2014 First Quarter Groundwater Monitoring Report
January - March 2014
Claremont Polychemical Corporation Site
505 Winding Road
Old Bethpage, Nassau County, NY 11804
Site Code: 130015
WA# D006130-19

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation
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Albany, New York 12233

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Submitted: May 2, 2014

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Old Bethpage, New York 11804

Report Submittal Date: May 2, 2014
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Project Address: Claremont Polychemical, 505 Winding Rd, Old Bethpage, NY

CERTIFICATION

I, Nancy Garry, certify that I am currently a NYS Registered Professional Engineer as defined in 6 Part NYCRR Part 375 and that this report, 2014 First Quarter Groundwater Monitoring Report, was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER -10) and that all activities were preformed in full accordance with the DER-approved workplan and any DER-approved modifications.

Environmental Contractor: HRP Engineering, P.C.

By:

Nancy Garry, PE

2014 First Quarter Groundwater Monitoring Report
January - March 2014
Claremont Polychemical Corporation Site
Old Bethpage, New York 11804

1.0 INTRODUCTION

HRP Engineering, P.C. (HRP) is pleased to submit this report containing groundwater quality data, discussions and data deliverables related to the first quarter 2014 (January – March 2014) groundwater monitoring event conducted at the Claremont Polychemical Corporation Site (hereinafter referred to as the "Site")(Figure 1). The groundwater monitoring event and the preparation of this deliverable are part of the routine groundwater monitoring program being conducted at the Site. This report has been prepared for submittal to the New York State Department of Environmental Conservation (NYSDEC) and includes the following:

- Brief overview of historical site activities;
- Discussion of the on-site groundwater treatment system;
- Brief description of the scope of the field activities;
- Groundwater elevation contours;
- Tetrachloroethylene (PCE) and trichloroethylene (TCE) contaminant concentration profiles in groundwater;
- Groundwater PCE and TCE contaminant concentrations discussion;
- Brief discussion of the groundwater quality data;
- Comparison of data from this monitoring period to data from previous periods; and
- Recommendations and Conclusions.

2.0 SITE BACKGROUND

2.1 Site Overview

The Claremont Polychemical Corporation (Claremont), a former manufacturer of pigments for plastics and inks, coated metal flakes, and vinyl stabilizers, operated on-site from 1966 to 1980. The Site was proposed for inclusion on the Environmental Protection Agency (EPA) National Priorities List (NPL) in October 1984 and was listed as a superfund site in June 1986. A Comprehensive Remedial Investigation Feasibility Study (RI/FS) for the Site was initiated in March 1988 by the EPA. Under this RI/FS, the EPA sampled the surface and subsurface soil, the groundwater, underground storage tanks, and the building. The EPA RI/FS reports were released to the public in August 1990. The EPA RI/FS findings indicated that on-site soils contaminated with PCE, located in the former "spill area", constituted a potential threat to groundwater resources. A comprehensive remedy for the Site was completed and documented in several EPA Records of Decisions (RODs) issued in 1989-1990. The Site was divided into six operable units (OU), each with specific remedial activities. Operable Unit No.4 (OU IV) is designated as “Remedial Program” and involves the treatment of the on-site volatile organic compounds (VOC) that have contaminated groundwater.

A groundwater treatment system was installed on-site by the EPA and Army Corp of Engineers (ACOE) to control OU IV. Full-scale operation of the groundwater remedial system began in February 2000, reportedly pumping and treating 470 gpd (gallons per day). SAIC Inc. operated and maintained the treatment system from 2000 to May 2011. During that period SAIC monitored the treatment system operation on a regular basis by collecting system discharge and quarterly groundwater samples. In May 2011, the operation, maintenance, and sampling of the remediation system was relinquished from the ACOE/EPA to the NYSDEC, who subsequently retained HRP to operate, maintain and sample the remediation system.

During the work responsibility transition from the EPA to the NYSDEC, the NYSDEC requested copies of reports and analytical results generated during the EPA’s operations of the remediation system, including but not limited to quarterly groundwater sampling data from SAIC, EPA Region 2 and the ACOE. Previous groundwater monitoring reports were not available for HRP’s review. Therefore, the historical groundwater data was not reviewed by HRP and incorporated into this report.

2.2 Location

The site is located on a 9.5-acre parcel located in an industrial section of Old Bethpage, Nassau County, New York (see Figure 1 for location). The property has one two-story building, covering approximately 35,000 square feet (the former processing plant) and a water treatment building, covering approximately 5,200 square feet. The site lies approximately 800 feet east of the border between Nassau and Suffolk County and is accessed via Winding Road on the property's western border. Adjacent properties include:

South and Southeast - Bethpage State Park and a golf course;
East - State University of New York-Farmingdale Campus;
West - Oyster Bay Solid Waste Disposal Complex; and
North - Commercial and light industrial, including Mana Construction.

