail and Hard Copy if Requested

ANALYTICAL DATA ASSESSMENT AND VALIDATION
HOOKER-RUCO BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HICKSVILLE, NEW YORK
OCTOBER 2008

PREPARED BY:
CONESTOGA-ROVERS & ASSOCIATES

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1.0 INTRODUCTION

Groundwater samples were collected at the former Hooker Ruco Site in Hicksville, New York (Site), in support of the biosparge system performance monitoring program. Analytical services were performed by H2M Labs, Inc., in Melville, New York (H2M). A summary of the sampling and analysis scheme is presented in Table 1.

A summary of the analytical data is presented in Table 2A and 2B. The groundwater samples were analyzed for volatile organic compounds (VOCs), total organic carbon (TOC), nitrite, nitrate, phosphorus, and ammonia. The soil vapor samples were analyzed for VOCs, methane, and ethane.

The quality assurance/quality control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods. Additional validation guidelines were referenced from the following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-94-012, February 1994; and

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994.

Full raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting QA/QC provided.

2.0 SAMPLE HOLDING TIMES

The method-specific holding time criteria are summarized in Table 5.1 of the Quality Assurance Project Plan (QAPP). All sample extractions and/or analyses were performed within the specified holding times.

All samples were properly preserved and cooled to 4°C (±2°C) after collection. All samples were received by the laboratory in good condition.

3.0 INSTRUMENT CALIBRATION

3.1 GC/MS CALIBRATION - GROUNDWATER VOCs

3.1.1 TUNING AND MASS CALIBRATION

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the VOC method requires the analysis of the specific tuning compounds 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.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis period. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

3.1.2 INITIAL CALIBRATION

To quantify compounds 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; and

ii) when average response factors are employed, percent relative standard deviation (%RSD) values must not exceed 30 percent.

The initial calibration data for VOCs were reviewed and met the above criteria for linearity and sensitivity for all compounds of interest.

3.1.3 CONTINUING CALIBRATION

To ensure that instrument calibration 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; and

ii) percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response with the exception of some low %D recoveries. Associated sample results have been qualified as estimated (see Table 3).

3.2 INSTRUMENTAL CALIBRATION - GENERAL CHEMISTRY

3.2.1 INITIAL CALIBRATION

Initial calibration of the instruments ensures that they are capable of producing satisfactory quantitative data at the beginning of a series of analyses. For general chemistry, calibration is performed based on the analysis of at least three standards and a blank. Resulting correlation coefficients for curves must be at least 0.995.

After calibration, 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 control limits of 85 to 115 percent.

Upon review of the data, it was determined that all inorganic 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 instrumentation used for these analyses were properly calibrated prior to sample analyses.

3.2.2 CONTINUING CALIBRATION

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.

4.0 SURROGATE COMPOUND ANALYSES - VOCs

In accordance with the methods employed, all samples, blanks, and standards analyzed for VOCs are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

Surrogates were added to all samples, blanks, and QC samples prior to analysis. Surrogate recoveries met the acceptance criteria for all samples demonstrating acceptable analytical accuracy in this sample matrix.

5.0 INTERNAL STANDARD (IS) RECOVERIES - VOCs

To ensure that changes in GC/MS response and sensitivity do not affect sample analysis results, IS compounds are added to all samples, blanks, and spike samples prior to VOC analysis. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

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

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

The sample IS recoveries met the above criteria and were used to calculate all positive sample results.

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES VOCs

To evaluate the effects of sample matrices on the measurement procedures, and accuracy of a particular analysis, samples are spiked in duplicate with a known concentration of the analytes of concern and analyzed as MS/MSD samples. Spike recoveries are not assessed for samples having original concentrations significantly greater than the spike concentration (>four times).

Analytical precision is evaluated based on the relative percent difference (RPD) between the MS and MSD.

MS/MSDs were performed at the required frequency for VOCs. The results showed acceptable accuracy and precision on this sample matrix with the exception of some low recoveries and high RPDs. Sample results have been qualified as estimated (see Table 4).

