March 12, 2015

Girish Desai
New York State Department of Environmental Conservation
Division of Environmental Remediation
Building 40 – SUNY, Stony Brook
Stony Brook, New York 11790-2356

Re: Supplemental Remedial Investigation Report
Operable Unit No. 2
Former Columbia Cement Company Facility
Freeport, New York
Site ID No. 130052

Dear Mr. Desai:

This Supplemental Remedial Investigation Report for Operable Unit Operable Unit No. 2 (OU-2) of the former Columbia Cement Company site in Freeport, New York, (Site) is presented to the New York State Department of Environmental Conservation (NYSDEC) as amendment to in the September 2012 *Revised Remedial Investigation Report, Operable Unit No. 2 (OU-2) Off-Site Areas, Former Columbia Cement Company, Inc. Facility, 159 Hanse Avenue, Freeport, New York* (RIR). This Supplemental RIR presents the results of groundwater sampling conducted in OU-2 in April 2013 and May 2014. URS has conducted these activities on behalf of Atlantic Richfield Company, a BP affiliated company (BP). A site location map is presented as Figure 1.

BACKGROUND

BP Submitted a Revised Remedial Investigation Report (RIR) for OU-2 to NYSDEC on September 19, 2012. Shortly after submittal of the RIR, Superstorm Sandy impacted the Freeport area on October 29, 2012. Many parts of Freeport, including the Site were flooded as a result of the storm. The former Columbia Cement Company building had over a foot of water in the building. To assess the effect of Superstorm Sandy, groundwater samples were collected from OU-1 and OU-2 in April 2013. The results were submitted to NYSDEC on

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June 27, 2013. Based on the results of this sampling event, BP conducted a third round of in-situ chemical oxidation (ISCO) injections in the spill area of OU-1 in the fall of 2013.

Following comments from NYSDEC and NYSDOH on the RIR, BP submitted a revised OU-2 FS to NYSDEC on March 3, 2014. NYSDEC requested another round of groundwater sampling at OU-2 to evaluate whether Site-related VOCs were in fact attenuating as a result of the ISCO injections and/or natural processes. Groundwater samples were collected from OU-2 wells in May 2014 and results were submitted to NYSDEC on July 3, 2014. A Remedial Action Report for the spill area injections was submitted to NYSDEC on November 2014.

GROUNDWATER SAMPLING

On May 30 and 31, 2013, URS collected groundwater samples from OU-2 wells MW-03-13S, MW-05-14S, MW-05-15D, MW-09-18S, MW-09-19D, MW-09-20S, MW-09-21D, MW-09-22S, MW-09-23D, MW-09-24S, MW-09-25D and MW-09-26S. Wells MW-07-16S and MW-07-17D, located on the Love & Quiches property, were underneath a storage box and could not be accessed.

On May 30 and 31, 2014, URS collected groundwater samples from OU-2 wells MW-03-13S, MW-05-14S, MW-05-15D, MW-07-16S, MW-07-17D, MW-09-18S, MW-09-19D, MW-09-20S, MW-09-21D, MW-09-22S, MW-09-23D, MW-09-24S, MW-09-25D and MW-09-26S.

During both sampling events, samples were collected using low-flow methods and were submitted to TestAmerica Laboratory (New York Certification # 10026). The groundwater samples were analyzed for volatile organic compounds (VOCs), methane, ethane, ethene (MEE), total organic carbon (TOC) and sulfate. In addition, pH, conductivity, dissolved oxygen (DO) and redox potential (ORP) were field monitored during sampling.

RESULTS

2013 SAMPLING

Volatile Organic Compounds

Twelve monitoring wells in OU-2 were sampled on May 30 and 31, 2013. The sampling results from the monitoring wells are presented in Table 1. The results are plotted along with historic results on Figure 2. Wells MW-09-18S and MW-09-19D are located at the northeast corner of 162 Hanse Avenue. Chloroethane was detected in these wells at 94 µg/l and 30 µg/l, respectively. In addition, chlorobenzene was detected in MW-09-19D at 7.1 µg/l. Wells MW-05-14S and MW-05-15D are located near the northeast corner of 178 Hanse Avenue. No VOCs were detected in MW-05-14S. Chloroethane was detected at 13 µg/l in MW-05-15D, a decrease from 100 µg/l detected in January 2012. It should be noted that MW-05-14S and MW-05-14D are located immediately across Hanse Avenue from the OU-1 loading dock area where two rounds of ISCO injections were performed in 2010 and 2011. At the southeast corner of 178 Hanse Avenue, no VOCs were detected in MW-09-20S, but chloroethane was detected at 41 µg/l in MW-09-21D.

Along Freeport Creek, wells MW-09-24S and MW-09-25D are located at the northwest corner of 162 Hanse Avenue. Chloroethane was detected at 23 µg/l in MW-09-25D, but was detected below the GWQS at 4.4 µg/l in MW-09-24S. At the southwest corner of 178 Hanse Avenue, no VOCs were detected in either MW-09-22S or MW-09-23D.

At the southwest corner of 191 Hanse Avenue, chloroethane (6.7 µg/l) and chlorobenzene (13 µg/l) were detected in MW-09-26D. Approximately 400 feet south of the spill area on Hanse Avenue, no VOCs were detected above the GWQS in well MW-03-13S.

In the loading dock area of OU-1, directly across Hanse Avenue, the only detection of spill-related VOCs was 2.3 µg/l of 1,1-dichloroethane in MW-98-9D. Chloroethane was not detected in the six loading dock area wells.

Field Parameters

Groundwater pH in OU-2 generally ranged from 6.0 to 7.0 as observed in the past. The exception was MW-05-15D, which had a pH of 3.91, indicating acidic conditions. As noted above, MW-05-15D is near the OU-1 ISCO pilot test area. The field parameter

measurements for other parameters were unusual in MW-05-15D, as well. The conductivity was 13 microSiemens per centimeter (µS/cm) in MW-05-15D, whereas it ranged from 1.76 µS/cm to 8.44 µS/cm in other OU-2 wells. In two contradicting measurements, MW-05-15D had the lowest dissolved oxygen (DO) measurement (0.37 mg/l) and the highest redox potential (148 milliVolts [mV]), whereas DO and ORP ranged from 0.52 mg/l to 5.60 mg/l and from -73 mV to -258 mV, respectively in other OU-2 wells. Typically low DO is accompanied by low ORP, so the measurements in MW-05-15D are anomalous. It has been observed in OU-1 wells that unusually low pH values can impair DO measurements. The field parameter measurements in MW-05-15D suggest that the well has been affected by the ISCO injection in OU-1.

Geochemical Parameters

Methane concentrations ranged from 1,100 µg/l to 11,000 µg/l, suggesting methanogenic conditions exist in OU-2 groundwater. As in the past, ethane and ethene were not detected. TOC values ranged from 6.2 µg/l to 13.7 µg/l, which is lower than typically required to support reductive dechlorination (Wiedemeier, 1998). Another indication that the ISCO injections impacted MW-05-15D is the 11,600 mg/l of sulfate detected, when prior to the ISCO injections sulfate ranged from 10.4 mg/l to 546 mg/l. Sulfate is the breakdown product of the ISCO oxidant, sodium persulfate.

2014 SAMPLING

Fourteen monitoring wells in OU-2 were sampled on May 30 and 31, 2014. The sampling results from the monitoring wells are presented in Table 2. Figure 2 also includes results from nearby OU-1 wells that were sampled in April 2014. Graphs of VOC concentrations in OU-2 wells are presented in Figures 3 through 9. Wells MW-09-18S and MW-09-19D are located at the northeast corner of 162 Hanse Avenue. In MW09-19D 1,1-dichloroethane (1,1-DCA), chloroethane and MTBE were detected at 20 µg/l, 280 µg/l, and 2.3 µg/l, respectively. No VOCs were detected in MW-09-18S. Wells MW-05-14S and MW-05-15D are located near the northeast corner of 178 Hanse Avenue. Carbon disulfide was detected in both wells but no Site-related VOCs were detected in either well. Chloroethane had been detected at up to 490 µg/l in MW-05-15D (September 2009, before ISCO treatment in the loading dock area), but was not detected in 2014. At the southeast corner of 178 Hanse Avenue, carbon disulfide was detected in MW-09-20S at 57 µg/l, while no VOCs were detected at in MW-09-21D.

Along Freeport Creek, wells MW-09-24S and MW-09-25D are located at the northwest corner of 162 Hanse Avenue. 1,4-dichlorobenzene was detected at 1.6 µg/l in MW-09-24S, but no VOCs were detected in MW-09-25D. At the southwest corner of 178 Hanse Avenue, no VOCs were detected in either MW-09-22S or MW-09-23D.

To the south of OU-1 on the east side of Hanse Avenue at the southwest corner of 191 Hanse Avenue, no VOCs were detected in MW-09-26D. Approximately 400 feet south of the spill area on Hanse Avenue, no VOCs were detected above the GWQS in well MW-03-13S.

In the loading dock area of OU-1, 1,1-DCA was detected in deep wells MW-98-9D (91 µg/l) and OW-1 (21 g/l) at concentrations exceeding the GWQS. Chloroethane was detected in shallow wells MW-97-1S (39 µg/l) and OW-1 (21 µg/l) at concentrations exceeding the GWQS. These concentrations represent increases from samples collected in 2013.

Field Parameters

Similar to 2013, the pH and conductivity measurements in MW-05-15D were distinctly different from other OU-2 wells. The pH was 3.98, ranging from 6.20 to 6.86 in other wells, and the conductivity was 14.1 mS/cm while ranging from 2.15 to 10.3 in other wells. The DO and ORP for MW-05-15D in 2014 was in the range of the other wells. DO ranged from 0.37 to 6.64 (MW-05-15 D was 0.49 mg/l). ORP ranged from -78 mV to -329 and MW-05-15 was -80 mV.

Geochemical Parameters

Methane concentrations ranged from 490 µg/l in MW-05-15D to 5,000 µg/l in MW-09-22S. The low methane concentration in MW-05-15D suggests the ISCO chemicals may inhibit methanogenic activity. As before, ethane and ethene were not detected. Sulfate remained elevated at MW-05-15D (11,200 mg/l) and ranged from 2.4 mg/l to 383 mg/l in other wells. TOC concentrations remained low, ranging from 6.6 µg/l in MW-09-26D to 12.1 µg/l in MW-09-22S.

CONCLUSIONS

Since submittal of the 2012 OU-2 RIR, two rounds of groundwater samples have been collected from OU-2 monitoring wells. Based on the results of these sampling events, the following conclusions can be made:

- Concentrations of the primary spill-related VOC (chloroethane) have decreased over time in all OU-2 wells with the exception of MW-09-19D. In the May 2014 sampling event, MW-09-19D was the only one of 14 OU-2 wells in which chloroethane was detected above the laboratory detection limit.

- The geochemical conditions in the area of OU-2 groundwater being monitored are not conducive to biodegradation of chloroethane. Chloroethane typically biodegrades under aerobic conditions and the low DO and negative ORP measurements suggest anaerobic conditions, or at best, microaerophilic conditions.

- Chloroethane is attenuating by a naturally occurring, as-yet unidentified mechanism in OU-2. The tidal fluctuations likely lead to increased dispersion and dilution of VOC concentrations. The combination of landfill debris, tidal marsh deposits filled with nutrients such as nitrogen and phosphorus and interaction with brackish surface water containing limited amounts of oxygen creates a complex geochemical environment where some naturally-occurring chemical processes seems to result in attenuation of chloroethane.