The Oyster Bay Solid Waste Disposal Complex is a NYSDEC Superfund Site with the Town of Oyster Bay as the responsible party. The Nassau County Fireman's Training Center, which has also contributed to soil and groundwater contamination in the area, is located approximately 500 feet south of the Oyster Bay Solid Waste Disposal Complex. The Oyster Bay Solid Waste Disposal Complex and Fireman's Training Center have groundwater extraction and treatment systems in operation. In addition, the golf course has a number of pump/irrigation wells, which are used for watering their fairways. The closest residences are approximately one-half mile from the Site, immediately west of the Old Bethpage Landfill Superfund site. The nearest public supply well is located 3,500 feet northwest of the Site and nearly 47,000 people are drawing water from private-use wells located within three miles of the Site.

2.3 Site History

According to the "Five-Year Review Report for Claremont Polychemical Corporation" prepared by the EPA Region 2, dated September 2008, the Claremont Polychemical Corporation manufactured pigments for plastics and inks, coated metal flakes, and vinyl stabilizers operated from 1966 to 1980. During its operation, Claremont disposed of liquid waste in three leaching basins and deposited solid wastes and treatment sludges in drums or in old, aboveground metal tanks. The principal wastes generated were organic solvents, resins and wash wastes (mineral spirits). Located inside the process building were a solvent recovery system (steam distillation), two pigment dust collectors and a sump. To the west of the building, there were five concrete treatment basins, each with a capacity of 5,000 gallons, which contained sediments and water. Six aboveground tanks, three of which contained wastes, were located east of the process building. Other features included an underground tank farm, construction and demolition debris, dry wells and a water supply well.

2.4 Site Geological Setting

The "Claremont Polychemical Superfund Site Long-term Groundwater Monitoring Old Bethpage, New York" report (dated December 2001) prepared by SAIC reported that site-specific subsurface investigations from a variety of soil borings and monitoring/injection/extraction well installations to a maximum depth of 250 feet below ground surface (bgs) identified "well-stratified fine to medium sand with silt lenses, abundant peat laminae, and discontinuous sand layers" (Ebasco, 1990). Borings in the northern portion of the site also encountered numerous interbedded silt and clay horizons. A comparison of Site logs with municipal supply well logs to the north suggest that the Site is located within a transitional area between the predominately sandy southern portion of the Magothy Formation and an interbedded clayey-sand portion to the north (Ebasco, 1990).

The 2001 report also indicated that groundwater flow was generally to the south-southeast with historical gradients ranging from 0.001-0.002 ft/year and horizontal flow velocities of 0.43 ft/day or 157 ft/yr (Ebasco, 1990). Groundwater elevations are depressed in the areas of the extraction wells while the system is in operation. Hydraulic permeability (slug) tests performed during the EPA RI calculated hydraulic conductivities ranging between 200 and 400 gdp/ft^2 which is significantly lower than historical data from actual pump tests. The vertical component of flow was historically less than 0.5 ft/year and lacked any consistency or pattern. It was thus determined to be insignificant with respect to contaminant movement (Ebasco, 1990).

The 2001 report also stated that the direction of groundwater flow from the western portion of the site is to the east, south and southeast and reverses on the eastern and southeastern portions of the site. The gradient was reported to be approximately 0.024 ft as measured between monitoring wells SW-1 and SW-2 over a distance of approximately 500 ft. The semi-radial component of flow and steep gradient are indicative of the groundwater extraction system's capture zone. However, groundwater levels were recorded from five sets of clustered monitoring wells, or 13 data points, in and around the source area. Hence, the report concluded that the capture zone is not realistically defined as it tends to center around monitoring well cluster SW-2/DW-2, instead of the three extraction wells slightly to the southeast.

3.0 GROUNDWATER TREATMENT SYSTEM

A description of the groundwater treatment system and a review of its effectiveness of contamination recovery and hydraulic control are provided below.

3.1 Groundwater Treatment System Description

The groundwater treatment system is designed to treat metals, organic contaminants, and provide final pH adjustment. The system consists of an extraction system, above-ground treatment, and a reinjection system. Each of the system components are discussed below.

Groundwater Treatment System Extraction Wells

The groundwater collection system consists of three extraction wells (EX-1, EX-2, and EX-3) installed approximately 150 feet apart, south of the Site oriented in a southwest-northeast line. EX-1, EX-2, and EX-3 are screened from approximately 75, 95, and 94 feet mean sea level (MSL)(just below the water table) to approximately 175, 190, and 194 feet MSL, respectively, and are outfitted with 10 horsepower pumps. In May 2013, fixed end packers (packers) were installed in EX-1 and EX-2, effectively blocking the non-contaminated, bottom portion of EX-1 and EX-2 extraction well, at 115 feet MSL and 125 feet MSL, respectively.