7.0 MATRIX SPIKE (MS) AND DUPLICATE ANALYSES - GENERAL CHEMISTRY

To evaluate the effects of sample matrices on the measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. The established control limits for inorganic matrix spike recoveries are 75 to 125 percent. Spike recoveries are not assessed for samples having original concentrations significantly greater than the spike concentration (>four times).

Analytical precision is evaluated based on the analysis of duplicate samples. Laboratory duplicate results are assessed against a maximum RPD of 20 percent.

MS and duplicate analyses were performed at the required frequency for all general chemistry parameters. The results showed acceptable accuracy and precision on this sample matrix.

8.0 LABORATORY CONTROL SAMPLE (LCS) ANALYSES

The LCS serves as a monitor of the overall performance of all steps in the analysis, including the sample preparation. LCSs are analyzed using the same sample preparation, analytical methods, and QA/QC procedures employed for the investigative samples.

LCSs were prepared and analyzed for all general chemistry and groundwater VOC parameters. All LCS results were within acceptable limits showing good overall analytical accuracy.

9.0 METHOD BLANK ANALYSES

Method blanks are prepared from deionized water and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures. Additionally, continuing calibration blanks (CCBs) are routinely analyzed after each CCV for the inorganic parameters.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch and CCBs were analyzed for inorganic parameters after each CCV. The data were non-detect for the analytes of interest indicating no laboratory-attributable contamination occurred.

10.0 TENTATIVELY IDENTIFIED COMPOUNDS (TICs) - GROUNDWATER

Chromatographic peaks for VOC analyses, which are not target compounds, surrogates, or internal standards, are potential TICs. The ten largest TICs for the VOC analysis with areas greater than 10 percent of the area of the nearest IS are tentatively identified and quantitated.

A summary of the groundwater TICs reported is presented in Table 5. TICs, which were present in laboratory blanks or were identified as aldol condensation products, were disregarded and are not included on the table.

11.0 FIELD QA/QC SAMPLES

The field QA/QC consisted of five trip blanks, one rinse blank, and two field duplicate sample sets.

The trip blanks and rinse blank were non-detect for the compounds of interest

The field duplicate samples were collected as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside estimated ranges of detection showed acceptable sampling and analytical precision.

12.0 CONCLUSION

Based on the preceding assessment, the data summarized in Tables 2A and 2B are acceptable with the specific qualifications noted herein.

TABLES

TABLE 1

SAMPLING AND ANALYSIS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

				Analysis/Parameters				
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs + TICs*	*TOC, NO_2, NO_3, NH_3, Phosphorus*	*Methane/Ethane*	*TO-15*	*Comments*
G-102108-RR-001	MW-87-D2	10/21/08	16:25	X	X			
G-102108-RR-002	MW-87D1	10/22/08	10:30	X	X			
G-102108-RR-003	MW-83D2	10/22/08	13:20	X	X			
G-102208-RR-004	MW-83D1	10/23/08	10:15	X	X			
G-102208-RR-005	MW-83D1	10/23/08	10:40	X	X			Field duplicate of sample G-102208-RR-004
G-102208/RR-006	MW-81D2	10/23/08	13:40	X	X			
G-102708-RR-007	MW-61D2	10/27/08	14:35	X	X			
G-102808-RR-008	MW-81D1	10/28/08	11:15	X	X			
G-102808-RR-009	MW-81D1	10/28/08	11:30	X	X			Field duplicate of sample G-102808-RR-008
G-102808-RR-010	MW-61D1	10/28/08	13:15	X	X			
G-102808-RR-011	MW-61DI	10/28/08	15:20	X	X			
G-102908-RR-012	MW-84D1	10/29/08	10:50	X	X			
G-102908-RR-013	MW-84D2	10/29/08	13:35	X	X			
G-103008-RR-014	MW-82D2	10/30/08	10:25	X	X			
G-103008-RR-015	MW-82D1	10/30/08	12:55	X	X			
G-103008-RR-017	MW-88D1	10/30/08	15:55	X	X			
G-103008-RR-016	Rinse Blank	10/30/08	13:25	X	X			Rinse Blank
G-103108-RR-018	MW-88D2	10/31/08	11:55	X	X			MS/MSD
G-103108-RR-019	Holding Tank	10/31/08	13:30	X	X			
SG-102908-RR-005	VZ-15S	10/29/08	10:25			X	X	
SG-103008-RR-008	VZ-11D	10/30/08	9:35			X	X	
SG-102708-RR-002	VZ-14D	10/27/08	14:00			X	X	
SG-102908-RR-006	VZ-15D	10/29/08	11:10			X	X	
SG-102908-RR-007	VZ-11S	10/29/08	12:35			X	X	
SG-102708-RR-003	VZ-10D	10/27/08	14:35			X	X	
SG-102708-RR-004	VZ-16S	10/27/08	15:05			X	X	
SG-102708-RR-001	VZ-14S	10/27/08	10:35			X	X	
SG-103008-RR-009	VZ-16S	10/30/08	10:35			X	X	
SG-103008-RR-010	VZ-16D	10/30/08	11:35			X	X	
Trip Blank	Trip Blank	-	-	X				Trip Blank
Trip Blank 102208	Trip Blank	10/22/08	-	X				Trip Blank
TB 102708	Trip Blank	10/27/08	-	X				Trip Blank
TB 102908	Trip Blank	10/29/08	-	X				Trip Blank
Trip Blank 10/30	Trip Blank	10/30/08	-	X				Trip Blank