- Since the two rounds of ISCO injections in the OU-1 loading dock area, the chloroethane concentration in nearby well MW-05-15D has decreased from 490 µg/l to non-detect. Geochemical data, including low pH, elevated conductivity, low methane levels and elevated sulfate concentration also suggest that the ISCO amendments injected at OU-1 have affected this well.

- Natural processes including dispersion will continue to reduce VOC concentrations in OU-2.

RECOMMENDATIONS

- To reduce the flux of VOCs into OU-2 groundwater, additional groundwater treatment through ISCO injections will be evaluated for OU-1.

- A Feasibility Study Report should be prepared for OU-2 to evaluate remedial alternatives to address remaining groundwater impacts in OU-2.

If you have any comments or questions, please contact Michael Teeling of Atlantic Richfield Company at (585) 813-8140.

Very truly yours,

URS CORPORATION

Mark T. Becker, P.G.
Senior Geologist

MTB/mtb

cc: M. Teeling, Atlantic Richfield
S. Fiorenza, BP

Attachments
TABLES
Table 1 – Summary of Groundwater Sampling Data, April 2013
Table 2 – Summary of Groundwater Sampling Data, May 2014

FIGURES
Figure 1 – Site Location Map
Figure 2 – Site Map with groundwater Sampling Results
Figure 3 - Chloroethane Concentration in Wells MW-05-14S and MW-05-15D
Figure 4 – Chloroethane Concentration in Wells MW-07-16S and MW-07-17D
Figure 5 – Chloroethane Concentration in Wells MW-09-18S and MW-09-19D
Figure 6 – Chloroethane Concentration in Wells MW-09-20S and MW-09-21D
Figure 7 – Chloroethane Concentration in Wells MW-09-22S and MW-09-23D
Figure 8 – Chloroethane Concentration in Wells MW-09-24S and MW-09-25D
Figure 9 - Chloroethane Concentration in Wells MW-09-26D

TABLES

TABLE 1
SUMMARY OF MAY 2013 GROUNDWATER SAMPLING DATA
OPERABLE UNIT NO. 2
FORMER COLUMBIA CEMENT COMPANY FACILITY
FREEPORT, NEW YORK

URS SAMPLE ID	NYSDEC	MW-03-13S	MW-05-14S	MW-05-15D	MW-09-18S	MW-09-19D	MW-09-20S	MW-09-21D
LABORATORY SAMPLE ID	CLASS GA	480-39312-7	480-39312-12	480-39312-13	480-39312-4	480-39312-3	480-39312-10	480-39312-9
SAMPLE DATE	WATER QUALITY	5/30/2013	5/31/2013	5/31/2013	5/30/2013	5/30/2013	5/31/2013	5/31/2013
DILUTION FACTOR	STANDARD	1	1	4	1	4	4	4
UNITS	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
Volatile Organic Compounds								
1,1,1-Trichloroethane	5	2.1 U	2.1 U	8.4 U	2.1 U	8.4 U	8.4 U	8.4 U
1,1,2,2-Tetrachloroethane	5	1.5 U	1.5 U	6.0 U	1.5 U	6.0 U	6.0 U	6.0 U
1,1,2-Trichlorotrifluoroethane	1	1.5 U	1.5 U	6.0 U	1.5 U	6.0 U	6.0 U	6.0 U
1,1,2-Trichloroethane	1	1.9 U	1.9 U	7.6 U	1.9 U	7.6 U	7.6 U	7.6 U
1,1-Dichloroethane	5	1.7 U	1.7 U	6.8 U	1.7 U	6.8 U	6.8 U	6.8 U
1,1-Dichloroethene	5	2.5 U	2.5 U	10 U	2.5 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	0.57 U	0.57 U	2.3 U	0.57 U	2.3 U	2.3 U	2.3 U
1,2-Dibromo-3-Chloropropane	0.04	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	20 U
1,2-Dibromoethane	NE	2.0 U	2.0 U	8.0 U	2.0 U	8.0 U	8.0 U	8.0 U
1,2-Dichlorobenzene	3	1.2 U	1.2 U	4.8 U	1.2 U	4.8 U	4.8 U	4.8 U
1,2-Dichloroethane	0.6	0.83 U	0.83 U	3.3 U	0.83 U	3.3 U	3.3 U	3.3 U
1,2-Dichloropropane	1	1.7 U	1.7 U	6.8 U	1.7 U	6.8 U	6.8 U	6.8 U
1,3-Dichlorobenzene	3	1.2 U	1.2 U	4.8 U	1.2 U	4.8 U	4.8 U	4.8 U
1,4-Dichlorobenzene	3	1.1 U	1.1 U	4.4 U	1.5 J	4.4 U	4.4 U	4.4 U
2-Butanone (MEK)	50	1.5 U	1.5 U	6.0 U	1.5 U	6.0 U	6.0 U	6.0 U
2-Hexanone	50	1.8 U	1.8 U	7.2 U	1.8 U	7.2 U	7.2 U	7.2 U
4-Methyl-2-pentanone (MIBK)	NE	1.7 U	1.7 U	6.8 U	1.7 U	6.8 U	6.8 U	6.8 U
Acetone	50	1.9 U	1.9 U	7.6 U	1.9 U	7.6 U	7.6 U	7.6 U
Benzene	1	1.6 U	1.6 U	6.4 U	1.6 U	6.4 U	6.4 U	6.4 U
Bromoform	50	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	20 U
Bromomethane	5	4.3 U	4.3 U	17 U	4.3 U	17 U	17 U	17 U
Carbon disulfide	NE	2.1 U	2.1 U	31 J	2.1 U	8.4 U	8.4 U	8.4 U
Carbon tetrachloride	5	2.0 U	2.0 U	8.0 U	2.0 U	8.0 U	8.0 U	8.0 U
Chlorobenzene	5	1.6 U	1.6 U	6.4 U	1.6 U	7.1 J	6.4 U	6.4 U
Chlorodibromomethane	50	1.7 U	1.7 U	6.8 U	1.7 U	6.8 U	6.8 U	6.8 U
Chloroethane	5	2.5 U	2.5 U	**13 J**	**94**	**30 J**	10 U	**41**
Chloroform	7	1.9 U	1.9 U	7.6 U	1.9 U	7.6 U	7.6 U	7.6 U
Chloromethane	5	2.3 U	2.3 U	9.2 U	2.3 U	9.2 U	9.2 U	9.2 U
cis-1,2-Dichloroethene	5	1.8 U	1.8 U	7.2 U	1.8 U	7.2 U	7.2 U	7.2 U
cis-1,3-Dichloropropene	0.4	1.4 U	1.4 U	5.6 U	1.4 U	5.6 U	5.6 U	5.6 U
Cyclohexane	NE	0.59 U	0.59 U	2.3 U	0.59 U	2.3 U	2.3 U	2.3 U
Dichlorobromomethane	50	1.5 U	1.5 U	6.0 U	1.5 U	6.0 U	6.0 U	6.0 U
Dichlorodifluoromethane	5	2.1 U	2.1 U	8.4 U	2.1 U	8.4 U	8.4 U	8.4 U
Ethylbenzene	5	1.6 U	1.6 U	6.4 U	1.6 U	6.4 U	6.4 U	6.4 U
Isopropylbenzene	5	0.37 U	0.37 J	1.5 U	0.37 U	1.5 U	1.5 U	1.5 U
Methyl acetate	NE	0.66 U	0.66 U	2.7 U	0.66 U	2.7 U	2.7 U	2.7 U
Methyl tert-butyl ether	NE	1.7 J	0.46 U	1.8 U	0.5 J	1.8 U	1.8 U	1.8 U
Methylcyclohexane	NE	0.59 U	0.59 U	2.4 U	0.59 U	2.4 U	2.4 U	2.4 U
Methylene Chloride	5	1.3 U	1.3 U	5.2 U	1.3 U	5.2 U	5.2 U	5.2 U
Styrene	5	1.7 U	1.7 U	6.8 U	1.7 U	6.8 U	6.8 U	6.8 U
Tetrachloroethene	5	2.1 U	2.1 U	8.4 U	2.1 U	8.4 U	8.4 U	8.4 U
Toluene	5	1.6 U	1.6 U	6.4 U	1.6 U	6.4 U	6.4 U	6.4 U
trans-1,2-Dichloroethene	5	1.9 U	1.9 U	7.6 U	1.9 U	7.6 U	7.6 U	7.6 U
trans-1,3-Dichloropropene	0.4	1.6 U	1.6 U	6.4 U	1.6 U	6.4 U	6.4 U	6.4 U
Trichloroethene	5	1.9 U	1.9 U	7.6 U	1.9 U	7.6 U	7.6 U	7.6 U
Trichlorofluoromethane	5	1.3 U	1.3 U	5.2 U	1.3 U	5.2 U	5.2 U	5.2 U
Vinyl chloride	2	2.3 U	2.3 U	9.2 U	2.3 U	9.2 U	9.2 U	9.2 U
Xylenes, Total	5	0.82 U	0.82 U	3.3 U	0.82 U	3.3 U	3.3 U	3.3 U
Total Target VOCs	NE	1.7 J	0.37	44	96	37	ND	41
Total VOC TICs	NE	50	ND	ND	19.1	ND	58	ND
DISSOLVED GASSES								
Ethane	NE	49 U	49 U	49 U	49 U	49 U	49 U	63 J
Ethene	NE	52 U	52 U	52 U	52 U	52 U	52 U	52 U
Methane	NE	1,100	11,000	1,900	7,400	5,400	5,600	6,200
GENERAL CHEMISTRY								
Sulfate	NE	141	10.4	11,600	1.5 U	65	546	81.7
Total Organic Carbon	NE	6.2	9.9	8.8	6.9	8.4	9.1	6.5
FIELD PARAMETERS								
pH	NE	6.77	6.24	3.91	6.55	6.42	6.08	6.43
Conductivity (mS/cm)	NE	8.44	5.41	13	3.55	4.32	7.78	2.21
Dissolved Oxygen (mg/l)	NE	0.95	2.00	0.37	1.30	1.07	3.87	0.54
Redox Potential (mV)	NE	-104	-191	148	-175	-75	-129	-73

TABLE 1
SUMMARY OF MAY 2013 GROUNDWATER SAMPLING DATA
OPERABLE UNIT NO. 2
FORMER COLUMBIA CEMENT COMPANY FACILITY
FREEPORT, NEW YORK