Each extraction well pump is capable of pumping up to 200 gallons per minute (gpm). However, historically, EX-1, EX-2, and EX-3 extract 190 gpm, 188 gpm, and 175 gpm for a total of approximately 553 gpm, respectively. Based on the step-down test completed in June 2013, the pumping rate of EX-1 and EX-2 were reduced to 110 gpm and 120 gpm, a 10% reduction in the pumping rates. The average flow rate over the course of a month is approximately 350 to 390 gpm. This average pumping rate translates to approximately 500,000 to 560,000 gallons per day.

Based on discussions with the NYSDEC and HRP regarding the 2012 Remedial System Optimization (RSO), the extraction wells were temporarily suspended on December 5, 2012 for four (4) months to allow for groundwater sampling and analysis to evaluate contaminant profiles across the screened intervals.

Based on this evaluation, extraction wells EX-1 and EX-2 were retrofitted with packers to focus groundwater removal to shallow groundwater, found to be the majority of the remaining contaminated intervals from the site. Following completion of the retrofitted packers, pumps were reinstalled and the treatment system was re-activated. A step-test was conducted on each well to ensure that capture is being achieved. The results of this test were evaluated and indicate that a 10% reduction in pumping rates would reduce the overall influent clean groundwater and limit capture from the up-gradient plume/source while maintaining the capture from contamination originating on-site utilizing EX-1 and EX-2.

Groundwater Treatment System Path of Remediation

Groundwater pumped from the extraction wells enters a 60,000-gallon equalization tank situated adjacent to the treatment building. Water from the equalization tank flows through two parallel metals-removal trains that are each rated for 250 gpm. Each train includes a reaction tank, a flocculation tank, a clarifier, and a filter and is followed by air-stripper feed tanks. The feed tanks divert the water through a single packed tower air stripper rated at an average rate of 500 gpm and then through parallel liquid phase carbon units each rated at 250 gpm. The liquid phase carbon units are currently being evaluated for their role in active remediation and use as a final polish in the treatment train. The liquid phase units may be redundant as the contamination levels have been remediated to a concentration level that does not require a final polish prior to reinjection. The air emission from the air stripper is treated with vapor phase carbon. The treated water is then stored in two 42,000-gallon vessels prior to reinjection to the subsurface via four butterfly valve injection wells and/or two infiltration galleries located on the adjacent SUNY Farmingdale campus. The extraction wells are equipped with high-level alarms and are regularly gauged. However, the infiltration galleries are not equipped with level sensors or alarms.

In 2001, after the first nine months of operation, the addition of oxidizing chemicals (potassium permanganate) to the metals removal system was discontinued as the influent metals analytical concentration to the plant met EPA discharge standards for metals. Water continues to flow through the metals portion of the treatment system.

The remediation system is manned by two operators working 40-hour weeks, and an autodialer (telemetry unit) is installed to contact the operators in case of plant alarms. The operators typically respond to alarms within 30 minutes.

Groundwater Treatment System Operating Permits

Water Permit

The plant was issued a water discharge permit dated January 1, 1998. According to Brian Baker, NYSDEC Section Chief, Western Section, Bureau of Water Permits the permit was extended to the end of calendar year 2013. A permit renewal application was submitted to the NYSDEC Bureau of Water permits to review the application and complete a permit reauthorization. It is important to note that the NYSDEC Bureau of Water does not have regulatory authority over a discharge from a State, PRP, or Federal Superfund Site. Therefore, Effluent Limitations and Monitoring Requirements outlined in the permit must be submitted to the NYSDEC Division of Environmental Remediation, Remedial Bureau E.

Air Permit

An air permit is not required for the remediation system operation. In particular, NYSDEC regulation 6 NYCRR Part 375-1.7 states that "no permit is required when the substantive compliance is achieved as indicated by the NYSDEC approval of the workplan". Based on a review of the information pertaining to the remediation system, volatile organic compounds (VOCs) air emissions from the remediation system historically have been negligible.

2.5 Groundwater Treatment System Performance Evaluation

2.5.1 Flow Rate

The volume of treated water discharged by the treatment plant to the injection well field is determined daily from readings of the magnetic flow meter on the plant effluent line. Since startup, the system has treated more than 1.92 billion gallons of groundwater. During the first quarter of 2014 (January – March), the treatment system processed 42.6 million gallons of water.

Flow to infiltration galleries IG-1 and IG-3 is restricted so that flow to IW-1 and IW-3 is maximized. The plant's effluent discharge is limited by injection pump system capacity.