Notes:

-	Not applicable.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
NH_3	Total Ammonia.
NO_2	Nitrate.
NO_3	Nitrite.
TICs	Tentatively Identified Compounds.
TOC	Total Organic Carbon.
VOCs	Volatile Organic Compounds.

TABLE 2A

ANALYTICAL RESULTS SUMMARY
GROUNDWATER
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

	Sample Location	*HOLDING-TANK*	*MW-61D1*	*MW-61D2*	*MW-61I*	*MW-81D1*	*MW-81D1*	*MW-81D2*
	Sample ID	*G-103108-RR-019*	*G-102808-RR-010*	*G-102708-RR-007*	*G-102808-RR-011*	*G-102808-RR-008*	*G-102808-RR-009*	*G-102208-RR-006*
	Sample Date	*10/31/2008*	*10/28/2008*	*10/27/2008*	*10/28/2008*	*10/28/2008*	*10/28/2008 (Duplicate)*	*10/22/2008*
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	1 J
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	µg/L	2 J	5 U	19	5 U	17	17	3 J
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	µg/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane (Methyl Bromide)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U	5 U	13	13	5 U
Chloroform (Trichloromethane)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane (Methyl Chloride)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	2 J	5 U	17	5 U	16	16	3 J
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	µg/L	5 U	5 U	1 J	5 U	5 U	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	6	2 J	25	2 J	54	54	6
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	µg/L	10	1 J	150	1 J	130	130	32
Vinyl chloride	µg/L	8	2 U	33	4	3	2	2
Xylene (total)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

ANALYTICAL RESULTS SUMMARY
GROUNDWATER
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

	Sample Location	*HOLDING-TANK*	*MW-61D1*	*MW-61D2*	*MW-61I*	*MW-81D1*	*MW-81D1*	*MW-81D2*
	Sample ID	*G-103108-RR-019*	*G-102808-RR-010*	*G-102708-RR-007*	*G-102808-RR-011*	*G-102808-RR-008*	*G-102808-RR-009*	*G-102208-RR-006*
	Sample Date	*10/31/2008*	*10/28/2008*	*10/27/2008*	*10/28/2008*	*10/28/2008*	*10/28/2008 (Duplicate)*	*10/22/2008*
Parameters	*Units*							
General Chemistry								
Ammonia	mg/L	-	0.1 U	1.3	0.1	0.6	0.6	0.5
Nitrate (as N)	mg/L	-	0.35	1.83	0.23	0.19	0.22	3.61
Nitrite (as N)	mg/L	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Phosphorus, Total	mg/L	-	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Total Organic Carbon (TOC)	mg/L	-	1.9	1 U	2.5	1 U	1.0	1 U