URS SAMPLE ID	NYSDEC	MW-09-22S	MW-09-23D	MW-09-24S	MW-09-25D	MW-09-26D
LABORATORY SAMPLE ID	CLASS GA	480-39312-6	480-39312-5	480-39312-2	480-39312-1	480-39312-11
SAMPLE DATE	WATER QUALITY	5/30/2013	5/30/2013	5/30/2013	5/30/2013	5/31/2013
DILUTION FACTOR	STANDARD	2	2	1	1	1
UNITS	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
Volatile Organic Compounds						
1,1,1-Trichloroethane	5	4.2 U	4.2 U	2.1 U	2.1 U	2.1 U
1,1,2,2-Tetrachloroethane	5	3.0 U	3.0 U	1.5 U	1.5 U	1.5 U
1,1,2-Trichlorotrifluoroethane	1	3.0 U	3.0 U	1.5 U	1.5 U	1.5 U
1,1,2-Trichloroethane	1	3.8 U	3.8 U	1.9 U	1.9 U	1.9 U
1,1-Dichloroethane	5	3.4 U	3.4 U	1.7 U	1.7 U	1.7 U
1,1-Dichloroethene	5	5.0 U	5.0 U	2.5 U	2.5 U	2.5 U
1,2,4-Trichlorobenzene	5	1.1 U	1.1 U	0.57 U	0.57 U	0.57 U
1,2-Dibromo-3-Chloropropane	0.04	10 U	10 U	5.0 U	5.0 U	5.0 U
1,2-Dibromoethane	NE	4.0 U	4.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	3	2.4 U	2.4 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	0.6	1.7 U	1.7 U	0.83 U	0.83 U	0.83 U
1,2-Dichloropropane	1	3.4 U	3.4 U	1.7 U	1.7 U	1.7 U
1,3-Dichlorobenzene	3	2.4 U	2.4 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	3	2.2 U	2.2 U	1.4 J	1.7 J	2.5 J
2-Butanone (MEK)	50	3.0 U	3.0 U	1.5 U	1.5 U	1.5 U
2-Hexanone	50	3.6 U	3.6 U	1.8 U	1.8 U	1.8 U
4-Methyl-2-pentanone (MIBK)	NE	3.4 U	3.4 U	1.7 U	1.7 U	1.7 U
Acetone	50	3.8 U	3.8 U	1.9 U	1.9 U	1.9 U
Benzene	1	3.2 U	3.2 U	1.6 U	1.6 U	1.6 U
Bromoform	50	10 U	10 U	5.0 U	5.0 U	5.0 U
Bromomethane	5	8.6 U	8.6 U	4.3 U	4.3 U	4.3 U
Carbon disulfide	NE	4.2 U	4.2 U	2.1 U	2.1 U	2.1 U
Carbon tetrachloride	5	4.0 U	4.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	5	3.2 U	3.2 U	1.6 U	1.6 U	**13**
Chlorodibromomethane	50	3.4 U	3.4 U	1.7 U	1.7 U	1.7 U
Chloroethane	5	5.0 U	5.0 U	4.4 J	**23**	**6.7 J**
Chloroform	7	3.8 U	3.8 U	1.9 U	1.9 U	1.9 U
Chloromethane	5	4.6 U	4.6 U	2.3 U	2.3 U	2.3 U
cis-1,2-Dichloroethene	5	3.6 U	3.6 U	1.8 U	1.8 U	1.8 U
cis-1,3-Dichloropropene	0.4	2.8 U	2.8 U	1.4 U	1.4 U	1.4 U
Cyclohexane	NE	1.2 U	1.2 U	0.59 U	0.59 U	0.59 U
Dichlorobromomethane	50	3.0 U	3.0 U	1.5 U	1.5 U	1.5 U
Dichlorodifluoromethane	5	4.2 U	4.2 U	2.1 U	2.1 U	2.1 U
Ethylbenzene	5	3.2 U	3.2 U	1.6 U	1.6 U	1.6 U
Isopropylbenzene	5	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U
Methyl acetate	NE	1.3 U	1.3 U	0.66 U	0.66 U	0.66 U
Methyl tert-butyl ether	NE	0.91 U	0.91 U	0.46 U	0.46 U	0.46 U
Methylcyclohexane	NE	1.2 U	1.2 U	0.59 U	0.59 U	0.59 U
Methylene Chloride	5	2.6 U	2.6 U	1.3 U	1.3 U	1.3 U
Styrene	5	3.4 U	3.4 U	1.7 U	1.7 U	1.7 U
Tetrachloroethene	5	4.2 U	4.2 U	2.1 U	2.1 U	2.1 U
Toluene	5	3.2 U	3.2 U	1.6 U	1.6 U	1.6 U
trans-1,2-Dichloroethene	5	3.8 U	3.8 U	1.9 U	1.9 U	1.9 U
trans-1,3-Dichloropropene	0.4	3.2 U	3.2 U	1.6 U	1.6 U	1.6 U
Trichloroethene	5	3.8 U	3.8 U	1.9 U	1.9 U	1.9 U
Trichlorofluoromethane	5	2.6 U	2.6 U	1.3 U	1.3 U	1.3 U
Vinyl chloride	2	4.6 U	4.6 U	2.3 U	2.3 U	2.3 U
Xylenes, Total	5	1.6 U	1.6 U	0.82 U	0.82 U	0.82 U
Total Target VOCs	NE	ND	ND	5.8	24.7	22.2
Total VOC TICs	NE	12	ND	ND	ND	ND
DISSOLVED GASSES						
Ethane	NE	49 U	49 U	49 U	49 U	49 U
Ethene	NE	52 U	52 U	52 U	52 U	52 U
Methane	NE	15,000	6,400	5,300	6,300	10,000
GENERAL CHEMISTRY						
Sulfate	NE	1.5 U	27.4	51.7	1.5 U	34.3
Total Organic Carbon	NE	13.7	7.7	7.3	7.9	4.7
FIELD PARAMETERS						
pH	NE	6.40	6.35	6.56	6.46	6.35
Conductivity (mS/cm)	NE	2.55	1.76	7.11	5.47	5.53
Dissolved Oxygen (mg/l)	NE	0.78	1.09	1.70	5.60	0.52
Redox Potential (mV)	NE	-198	-69	-258	-96	-82

TABLE 1
SUMMARY OF MAY 2013 GROUNDWATER SAMPLING DATA
OPERABLE UNIT NO. 2
FORMER COLUMBIA CEMENT COMPANY FACILITY
FREEPORT, NEW YORK

NOTES:

U - Indicates compound was analyzed for but not detected
J - Indicates an estimated value due to limitations identified during the Quality Assurance (QA) review. quantitation limit but greater than zero.
B - This flag is used when the analyte is found in the associated blank as well as in the sample.
E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis and therefore, are regarded as estimated values.
D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
H - This flag indicates that the analysis was performed outside the analytical method hold time.
R - Indicates result is unreliable (compound may or not be present)
NS - Not sampled
ND - Not Detected
NE - No existing Groundwater Cleanup Standard
Total VOCs - This row presents the sum total concentration level of target compound list (TCL) volatile organic compounds (VOCs) reported in the sample.
Total VOC TICs - This row presents the sum total estimated concentration of non-target tentatively identified compounds.
100 (Bold) - Concentration exceeds NYSDEC Class GA Groundwater Quality Standard.

TABLE 2
SUMMARY OF MAY 2014 GROUNDWATER SAMPLING DATA
OPERABLE UNIT NO. 2
FORMER COLUMBIA CEMENT COMPANY FACILITY
FREEPORT, NEW YORK

URS SAMPLE ID	NYSDEC	MW-03-13S	MW-05-14S	MW-05-15D	MW-07-16S	MW-07-17D	MW-09-18S	MW-09-19D
LABORATORY SAMPLE ID	CLASS GA	480-60861-11	480-60861-4	480-60861-3	480-60861-10	480-60861-15	480-60861-7	480-60861-6
SAMPLE DATE	WATER QUALITY	05/29/2014	05/28/2014	05/28/2014	05/29/2014	05/29/2014	05/28/2014	05/28/2014
DILUTION FACTOR	STANDARD	4	4	4	4	4	4	4
UNITS		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
Volatile Organic Compounds								
1,1,1-Trichloroethane	5	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U
1,1,2,2-Tetrachloroethane	5	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
1,1,2-Trichlorotrifluoroethane	1	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
1,1,2-Trichloroethane	1	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
1,1-Dichloroethane	5	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	**20 J**
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
1,2-Dibromo-3-Chloropropane	0.04	20 U	20 U	20 U	20 U	20 U	20 U	20 U
1,2-Dibromoethane	NE	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
1,2-Dichlorobenzene	3	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
1,2-Dichloroethane	0.6	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
1,2-Dichloropropane	1	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
1,3-Dichlorobenzene	3	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
1,4-Dichlorobenzene	3	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U
2-Butanone (MEK)	50	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
2-Hexanone	50	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
4-Methyl-2-pentanone (MIBK)	NE	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Acetone	50	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
Benzene	1	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U
Bromoform	50	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Bromomethane	5	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Carbon disulfide	NE	8.4 U	9.0 J	25 J	8.4 U	8.4 U	8.4 U	8.4 U
Carbon tetrachloride	5	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Chlorobenzene	5	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U
Chlorodibromomethane	50	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	**280**
Chloroform	7	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
Chloromethane	5	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
cis-1,2-Dichloroethene	5	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
cis-1,3-Dichloropropene	0.4	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U
Cyclohexane	NE	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
Dichlorobromomethane	50	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
Dichlorodifluoromethane	5	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U
Ethylbenzene	5	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U
Isopropylbenzene	5	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Methyl acetate	NE	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U
Methyl tert-butyl ether	NE	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.3 J
Methylcyclohexane	NE	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Methylene Chloride	5	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Styrene	5	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Tetrachloroethene	5	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U	8.4 U
Toluene	5	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U
trans-1,2-Dichloroethene	5	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
trans-1,3-Dichloropropene	0.4	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U	6.4 U
Trichloroethene	5	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U
Trichlorofluoromethane	5	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Vinyl chloride	2	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Xylenes, Total	5	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Total Target VOCs	NE	ND	9.0 J	25 J	ND	ND	ND	300
Total VOC TICs	NE	ND	ND	ND	ND	ND	ND	ND
DISSOLVED GASSES								
Ethane	NE	150 U	150 U	150 U	150 U	150 U	150 U	150 U
Ethene	NE	150 U	150 U	150 U	150 U	150 U	150 U	150 U
Methane	NE	2,000	2,900	490	1,900	2,600	2,100	770
GENERAL CHEMISTRY								
Sulfate	NE	1.5 U	6.4	11200	138	383	1.5 U	29.6
Total Organic Carbon	NE	8.4	9.3	7.2	8.2	7.6	7.1	8.8
FIELD PARAMETERS								
pH	NE	6.86	6.32	3.98	6.4	6.34	6.67	6.6
Conductivity (mS/cm)	NE	3.45	9.41	14.1	2.99	10.7	3.79	5.44
Dissolved Oxygen (mg/l)	NE	0.56	1.49	0.49	0.4	1.03	0.46	0.58
Redox Potential (mV)	NE	-164	-263	-80	-106	-143	-91	-86

TABLE 2
SUMMARY OF MAY 2014 GROUNDWATER SAMPLING DATA
OPERABLE UNIT NO. 2
FORMER COLUMBIA CEMENT COMPANY FACILITY
FREEPORT, NEW YORK