ANALYTICAL RESULTS SUMMARY
GROUNDWATER
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Sample Location		*MW-82D1*	*MW-83D1*	*MW-83D1*	*MW-83D2*	*MW-84D1*	*MW-84D2*	*MW-82D2*
Sample ID		*G-103008-RR-015*	*G-102208-RR-004*	*G-102208-RR-005*	*G-102108-RR-003*	*G-102908-RR-012*	*G-102908-RR-013*	*G-103008-RR-014*
Sample Date		*10/30/2008*	*10/22/2008*	*10/22/2008 (Duplicate)*	*10/21/2008*	*10/29/2008*	*10/29/2008*	*10/30/2008*
Parameters	*Units*							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	3 J	5 U	5 U	5 U	5 U	5 U	1 J
1,1-Dichloroethene	µg/L	2 J	5 U	1 J	5 U	5 U	5 U	1 J
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	µg/L	48	11	11	5 U	5 U	5	21
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	µg/L	5 U	5 U	5 U	5 U	5 U	3 J	5 U
Benzene	µg/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 UJ	5 U	5 U	5 U	5 U	5 U	5 UJ
Bromomethane (Methyl Bromide)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 UJ
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	7	2 J	2 J	5 U	5 U	5 U	5 U
Chloroform (Trichloromethane)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane (Methyl Chloride)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	45	10	10	1 J	5 U	5	19
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	µg/L	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	110	110	110	2 J	7	21	260
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	µg/L	230	200	200	14	7	110	110
Vinyl chloride	µg/L	790	2	2	2 U	2 U	2 U	68
Xylene (total)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

ANALYTICAL RESULTS SUMMARY
GROUNDWATER
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Sample Location		*MW-82D1*	*MW-83D1*	*MW-83D1*	*MW-83D2*	*MW-84D1*	*MW-84D2*	*MW-82D2*
Sample ID		*G-103008-RR-015*	*G-102208-RR-004*	*G-102208-RR-005*	*G-102108-RR-003*	*G-102908-RR-012*	*G-102908-RR-013*	*G-103008-RR-014*
Sample Date		*10/30/2008*	*10/22/2008*	*10/22/2008 (Duplicate)*	*10/21/2008*	*10/29/2008*	*10/29/2008*	*10/30/2008*
Parameters	*Units*							
General Chemistry								
Ammonia	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.8	0.5
Nitrate (as N)	mg/L	0.1 U	1.78	1.87	5.03	4.71	1.77	1.76
Nitrite (as N)	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.33	0.1 U
Phosphorus, Total	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Total Organic Carbon (TOC)	mg/L	1.6	1 U	1 U	1 U	1 U	1 U	1 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
GROUNDWATER
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Sample Location		*MW-87D1*	*MW-87D2*	*MW-88D1*	*MW-88D2*
Sample ID		*G-102108-RR-002*	*G-102008-RR-001*	*G-103008-RR-017*	*G-103108-RR-018*
Sample Date		*10/21/2008*	*10/20/2008*	*10/30/2008*	*10/31/2008*
Parameters	*Units*				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	2 J	2 J	5 U	2 J
1,1-Dichloroethene	µg/L	2 J	2 J	1 J	5 UJ
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	µg/L	35	2 J	12	19
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U
2-Butanone (Methyl Ethyl Ketone)	µg/L	5 U	5 U	5 U	5 UJ
2-Hexanone	µg/L	5 U	5 U	5 U	5 UJ
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	µg/L	5 U	5 U	5 U	5 UJ
Acetone	µg/L	5 U	5 U	5 U	5 U
Benzene	µg/L	0.7 U	0.7 U	0.7 U	0.7 UJ
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 UJ	5 U
Bromomethane (Methyl Bromide)	µg/L	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 UJ	5 UJ	5 UJ	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 UJ
Chloroethane	µg/L	4 J	5 U	3 J	1 J
Chloroform (Trichloromethane)	µg/L	5 U	5 U	5 U	5 U
Chloromethane (Methyl Chloride)	µg/L	5 U	5 U	5 U	5 UJ
cis-1,2-Dichloroethene	µg/L	32	2 J	12	18
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	1 J	5 U
Methylene chloride	µg/L	5 UJ	5 UJ	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	99	17	40	250
Toluene	µg/L	5 U	5 U	5 U	6 J
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U
Trichloroethene	µg/L	360	31	29	83 J
Vinyl chloride	µg/L	10	2 U	320	230
Xylene (total)	µg/L	5 U	5 U	4 J	5 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
GROUNDWATER
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

	Sample Location	*MW-87D1*	*MW-87D2*	*MW-88D1*	*MW-88D2*
	Sample ID	*G-102108-RR-002*	*G-102008-RR-001*	*G-103008-RR-017*	*G-103108-RR-018*
	Sample Date	*10/21/2008*	*10/20/2008*	*10/30/2008*	*10/31/2008*
Parameters	*Units*				
General Chemistry					
Ammonia	mg/L	0.2	0.1 U	0.1 U	0.1 U
Nitrate (as N)	mg/L	4.72	3.98	0.1 U	0.84
Nitrite (as N)	mg/L	0.1 U	0.1 U	0.1 U	0.1 U
Phosphorus, Total	mg/L	0.05 U	0.05 U	0.05 U	0.05 U
Total Organic Carbon (TOC)	mg/L	1 U	1 U	1.5	2.5

TABLE 2B

ANALYTICAL RESULTS SUMMARY
SOIL GAS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

	Sample Location	*VZ-10 (D)*	*VZ-10 (S)*	*VZ-11 (D)*	*VZ-11 (S)*	*VZ-14 (D)*	*VZ-14 (S)*
	Sample ID	*SG-102708-RR-004*	*SG-102708-RR-003*	*SG-103008-RR-008*	*SG-102908-RR-007*	*SG-102708-RR-002*	*SG-102708-RR-001*
	Sample Date	*10/27/2008*	*10/27/2008*	*10/30/2008*	*10/29/2008*	*10/27/2008*	*10/27/2008*
Parameters	***Units***						
Volatile Organic Compounds							
1,1,1-Trichloroethane	ppbv	10 U	5 U	1.36	0.91	5 U	2 U
1,1,2,2-Tetrachloroethane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,1,2-Trichloroethane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,1-Dichloroethane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,1-Dichloroethene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,2,4-Trichlorobenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,2,4-Trimethylbenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,2-Dichlorobenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,2-Dichloropropane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,3,5-Trimethylbenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,3-Butadiene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,3-Dichlorobenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,4-Dichlorobenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
1,4-Dioxane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
2-Butanone (Methyl Ethyl Ketone)	ppbv	374	347000	76.5	8.05	128000	167
2-Hexanone	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
4-Ethyl toluene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Acetone	ppbv	7.2 J	13800	2.58	1.72	2600 J	8.16
Benzyl Chloride	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Bromodichloromethane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Bromoform	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Bromomethane (Methyl Bromide)	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Carbon disulfide	ppbv	10 U	107	1 U	0.5 U	63.0	2 U
Chlorobenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Chloroethane	ppbv	10 U	16.3	1 U	0.5 U	3.9 J	2 U
Chloroform (Trichloromethane)	ppbv	10 U	5 U	0.64 J	0.29 J	5 U	2 U
Chloromethane (Methyl Chloride)	ppbv	10 U	139	1 U	0.5 U	93.3	2 U
cis-1,2-Dichloroethene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
cis-1,3-Dichloropropene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Cyclohexane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Dibromochloromethane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
SOIL GAS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