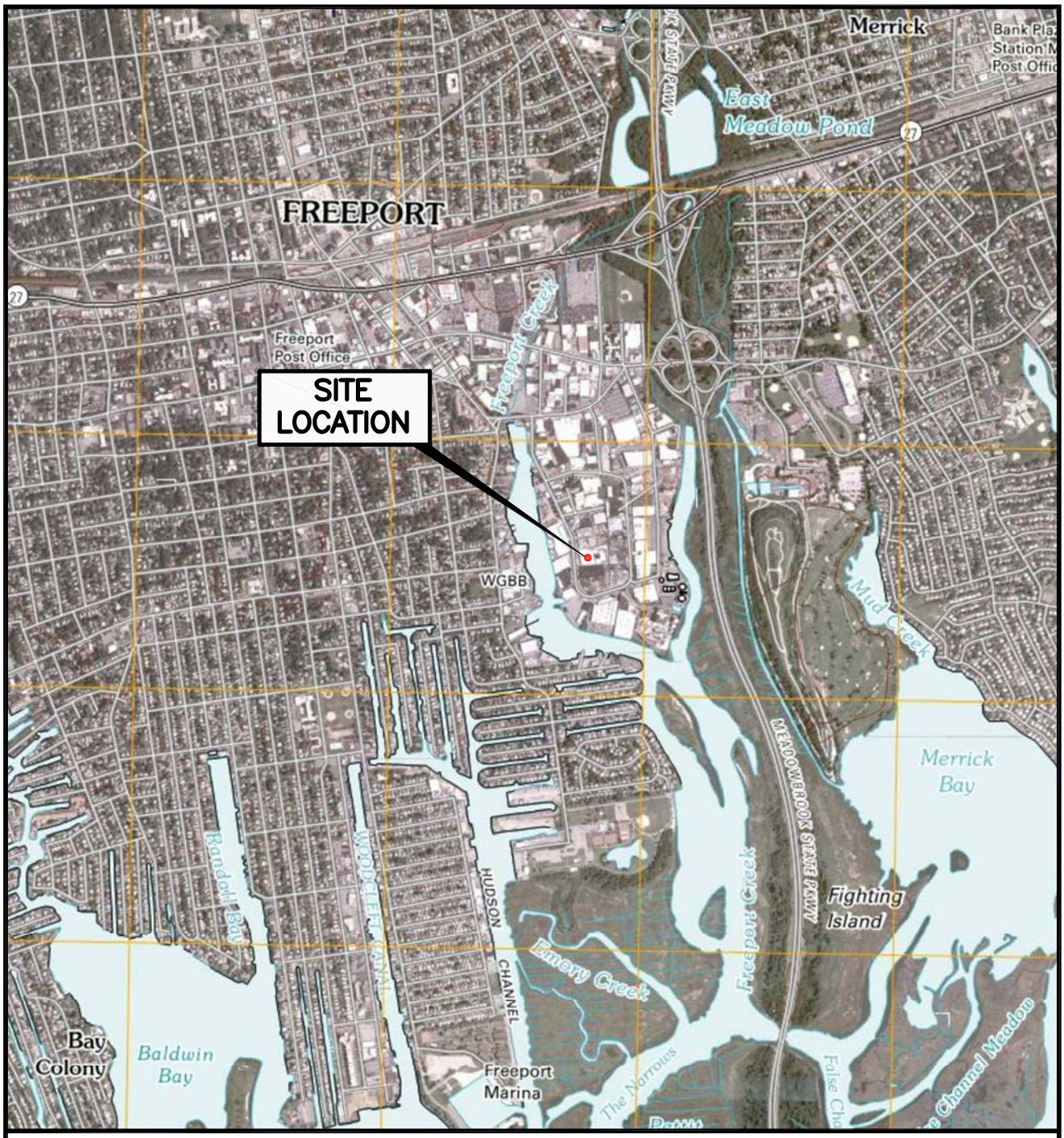
URS SAMPLE ID LABORATORY SAMPLE ID SAMPLE DATE DILUTION FACTOR UNITS	NYSDEC CLASS GA WATER QUALITY STANDARD	MW-09-20S 480-60861-9 05/28/2014 4 µg/l	MW-09-21D 480-60861-8 05/28/2014 4 µg/l	MW-09-22S 480-60861-14 05/29/2014 2 µg/l	MW-09-23D 480-60861-16 05/29/2014 2 µg/l	MW-09-24S 480-60861-1 05/28/2014 mg/l µg/l	MW-09-25D 480-60861-2 05/28/2014 4 µg/l	MW-09-26D 480-60861-5 05/28/2014 4 µg/l
Volatile Organic Compounds								
1,1,1-Trichloroethane	5	8.4 U	8.4 U	4.2 U	4.2 U	2.1 U	8.4 U	8.4 U
1,1,2,2-Tetrachloroethane	5	6.0 U	6.0 U	3.0 U	3.0 U	1.5 U	6.0 U	6.0 U
1,1,2-Trichlorotrifluoroethane	1	7.6 U	7.6 U	3.8 U	3.8 U	1.9 U	7.6 U	7.6 U
1,1,2-Trichloroethane	1	6.0 U	6.0 U	3.0 U	3.0 U	1.5 U	6.0 U	6.0 U
1,1-Dichloroethane	5	6.8 U	6.8 U	3.4 U	3.4 U	1.7 U	6.8 U	6.8 U
1,1-Dichloroethene	5	10 U	10 U	5.0 U	5.0 U	2.5 U	10 U	10 U
1,2,4-Trichlorobenzene	5	2.3 U	2.3 U	1.1 U	1.1 U	0.57 U	2.3 U	2.3 U
1,2-Dibromo-3-Chloropropane	0.04	20 U	20 U	10 U	10 U	5.0 U	20 U	20 U
1,2-Dibromoethane	NE	8.0 U	8.0 U	4.0 U	4.0 U	2.0 U	8.0 U	8.0 U
1,2-Dichlorobenzene	3	4.8 U	4.8 U	2.4 U	2.4 U	1.2 U	4.8 U	4.8 U
1,2-Dichloroethane	0.6	3.3 U	3.3 U	1.7 U	1.7 U	0.83 U	3.3 U	3.3 U
1,2-Dichloropropane	1	6.8 U	6.8 U	3.4 U	3.4 U	1.7 U	6.8 U	6.8 U
1,3-Dichlorobenzene	3	4.8 U	4.8 U	2.4 U	2.4 U	1.2 U	4.8 U	4.8 U
1,4-Dichlorobenzene	3	4.4 U	4.4 U	2.2 U	2.2 U	1.6 J	4.4 U	4.4 U
2-Butanone (MEK)	50	6.0 U	6.0 U	3 U	3.0 U	1.5 U	6.0 U	6.0 U
2-Hexanone	50	7.2 U	7.2 U	3.6 U	3.6 U	1.8 U	7.2 U	7.2 U
4-Methyl-2-pentanone (MIBK)	NE	6.8 U	6.8 U	3.4 U	3.4 U	1.7 U	6.8 U	6.8 U
Acetone	50	7.6 U	7.6 U	3.8 U	3.8 U	1.9 U	7.6 U	7.6 U
Benzene	1	6.4 U	6.4 U	3.2 U	3.2 U	1.6 U	6.4 U	6.4 U
Bromoform	50	20 U	20 U	10 U	10 U	5.0 U	20 U	20 U
Bromomethane	5	17 U	17 U	8.6 U	8.6 U	4.3 U	17 U	17 U
Carbon disulfide	NE	57	8.4 U	4.2 U	4.2 U	2.1 U	8.4 U	8.4 U
Carbon tetrachloride	5	8.0 U	8.0 U	4.0 U	4.0 U	2.0 U	8.0 U	8.0 U
Chlorobenzene	5	6.4 U	6.4 U	3.2 U	3.2 U	1.6 U	6.4 U	6.4 U
Chlorodibromomethane	50	6.8 U	6.8 U	3.4 U	3.4 U	1.7 U	6.8 U	6.8 U
Chloroethane	5	10 U	10 U	5.0 U	5.0 U	2.5 U	10 U	10 U
Chloroform	7	7.6 U	7.6 U	3.8 U	3.8 U	1.9 U	7.6 U	7.6 U
Chloromethane	5	9.2 U	9.2 U	4.6 U	4.6 U	2.3 U	9.2 U	9.2 U
cis-1,2-Dichloroethene	5	7.2 U	7.2 U	3.6 U	3.6 U	1.8 U	7.2 U	7.2 U
cis-1,3-Dichloropropene	0.4	5.6 U	5.6 U	2.8 U	2.8 U	1.4 U	5.6 U	5.6 U
Cyclohexane	NE	2.3 U	2.3 U	1.2 U	1.2 U	0.59 U	2.3 U	2.3 U
Dichlorobromomethane	50	6.0 U	6.0 U	3.0 U	3.0 U	1.5 U	6.0 U	6.0 U
Dichlorodifluoromethane	5	8.4 U	8.4 U	4.2 U	4.2 U	2.1 U	8.4 U	8.4 U
Ethylbenzene	5	6.4 U	6.4 U	3.2 U	3.2 U	1.6 U	6.4 U	6.4 U
Isopropylbenzene	5	1.5 U	1.5 U	0.75 U	0.75 U	0.37 U	1.5 U	1.5 U
Methyl acetate	NE	2.7 U	2.7 U	1.3 U	1.3 U	0.66 U	2.7 U	2.7 U
Methyl tert-butyl ether	NE	1.8 U	1.8 U	0.91 U	0.91 U	0.46 U	1.8 U	1.8 U
Methylcyclohexane	NE	2.4 U	2.4 U	1.2 U	1.2 U	0.59 U	2.4 U	2.4 U
Methylene Chloride	5	5.2 U	5.2 U	2.6 U	2.6 U	1.3 U	5.2 U	5.2 U
Styrene	5	6.8 U	6.8 U	3.4 U	3.4 U	1.7 U	6.8 U	6.8 U
Tetrachloroethene	5	8.4 U	8.4 U	4.2 U	4.2 U	2.1 U	8.4 U	8.4 U
Toluene	5	6.4 U	6.4 U	3.2 U	3.2 U	1.6 U	6.4 U	6.4 U
trans-1,2-Dichloroethene	5	7.6 U	7.6 U	3.8 U	3.8 U	1.9 U	7.6 U	7.6 U
trans-1,3-Dichloropropene	0.4	6.4 U	6.4 U	3.2 U	3.2 U	1.6 U	6.4 U	6.4 U
Trichloroethene	5	7.6 U	7.6 U	3.8 U	3.8 U	1.9 U	7.6 U	7.6 U
Trichlorofluoromethane	5	5.2 U	5.2 U	2.6 U	2.6 U	1.3 U	5.2 U	5.2 U
Vinyl chloride	2	9.2 U	9.2 U	4.6 U	4.6 U	2.3 U	9.2 U	9.2 U
Xylenes, Total	5	3.3 U	3.3 U	1.6 U	1.6 U	0.82 U	3.3 U	3.3 U
Total Target VOCs	NE	57	ND	ND	ND	1.6 J	ND	ND
Total VOC TICs	NE	ND	ND	17 J	ND	8.9 J	ND	ND
DISSOLVED GASSES								
Ethane	NE	150 U	150 U	150 U	150 U	150 U	150 U	150 U
Ethene	NE	150 U	150 U	150 U	150 U	150 U	150 U	150 U
Methane	NE	2,900	860	5,000	2,000	890	1,500	2,500
GENERAL CHEMISTRY								
Sulfate	NE	2.4 J	1.5 U	1.5 U	1.5 U	58.6	17.8	27.4
Total Organic Carbon	NE	16.1	8.4	12.1	10.7	8.9	8	6.6
FIELD PARAMETERS								
pH	NE	6.41	6.52	6.20	6.43	6.46	6.42	6.43
Conductivity (mS/cm)	NE	5.65	4.03	2.15	4.15	10.3	5.57	3.97
Dissolved Oxygen (mg/l)	NE	0.37	0.54	1.29	1.11	6.64	3.25	0.79
Redox Potential (mV)	NE	-329	-78	-135	-88	-331	-253	-140

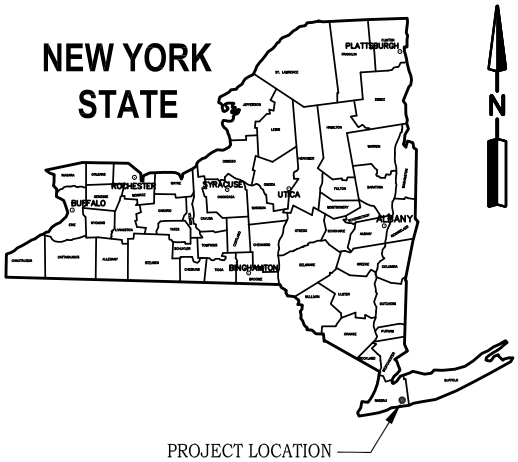
TABLE 2
SUMMARY OF MAY 2014 GROUNDWATER SAMPLING DATA
OPERABLE UNIT NO. 2
FORMER COLUMBIA CEMENT COMPANY FACILITY
FREEPORT, NEW YORK

NOTES:

U - Indicates compound was analyzed for but not detected
J - Indicates an estimated value due to limitations identified during the Quality Assurance (QA) review. quantitation limit but greater than zero.
B - This flag is used when the analyte is found in the associated blank as well as in the sample.
E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS inst for that specific analysis and therefore, are regarded as estimated values.
D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
H - This flag indicates that the analysis was performed outside the analytical method hold time.
R - Indicates result is unreliable (compound may or not be present)
NS - Not sampled
ND - Not Detected
NE - No existing Groundwater Cleanup Standard
Total VOCs - This row presents the sum total concentration level of target compound list (TCL) volatile organic compounds (VOCs) reported in the sample.
Total VOC TICs - This row presents the sum total estimated concentration of non-target tentatively identified compoun
100 (Bold) - Concentration exceeds NYSDEC Class GA Groundwater Quality Standard.