	Sample Location	*VZ-10 (D)*	*VZ-10 (S)*	*VZ-11 (D)*	*VZ-11 (S)*	*VZ-14 (D)*	*VZ-14 (S)*
	Sample ID	*SG-102708-RR-004*	*SG-102708-RR-003*	*SG-103008-RR-008*	*SG-102908-RR-007*	*SG-102708-RR-002*	*SG-102708-RR-001*
	Sample Date	*10/27/2008*	*10/27/2008*	*10/30/2008*	*10/29/2008*	*10/27/2008*	*10/27/2008*
Parameters	*Units*						
Volatile Organic Compounds (Cont'd.)							
Dichlorodifluoromethane (CFC-12)	ppbv	10 U	5 U	0.92 J	0.73	5 U	0.96 J
Ethanol	ppbv	10 U	43.1	3.34	1.91	6.10	2.16
Ethylbenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Hexachlorobutadiene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Hexane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Isopropyl Alcohol	ppbv	10 U	31.2	1 U	0.5 U	9.20	2 U
Isopropylbenzene	ppbv	10 U	2.7 J	1 U	0.5 U	2.9 J	2 U
m&p-Xylene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Methyl Tert Butyl Ether	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Methylene chloride	ppbv	5.0 J	3.7 J	1.46	0.36 J	4.9 J	2.60
N-Heptane	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
n-Propylbenzene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
o-Xylene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Styrene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Tetrachloroethene	ppbv	8.4 J	3.5 J	15.7	22.8	11.0	103
Tetrahydrofuran	ppbv	250	125000	22.6	28.6	118000	113
Toluene	ppbv	10 U	12.6	1 U	0.5 U	5 U	2 U
trans-1,2-Dichloroethene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
trans-1,3-Dichloropropene	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Trichloroethene	ppbv	10 U	5 U	1 U	0.5 U	5 U	15.4
Trichlorofluoromethane (CFC-11)	ppbv	10 U	5 U	1.16	0.61	5 U	0.88 J
Trifluorotrichloroethane (Freon 113)	ppbv	10 U	5 U	1.90	1.23	5 U	2.76
Vinyl acetate	ppbv	10 U	5 U	1 U	0.5 U	5 U	2 U
Vinyl chloride	ppbv	10 U	28.5	1 U	0.5 U	6.10	2 U
Gas							
Ethane	ppmv	4 U	12 U	4 U	4 U	6 U	4 U
Methane	ppmv	4 U	12 U	4 U	4 U	12	4 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
SOIL GAS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Sample Location		*VZ-15 (D)*	*VZ-15 (S)*	*VZ-16 (D)*	*VZ-16 (S)*
Sample ID		*SG-102908-RR-006*	*SG-102908-RR-005*	*SG-103008-RR-010*	*SG-103008-RR-009*
Sample Date		*10/29/2008*	*10/29/2008*	*10/30/2008*	*10/30/2008*
Parameters	*Units*				
Volatile Organic Compounds					
1,1,1-Trichloroethane	ppbv	5 U	2 U	5 U	0.5 U
1,1,2,2-Tetrachloroethane	ppbv	5 U	2 U	5 U	0.5 U
1,1,2-Trichloroethane	ppbv	5 U	2 U	5 U	0.5 U
1,1-Dichloroethane	ppbv	5 U	2 U	5 U	0.5 U
1,1-Dichloroethene	ppbv	5 U	2 U	5 U	0.5 U
1,2,4-Trichlorobenzene	ppbv	5 U	2 U	5 U	0.5 U
1,2,4-Trimethylbenzene	ppbv	5 U	2 U	5 U	0.28 J
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	5 U	2 U	5 U	0.5 U
1,2-Dichlorobenzene	ppbv	5 U	2 U	5 U	0.5 U
1,2-Dichloropropane	ppbv	5 U	2 U	5 U	0.5 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppbv	5 U	2 U	5 U	0.5 U
1,3,5-Trimethylbenzene	ppbv	5 U	2 U	5 U	0.5 U
1,3-Butadiene	ppbv	5 U	2 U	5 U	0.5 U
1,3-Dichlorobenzene	ppbv	5 U	2 U	5 U	0.5 U
1,4-Dichlorobenzene	ppbv	5 U	2 U	5 U	0.5 U
1,4-Dioxane	ppbv	5 U	2 U	5 U	0.5 U
2-Butanone (Methyl Ethyl Ketone)	ppbv	268	224	2580000	1.70
2-Hexanone	ppbv	5 U	2 U	5 U	0.5 U
4-Ethyl toluene	ppbv	5 U	2 U	5 U	0.5 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ppbv	5 U	2 U	5 U	0.5 U
Acetone	ppbv	11.7	2.80	145000	2.52
Benzyl Chloride	ppbv	5 U	2 U	5 U	0.5 U
Bromodichloromethane	ppbv	5 U	2 U	5 U	0.5 U
Bromoform	ppbv	5 U	2 U	5 U	0.5 U
Bromomethane (Methyl Bromide)	ppbv	5 U	2 U	5 U	0.5 U
Carbon disulfide	ppbv	29.9	2 U	60000 U	0.5 U
Chlorobenzene	ppbv	5 U	2 U	5 U	0.5 U
Chloroethane	ppbv	8.10	2 U	152	0.5 U
Chloroform (Trichloromethane)	ppbv	5 U	2 U	5 U	0.5 U
Chloromethane (Methyl Chloride)	ppbv	88.1	2 U	60000 U	0.35 J
cis-1,2-Dichloroethene	ppbv	5 U	2 U	5 U	0.5 U
cis-1,3-Dichloropropene	ppbv	5 U	2 U	5 U	0.5 U
Cyclohexane	ppbv	5 U	2 U	5 U	0.5 U
Dibromochloromethane	ppbv	5 U	2 U	5 U	0.5 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
SOIL GAS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Sample Location	*VZ-15 (D)*	*VZ-15 (S)*	*VZ-16 (D)*	*VZ-16 (S)*
Sample ID	*SG-102908-RR-006*	*SG-102908-RR-005*	*SG-103008-RR-010*	*SG-103008-RR-009*
Sample Date	*10/29/2008*	*10/29/2008*	*10/30/2008*	*10/30/2008*
Parameters	***Units***			
Volatile Organic Compounds (Cont'd.)				
Dichlorodifluoromethane (CFC-12)	ppbv	5 U	2 U	2.8 J	0.46 J
Ethanol	ppbv	4.3 J	2.0 J	5 U	0.71
Ethylbenzene	ppbv	5 U	2 U	5 U	0.5 U
Hexachlorobutadiene	ppbv	5 U	2 U	5 U	0.5 U
Hexane	ppbv	5 U	2 U	5 U	0.5 U
Isopropyl Alcohol	ppbv	5 U	2 U	5 U	0.34 J
Isopropylbenzene	ppbv	5 U	2 U	10.6	0.5 U
m&p-Xylene	ppbv	5 U	2 U	5 U	0.42 J
Methyl Tert Butyl Ether	ppbv	5 U	2 U	5 U	0.5 U
Methylene chloride	ppbv	3.4 J	1.2 J	5 U	0.46 J
N-Heptane	ppbv	5 U	2 U	14.0	0.5 U
n-Propylbenzene	ppbv	5 U	2 U	5 U	0.5 U
o-Xylene	ppbv	5 U	2 U	5 U	0.5 U
Styrene	ppbv	5 U	2 U	5 U	0.5 U
Tetrachloroethene	ppbv	6.30	9.20	6.40	2.36
Tetrahydrofuran	ppbv	6290	52.0	1530000	2.77
Toluene	ppbv	5 U	2 U	28.3	1.14
trans-1,2-Dichloroethene	ppbv	5 U	2 U	5 U	0.5 U
trans-1,3-Dichloropropene	ppbv	5 U	2 U	5 U	0.5 U
Trichloroethene	ppbv	3.1 J	2 U	5 U	0.5 U
Trichlorofluoromethane (CFC-11)	ppbv	5 U	2 U	3.3 J	0.25 J
Trifluorotrichloroethane (Freon 113)	ppbv	5 U	1.0 J	3.2 J	0.5 U
Vinyl acetate	ppbv	5 U	2 U	5 U	0.5 U
Vinyl chloride	ppbv	15.9	2 U	157	0.5 U
Gas				
Ethane	ppmv	66	4 U	6 U	4 U
Methane	ppmv	2700	4 U	11	4 U