FIGURES





N

0 2000 4000

SCALE IN FEET

SITE LOCATION MAP
FORMER COLUMBIA CEMENT COMPANY, INC.
SITE NO. 130052
159 HANSE AVENUE
FREEPORT, NEW YORK

REFERENCE:
U.S.G.S. 7.5 MINUTE QUADRANGLE:
FREEPORT, NY (2010)

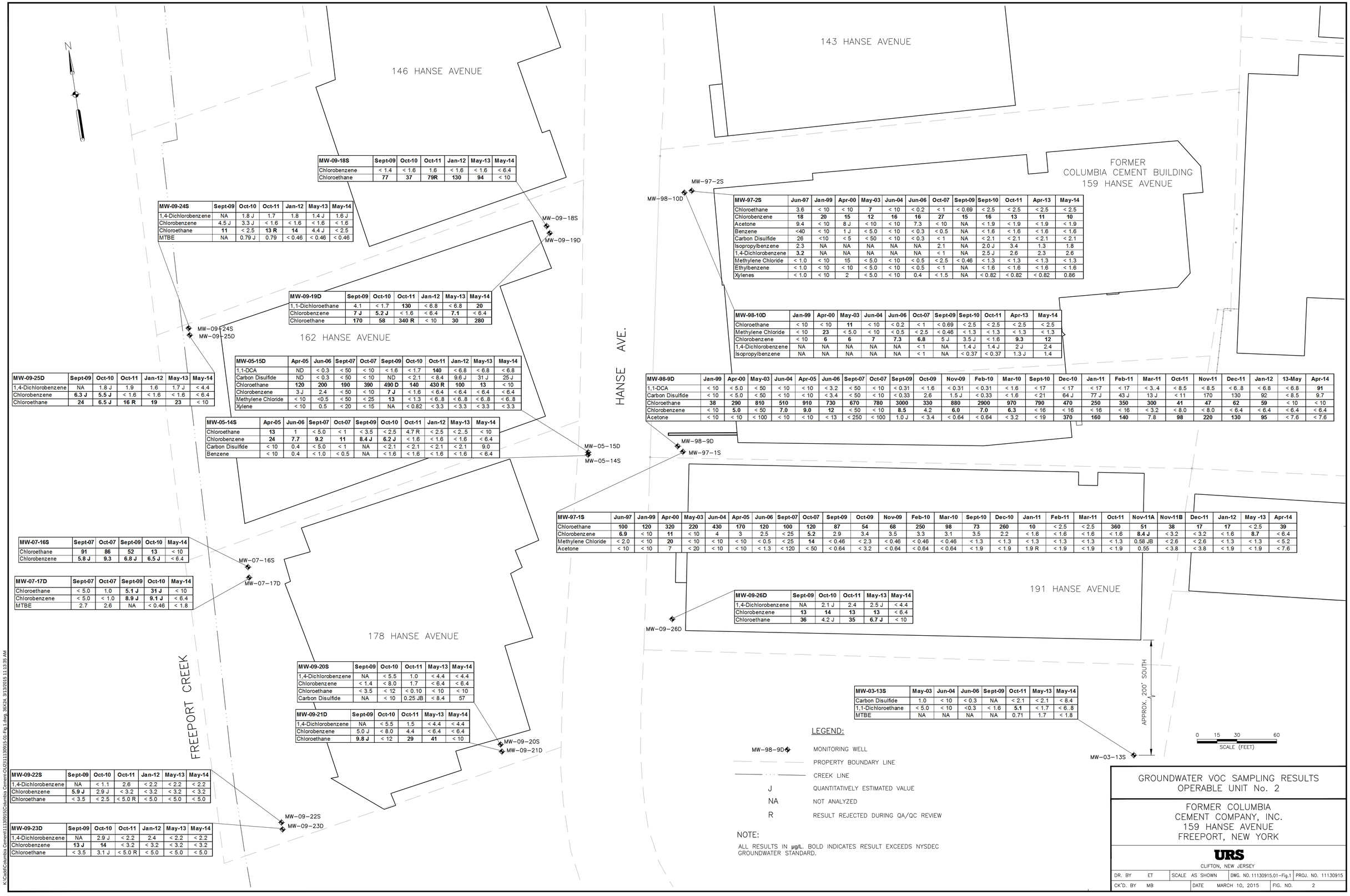
URS
1255 Broad Street
Clifton, New Jersey 07013
PHONE: (973) 883-8500
FAX: (973) 883-8501

DATE: 01/23/15

JOB: 11130912

FIGURE 1

K:\Cadd\Columbia Cement\Columbia Cement-Unit No.2\11130912\Unit No.2\30912.01-FIG.1.dwg



MW-09-18S	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
Chlorobenzene	< 1.4	< 1.6	1.6	< 1.6	< 1.6	< 6.4
Chloroethane	**77**	**37**	**79R**	**130**	**94**	< 10

MW-09-24S	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
1,4-Dichlorobenzene	NA	1.8 J	1.7	1.8	1.4 J	1.6 J
Chlorobenzene	4.5 J	3.3 J	< 1.6	< 1.6	< 1.6	< 1.6
Chloroethane	**11**	< 2.5	**13 R**	**14**	4.4 J	< 2.5
MTBE	NA	0.79 J	0.79	< 0.46	< 0.46	< 0.46

MW-09-19D	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
1,1-Dichloroethane	4.1	< 1.7	**130**	< 6.8	< 6.8	**20**
Chlorobenzene	**7 J**	**5.2 J**	< 1.6	< 6.4	**7.1**	< 6.4
Chloroethane	**170**	**58**	**340 R**	< 10	**30**	**280**

MW-09-25D	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
1,4-Dichlorobenzene	NA	1.8 J	1.9	1.6	1.7 J	< 4.4
Chlorobenzene	**6.3 J**	**5.5 J**	< 1.6	< 1.6	< 1.6	< 6.4
Chloroethane	**24**	**6.5 J**	**16 R**	**19**	**23**	< 10

MW-05-15D	Apr-05	Jun-06	Sept-07	Oct-07	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
1,1-DCA	ND	< 0.3	< 50	< 10	< 1.6	< 1.7	**140**	< 6.8	< 6.8	< 6.8
Carbon Disulfide	ND	< 0.3	< 50	< 10	ND	< 2.1	< 8.4	9.6 J	31 J	25 J
Chloroethane	**120**	**200**	**190**	**390**	**490 D**	**140**	**430 R**	**100**	**13**	< 10
Chlorobenzene	3 J	2.4	< 50	< 10	**7 J**	< 1.6	< 6.4	< 6.4	< 6.4	< 6.4
Methylene Chloride	< 10	<0.5	< 50	< 25	**13**	< 1.3	< 6..8	< 6..8	< 6..8	< 6..8
Xylene	< 10	0.5	< 20	< 15	NA	< 0.82	< 3.3	< 3.3	< 3.3	< 3.3

MW-05-14S	Apr-05	Jun-06	Sept-07	Oct-07	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
Chloroethane	**13**	1	< 5.0	< 1	< 3.5	< 2.5	4.7 R	< 2.5	< 2..5	< 10
Chlorobenzene	**24**	**7.7**	**9.2**	**11**	**8.4 J**	**6.2 J**	< 1.6	< 1.6	< 1.6	< 6.4
Carbon Disulfide	< 10	0.4	< 5.0	< 1	NA	< 2.1	< 2.1	< 2.1	< 2.1	9.0
Benzene	< 10	0.4	< 1.0	< 0.5	NA	< 1.6	< 1.6	< 1.6	< 1.6	< 6.4

MW-97-2S	Jun-97	Jan-99	Apr-00	May-03	Jun-04	Jun-06	Oct-07	Sept-09	Sept-10	Oct-11	Apr-13	May-14
Chloroethane	3.6	< 10	< 10	**7**	< 10	< 0.2	< 1	< 0.69	< 2.5	< 2.5	< 2.5	< 2.5
Chlorobenzene	**18**	**20**	**15**	**12**	**16**	**16**	**27**	**15**	**16**	**13**	**11**	**10**
Acetone	9.4	< 10	8 J	< 10	< 10	7.3	< 10	NA	< 1.9	< 1.9	< 1.9	< 1.9
Benzene	<40	< 10	1 J	< 5.0	< 10	< 0.3	< 0.5	NA	< 1.6	< 1.6	< 1.6	< 1.6
Carbon Disulfide	26	<10	< 5	< 50	< 10	< 0.3	< 1	NA	< 2.1	< 2.1	< 2.1	< 2.1
Isopropylbenzene	2.3	NA	NA	NA	NA	NA	2.1	NA	2.0 J	3.4	1.3	1.8
1,4-Dichlorobenzene	**3.2**	NA	NA	NA	NA	NA	< 1	NA	2.5 J	2.6	2.3	2.6
Methylene Chloride	< 1.0	< 10	15	< 5.0	< 10	< 0.5	< 2.5	< 0.46	< 1.3	< 1.3	< 1.3	< 1.3
Ethylbenzene	< 1.0	< 10	< 10	< 5.0	< 10	< 0.5	< 1	NA	< 1.6	< 1.6	< 1.6	< 1.6
Xylenes	< 1.0	< 10	2	< 5.0	< 10	0.4	< 1.5	NA	< 0.82	< 0.82	< 0.82	0.86

MW-98-10D	Jan-99	Apr-00	May-03	Jun-04	Jun-06	Oct-07	Sept-09	Sept-10	Oct-11	Apr-13	May-14
Chloroethane	< 10	< 10	**11**	< 10	< 0.2	< 1	< 0.69	< 2.5	< 2.5	< 2.5	< 2.5
Methylene Chloride	< 10	**23**	< 5.0	< 10	< 0.5	< 2.5	< 0.46	< 1.3	< 1.3	< 1.3	< 1.3
Chlorobenzene	< 10	**6**	**6**	**7**	**7.3**	**6.8**	5 J	3.5 J	< 1.6	**9.3**	**12**
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	< 1	NA	1.4 J	1.4 J	2 J	2.4
Isopropylbenzene	NA	NA	NA	NA	NA	< 1	NA	< 0.37	< 0.37	1.3 J	1.4