Notes:
J Estimated concentration.
U Not present at or above the associated value.

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Parameter	*Calibration Date*	*Compound*	*%D*	*Associated Sample ID*	*Qualified Sample Results*	*Units*
VOCs	10/30/08	Carbon disulfide	32	G-102008-RR-001	5 UJ	µg/L
				G-102108-RR-002	5 UJ	µg/L
				G-102108-RR-003	5 UJ	µg/L
VOCs	10/30/08	Methylene chloride	39	G-102008-RR-001	5 UJ	µg/L
				G-102108-RR-002	5 UJ	µg/L
				G-102108-RR-003	5 UJ	µg/L
VOCs	10/31/08	Carbon disulfide	31	G-102208-RR-004	5 UJ	µg/L
				G-102208-RR-005	5 UJ	µg/L
				G-102208-RR-006	5 UJ	µg/L
				G-102708-RR-007	5 UJ	µg/L
				G-102808-RR-008	5 UJ	µg/L
				G-102808-RR-009	5 UJ	µg/L
				G-102808-RR-010	5 UJ	µg/L
				G-102808-RR-011	5 UJ	µg/L
				G-102908-RR-012	5 UJ	µg/L
				G-102908-RR-013	5 UJ	µg/L
VOCs	11/07/08	Chloromethane	50	G-103108-RR-018	5 UJ	µg/L
VOCs	11/07/08	2-Butanone	39	G-103108-RR-018	5 UJ	µg/L
VOCs	11/07/08	4-Methyl-2-pentanone	44	G-103108-RR-018	5 UJ	µg/L
VOCs	11/07/08	2-Hexanone	50	G-103108-RR-018	5 UJ	µg/L
VOCs	11/03/08	Carbon disulfide	30	G-103008-RR-014	5 UJ	µg/L
				G-103008-RR-015	5 UJ	µg/L
				G-103008-RR-017	5 UJ	µg/L
				G-103108-RR-019	5 UJ	µg/L
VOCs	11/03/08	Bromoform	37	G-103008-RR-014	5 UJ	µg/L
				G-103008-RR-015	5 UJ	µg/L
				G-103008-RR-017	5 UJ	µg/L
				G-103108-RR-019	5 UJ	µg/L

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Parameter	*Calibration Date*	*Compound*	*%D*	*Associated Sample ID*	*Qualified Sample Results*	*Units*
VOCs	11/05/08	2-Butanone	31	G-103008-RR-014	10 UJ	µg/L
				G-103008-RR-015	50 UJ	µg/L
				G-103008-RR-017	10 UJ	µg/L
VOCs	11/05/08	2-Hexanone	28	G-103008-RR-014	10 UJ	µg/L
				G-103008-RR-015	50 UJ	µg/L
				G-103008-RR-017	10 UJ	µg/L
VOCs	11/05/08	Bromoform	31	G-103008-RR-014	10 UJ	µg/L
				G-103008-RR-015	50 UJ	µg/L
				G-103008-RR-017	10 UJ	µg/L

Notes:
UJ Estimated reporting limit.
VOCs Volatile Organic Compounds.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Parameter	*Associated Sample ID*	*Analyte*	*MS Recovery (percent)*	*MSD Recovery (percent)*	*RPD*	*Control Limits*		*Qualified Result*	*Units*
						Recovery (percent)	*RPD (percent)*		
VOCs	G-103108-RR-018	1,1-Dichloroethene	73	99	30	61 - 145	14	5 UJ	µg/L
		Trichloroethene	67	86	25	71 - 120	14	83 J	µg/L
		Benzene	77	101	27	76 - 127	11	0.7 UJ	µg/L
		Toluene	70	94	29	76 - 125	13	6 J	µg/L
		Chlorobenzene	70	93	28	75 - 130	13	5 UJ	µg/L

Notes:

J	Estimated concentration.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
RPD	Relative Percent Difference.
UJ	Estimated reporting limit.
VOCs	Volatile Organic Compounds.

TABLE 5

TENTATIVELY IDENTIFIED COMPOUNDS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
OCTOBER 2008

Sample ID	*Volatile Organics*	*Estimated Concentration (µg/L)*	*Semi-Volatile Organics*	*Estimated Concentration (µg/L)*
G-102808-RR-010	Propanol, 2-methyl-	21J	-	-
	Unknown	29J	-	-
G-102808-RR-011	Propanol, 2-methyl-	34J	-	-
	Unknown	36J	-	-

Note:
J Estimated concentration.