MW-98-9D	Jan-99	Apr-00	May-03	Jun-04	Apr-05	Jun-06	Sept-07	Oct-07	Sept-09	Oct-09	Nov-09	Feb-10	Mar-10	Sept-10	Dec-10	Jan-11	Feb-11	Mar-11	Oct-11	Nov-11	Dec-11	Jan-12	13-May	Apr-14
1,1-DCA	< 10	< 5.0	< 50	< 10	< 10	< 3.2	< 50	< 10	< 0.31	< 1.6	< 0.31	< 0.31	< 1.6	< 17	< 17	< 17	< 17	< 3..4	< 8.5	< 8.5	< 6..8	< 6.8	< 6.8	**91**
Carbon Disulfide	< 10	< 5.0	< 50	< 10	< 10	< 3.4	< 50	< 10	< 0.33	2.6	1.5 J	< 0.33	< 1.6	< 21	64 J	77 J	43 J	13 J	< 11	170	130	92	< 8.5	9.7
Chloroethane	**38**	**290**	**810**	**510**	**910**	**730**	**670**	**780**	**3000**	**330**	**880**	**2900**	**970**	**790**	**470**	**250**	**350**	**300**	**41**	**47**	**62**	**59**	< 10	< 10
Chlorobenzene	< 10	**5.0**	< 50	**7.0**	**9.0**	**12**	< 50	< 10	**8.5**	4.2	**6.0**	**7.0**	**6.3**	< 16	< 16	< 16	< 16	< 3.2	< 8.0	< 8.0	< 6.4	< 6.4	< 6.4	< 6.4
Acetone	< 10	< 10	< 100	< 10	< 10	< 13	< 250	< 100	1.0 J	< 3.4	< 0.64	< 0.64	< 3.2	< 19	**370**	**160**	**140**	7.8	**98**	**220**	**130**	**95**	< 7.6	< 7.6

MW-97-1S	Jun-97	Jan-99	Apr-00	May-03	Jun-04	Apr-05	Jun-06	Sept-07	Oct-07	Sept-09	Oct-09	Nov-09	Feb-10	Mar-10	Sept-10	Dec-10	Jan-11	Feb-11	Mar-11	Oct-11	Nov-11A	Nov-11B	Dec-11	Jan-12	May -13	Apr-14
Chloroethane	**100**	**120**	**320**	**220**	**430**	**170**	**120**	**100**	**120**	**87**	**54**	**68**	**250**	**98**	**73**	**260**	**10**	< 2.5	< 2.5	**360**	**51**	**38**	**17**	**17**	< 2.5	**39**
Chlorobenzene	**6.9**	< 10	**11**	< 10	4	3	2.5	< 25	**5.2**	2.9	3.4	3.5	3.3	3.1	3.5	2.2	< 1.6	< 1.6	< 1.6	< 1.6	**8.4 J**	< 3.2	< 3.2	< 1.6	**8.7**	< 6.4
Methylene Chloride	< 2.0	< 10	**20**	< 10	< 10	< 10	< 0.5	< 25	**14**	< 0.46	< 2.3	< 0.46	< 0.46	< 0.46	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	0.58 JB	< 2.6	< 2.6	< 1.3	< 1.3	< 5.2
Acetone	< 10	< 10	7	< 20	< 10	< 10	< 1.3	< 120	< 50	< 0.64	< 3.2	< 0.64	< 0.64	< 0.64	< 1.9	< 1.9	1.9 R	< 1.9	< 1.9	< 1.9	0.55	< 3.8	< 3.8	< 1.9	< 1.9	< 7.6

MW-09-26D	Sept-09	Oct-10	Oct-11	May-13	May-14
1,4-Dichlorobenzene	NA	2.1 J	2.4	2.5 J	< 4.4
Chlorobenzene	**13**	**14**	**13**	**13**	< 6.4
Chloroethane	**36**	4.2 J	**35**	**6.7 J**	< 10

MW-07-16S	Sept-07	Oct-07	Sept-09	Oct-10	May-14
Chloroethane	**91**	**86**	**52**	**13**	< 10
Chlorobenzene	**5.8 J**	**9.3**	**6.8 J**	**6.5 J**	< 6.4

MW-07-17D	Sept-07	Oct-07	Sept-09	Oct-10	May-14
Chloroethane	< 5.0	1.0	**5.1 J**	**31 J**	< 10
Chlorobenzene	< 5.0	< 1.0	**8.9 J**	**9.1 J**	< 6.4
MTBE	2.7	2.6	NA	< 0.46	< 1.8

MW-09-20S	Sept-09	Oct-10	Oct-11	May-13	May-14
1,4-Dichlorobenzene	NA	< 5.5	1.0	< 4.4	< 4.4
Chlorobenzene	< 1.4	< 8.0	1.7	< 6.4	< 6.4
Chloroethane	< 3.5	< 12	< 0.10	< 10	< 10
Carbon Disulfide	NA	< 10	0.25 JB	< 8.4	57

MW-09-21D	Sept-09	Oct-10	Oct-11	May-13	May-14
1,4-Dichlorobenzene	NA	< 5.5	1.5	< 4.4	< 4.4
Chlorobenzene	5.0 J	< 8.0	4.4	< 6.4	< 6.4
Chloroethane	**9.8 J**	< 12	**29**	**41**	< 10

MW-03-13S	May-03	Jun-04	Jun-06	Sept-09	Oct-11	May-13	May-14
Carbon Disulfide	1.0	< 10	< 0.3	NA	< 2.1	< 2.1	< 8.4
1,1-Dichloroethane	< 5.0	< 10	<0.3	< 1.6	**5.1**	< 1.7	< 6..8
MTBE	NA	NA	NA	NA	0.71	1.7	< 1.8

MW-09-22S	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
1,4-Dichlorobenzene	NA	< 1.1	2.6	< 2.2	< 2.2	< 2.2
Chlorobenzene	**5.9 J**	2.9 J	< 3.2	< 3.2	< 3.2	< 3.2
Chloroethane	< 3.5	< 2.5	< 5.0 R	< 5.0	< 5.0	< 5.0

MW-09-23D	Sept-09	Oct-10	Oct-11	Jan-12	May-13	May-14
1,4-Dichlorobenzene	NA	2.9 J	< 2.2	2.4	< 2.2	< 2.2
Chlorobenzene	**13 J**	**14**	< 3.2	< 3.2	< 3.2	< 3.2
Chloroethane	< 3.5	3.1 J	< 5.0 R	< 5.0	< 5.0	< 5.0

LEGEND:

- MW-98-9D — MONITORING WELL
- PROPERTY BOUNDARY LINE
- CREEK LINE
- J — QUANTITATIVELY ESTIMATED VALUE
- NA — NOT ANALYZED
- R — RESULT REJECTED DURING QA/QC REVIEW

NOTE:

ALL RESULTS IN µg/L. BOLD INDICATES RESULT EXCEEDS NYSDEC GROUNDWATER STANDARD.

GROUNDWATER VOC SAMPLING RESULTS
OPERABLE UNIT No. 2

FORMER COLUMBIA
CEMENT COMPANY, INC.
159 HANSE AVENUE
FREEPORT, NEW YORK

URS
CLIFTON, NEW JERSEY

DR. BY ET	SCALE AS SHOWN	DWG. NO. 11130915.01-Fig.1	PROJ. NO. 11130915
CK'D. BY MB	DATE MARCH 10, 2015	FIG. NO. 2	

K:\Cad\Columbia Cement\11130915\Columbia Cement-OU2\11130915-01-Fig.1.dwg, 3/6/2015 11:13:35 AM

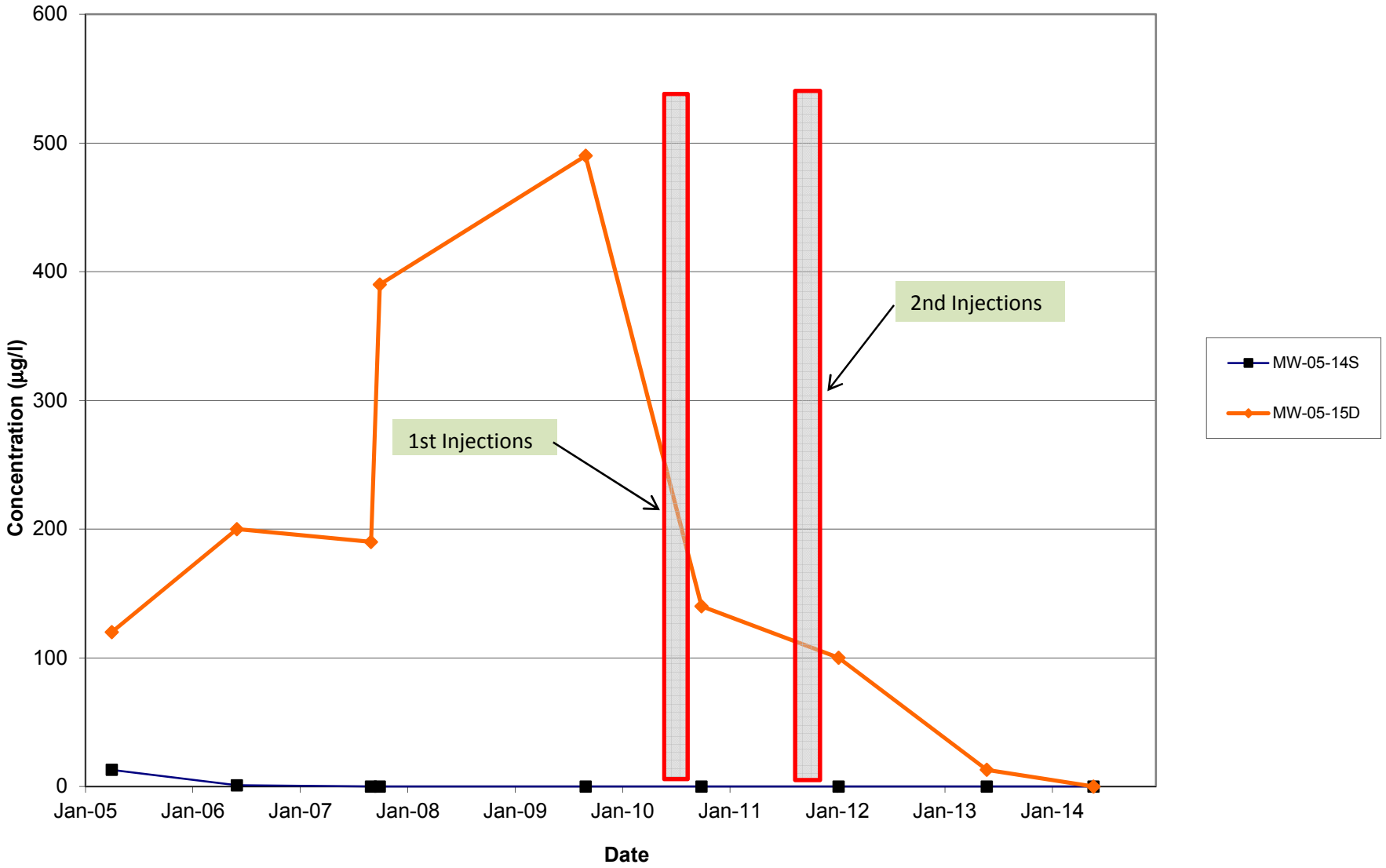


FIGURE 3
CHLOROETHANE CONCENTRATIONS IN WELLS MW-05-14S AND MW-05-15D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK

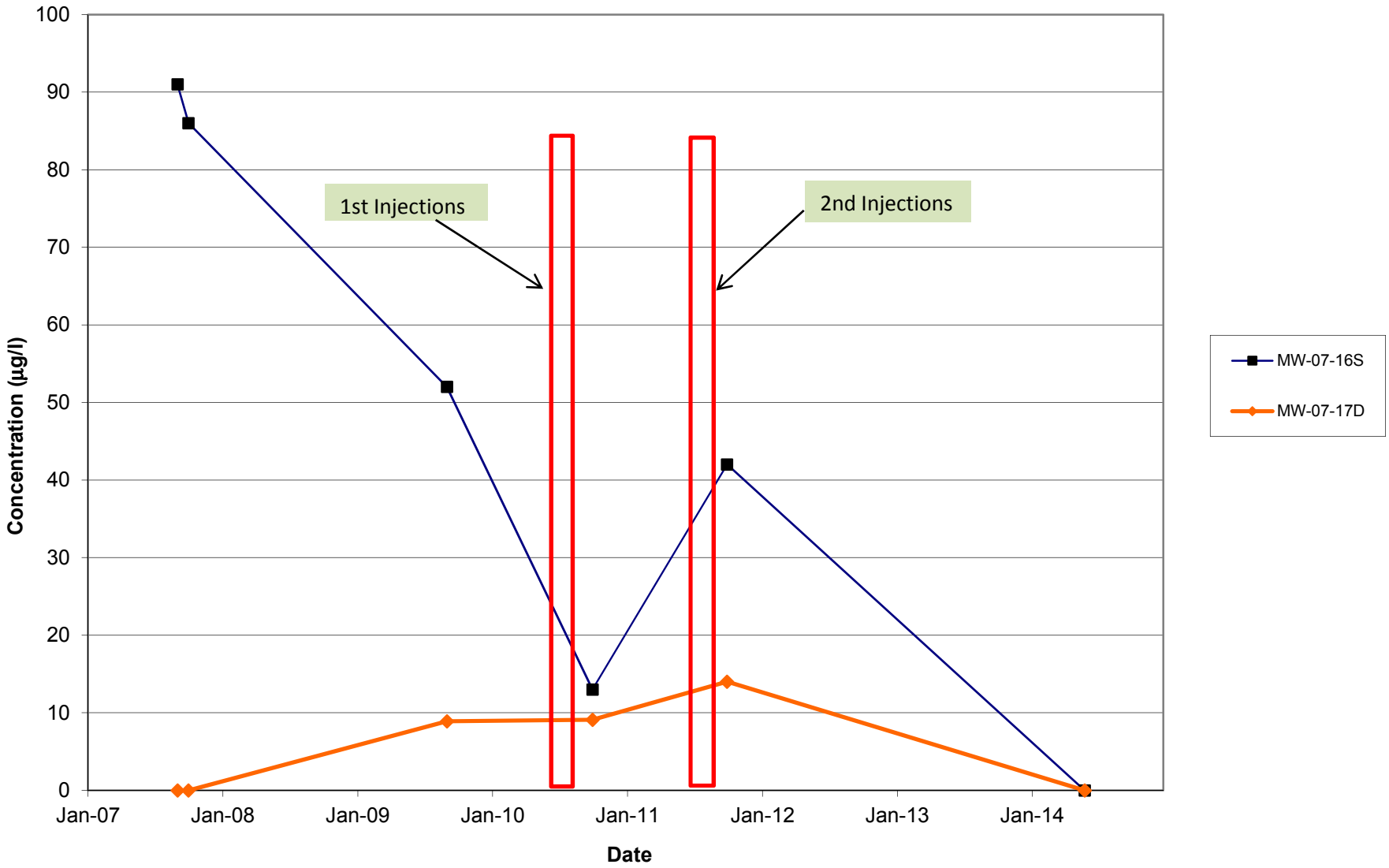


FIGURE 4
CHLOROETHANE CONCENTRATIONS IN WELLS MW-07-16S AND MW-07-17D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK

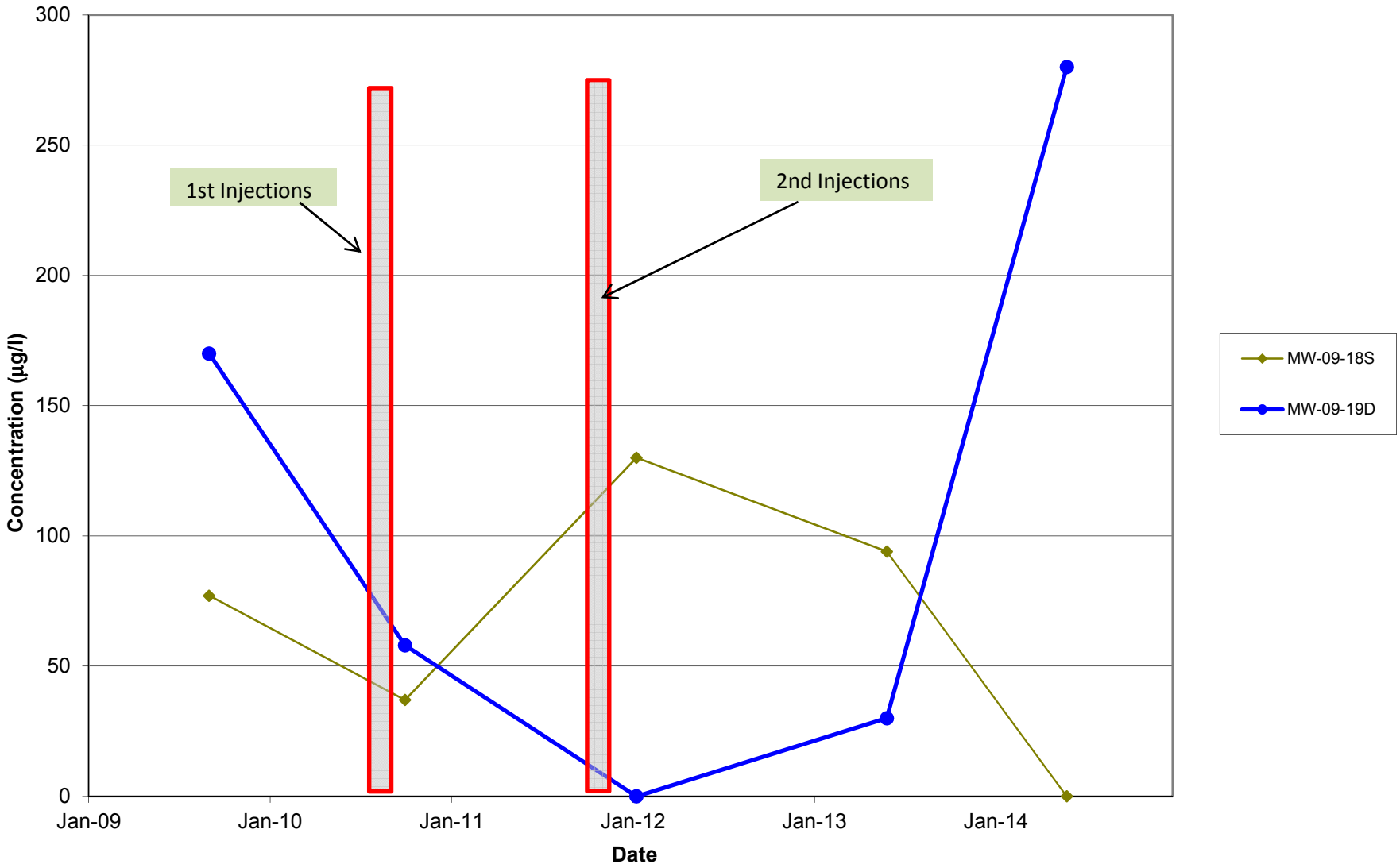


FIGURE 5
CHLOROETHANE CONCENTRATIONS IN WELLS MW-09-18S AND MW-09-19D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK

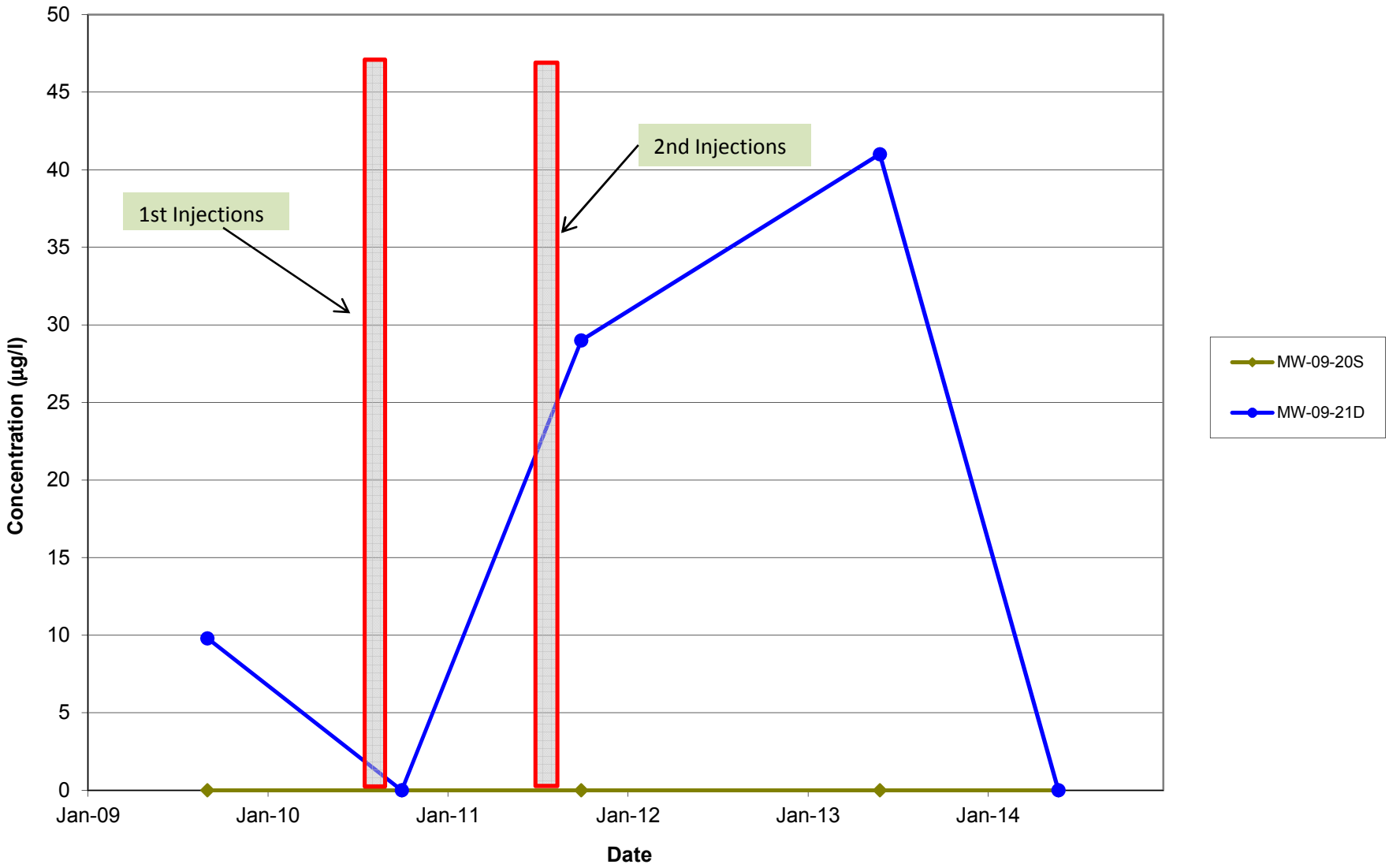


FIGURE 6
CHLOROETHANE CONCENTRATIONS IN WELLS MW-09-20S AND MW-09-21D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK

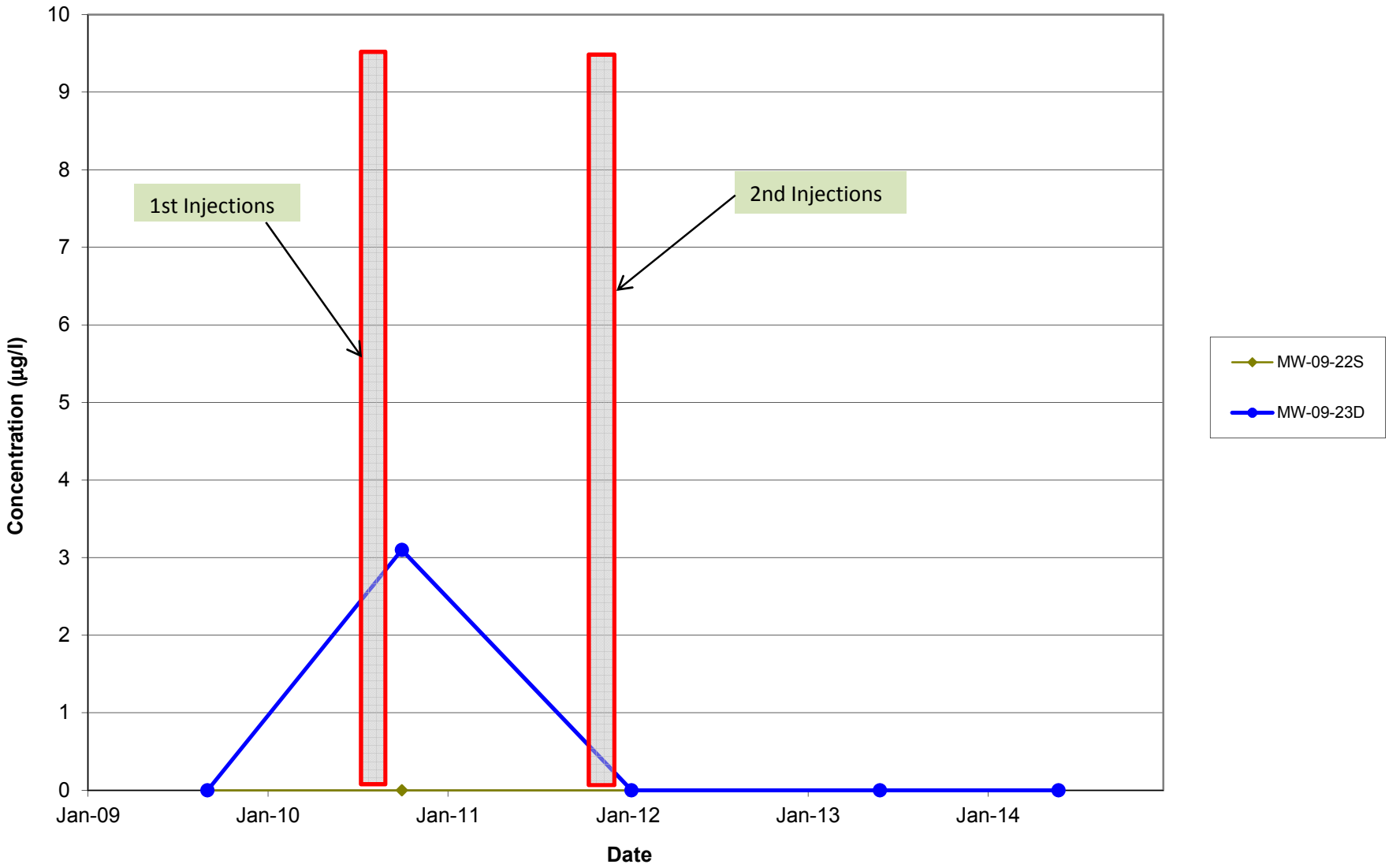


FIGURE 7
CHLOROETHANE CONCENTRATIONS IN WELLS MW-09-22S AND MW-09-23D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK

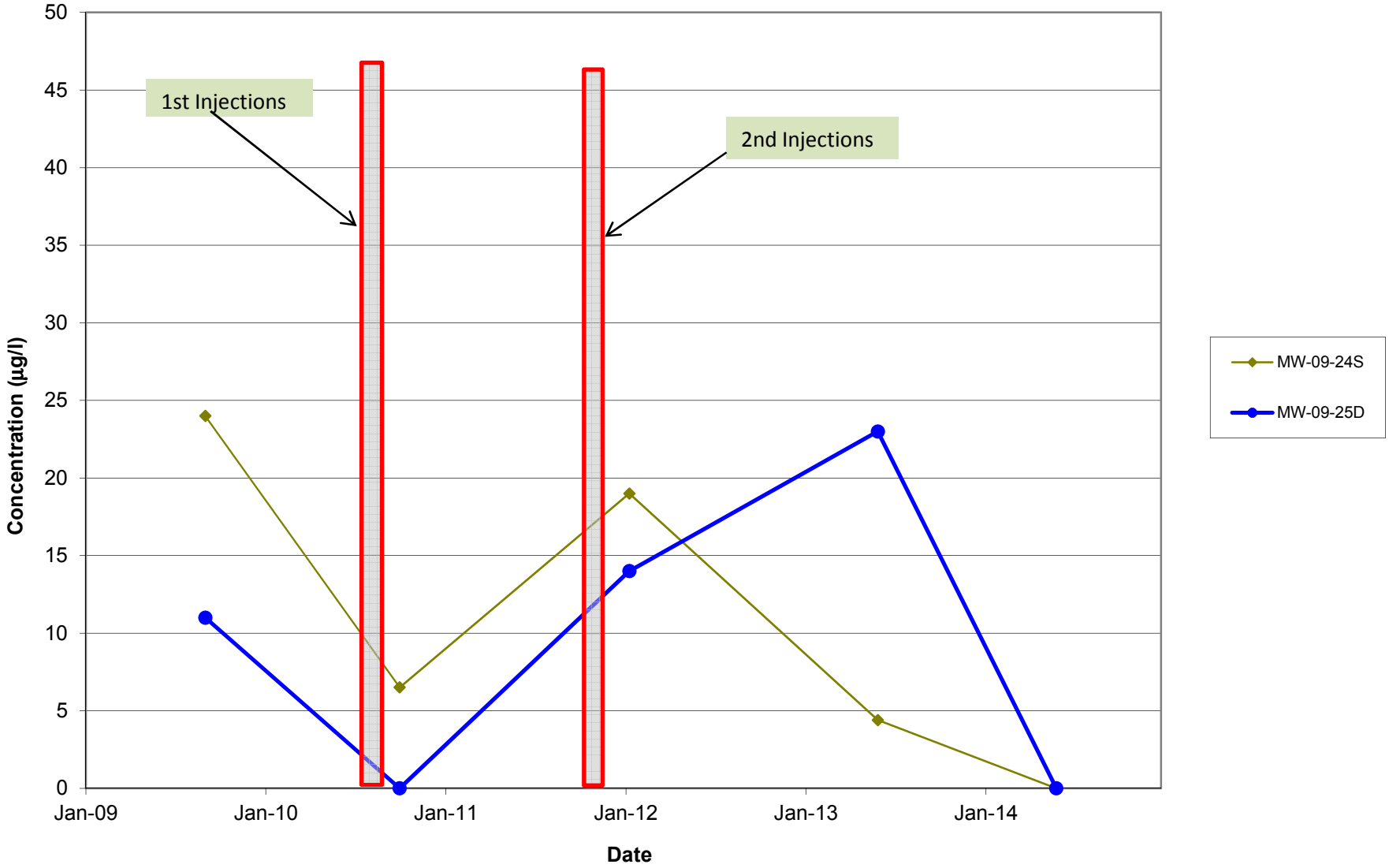


FIGURE 8
CHLOROETHANE CONCENTRATIONS IN WELLS MW-09-24S AND MW-09-25D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK

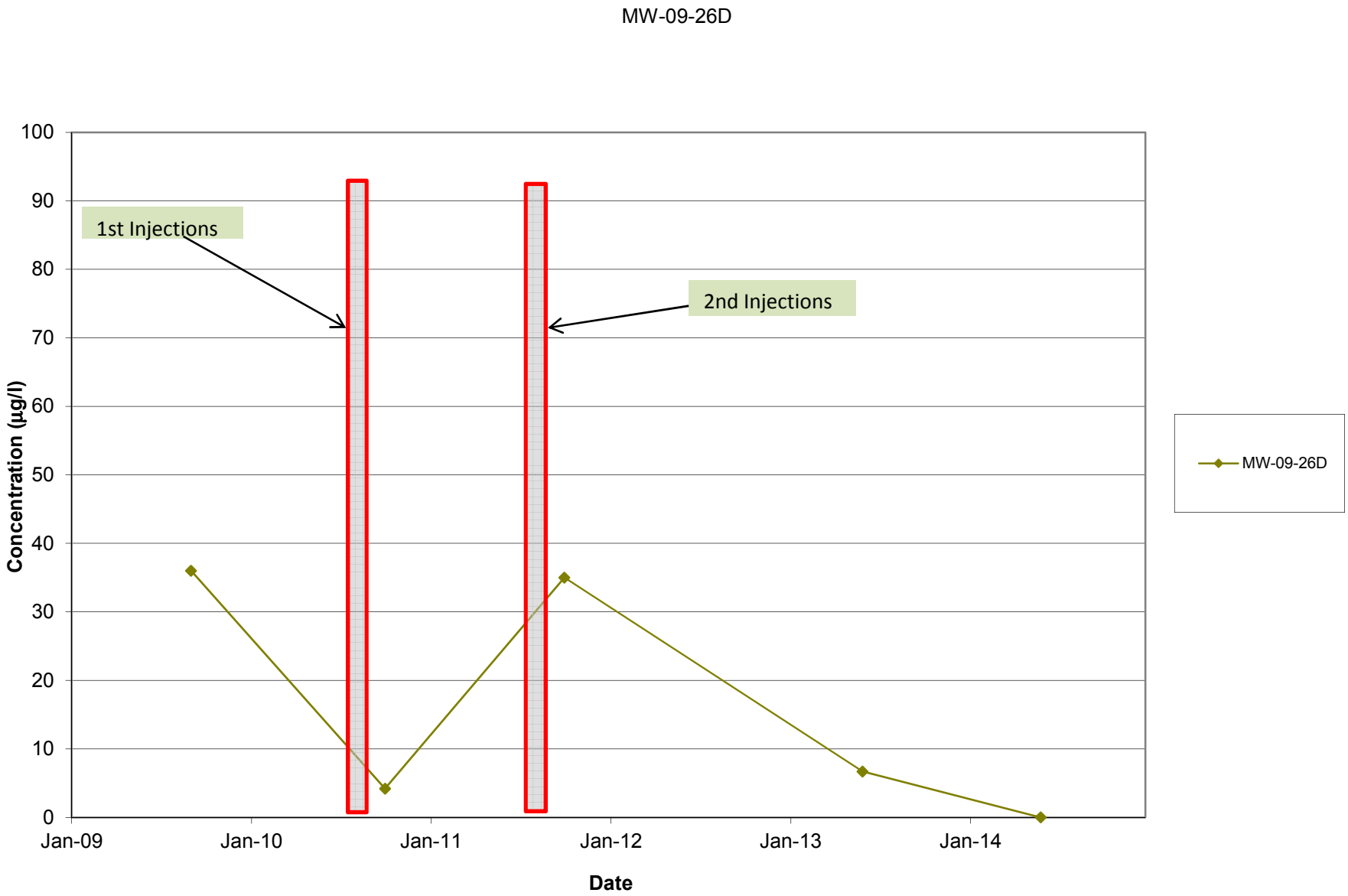


FIGURE 9
CHLOROETHANE CONCENTRATIONS IN MW-09-26D
FORMER COLUMBIA CEMENT COMPANY SITE
FREEPORT, NEW YORK