2.5.2 Groundwater Treatment System Contaminant Removal

To evaluate the treatment system's contaminate influent rate (Chart 1) removal rate, HRP reviewed available treatment system inlet (Charts 1a, 1b, 1c and 2) and effluent analytical results from monthly operation and maintenance(O&M) sampling when the system is operational. Approximately 907 kilograms of chlorinated solvents have been removed since 2002. A plot of historic mass removal rates and cumulative PCE and TCE mass removal is presented as Chart 5. In addition, HRP prepares and submits monthly Groundwater Treatment System O&M Activities reports which discusses monthly O&M activities, technical support, remediation system sample results and project goals met.

2.5.3 Groundwater Treatment System Discharge Monitoring

When the system is operational, effluent data for select VOC compounds (PCE, TCE, and 1,1-DEC) and metals (Iron and Manganese) are analyzed to evaluate compliance with established effluent discharge limits. Chart 3 shows that the past and current effluent concentrations remained below permissible discharge limit levels. Chart 4 shows that the concentrations of iron were under the permissible levels for the first quarter 2014 sampling results. Refer to the monthly O&M and the Significant Events reports for additional information on remediation system performance and daily operations.

3.0 GROUNDWATER MONITORING PROGRAM

On March 17 and 18, 2014 HRP sampled a total of 41 on-site and off-site monitoring wells. On-site monitoring wells included DW-1, DW-2, EW-5, EW-7C, EW-7D, EW-8D, EW-9D, and SW-1. Off-site wells included BP-3A, BP-3B, BP-3C, EW-1A, EW-1B, EW-1C, EW-2A, EW-2B, EW-2C, EW-2D, EW-3A, EW-3B, EW-3C, EW-4A, EW-4B, EW-4C, EW-4D, EW-6A, EW-6C, EW-10C, EW-11D, EW-12D, EW-13D, EW-14D, LF-02, MW-6D, MW-8A, MW-8B, MW-8C, MW-10B, MW-10C, MW-10D, and WT-01. In addition, the three extraction wells were sampled by isolating each recovery well pumps production water. The monitoring well locations are depicted in Figure 2a. A description of the groundwater sampling event is provided below.

3.1 Hydrological Data

At the time prior to sample collection, static groundwater levels were measured at all 41 locations on March 14, 2014. Depths to groundwater in January 17, 2014 when the PDBs were installed ranged from 43.99 ft (EW-14D) to 101.58 ft (MW-13D) below ground surface (bgs). Depths to groundwater in March 2014 when the PDB were retrieved ranged from 44.00 ft (EW-14D) to 102.74 ft (EW-s11D) bgs. The inferred groundwater flow direction is to south-southeast. Overall, groundwater elevations (Table 1) and inferred groundwater flow direction based on groundwater elevation contours (Figure 2b) were consistent with previous data.

3.2 Groundwater Sample Collection

The groundwater samples from the first quarter 2014 monitoring event were collected utilizing passive diffusion bags (PDBs), inserted into the monitoring wells. PDBs were first utilized for sample collection during the May 2012 sample event. PDBs were placed at predetermined, fixed depths (Appendix A) on January 17, 2014 following the fourth quarter 2013 sampling event. On, March 17 and 18, 2014 HRP collected and sampled the PDBs. At the time of sample collection, the PDB bag is retrieved, pierced with a decontaminated item, and the water inside is collected in VOA vials with septum caps, preserved with HCl. The VOA vials are labeled, recorded on a chain of custody, and placed in a cooler with ice.

The samples were submitted to Test America Laboratory, of Edison, New Jersey, an NYSDOH ELAP approved laboratory, to be analyzed for VOCs via EPA Method 8260. A list of wells sampled and analytical results are presented in Table 2. Based on the historic analytical results of metals, groundwater sampling for metals was discontinued by the NYSDEC following the July 2011 sampling event.

3.3 Groundwater Analytical Results

To assess the status of groundwater quality at the Site and adjacent area which has monitoring wells, HRP compared collected analytical data from the March 2014 sampling event to historical conditions and to applicable NYSDEC water quality criteria. Compounds detected above criteria during the March 2014 sampling event include tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, 1,1-dichloroethylene, vinyl chloride, 1,1,1-trichloroethane, freon 113, 1,1-dichloroethane, 1,2-dichloroethane, acetone, benzene, dichlorofluoromethane, and isopropylbenzene. Of note, acetone is a known lab artifact. See Table 2 for complete results. The measured VOC concentrations during this event are consistent with results from the previous sampling event results and from the step-draw down test evaluation, during which the extraction wells were shut off for a portion of the PDB contact time, allowing for hydrostatic equilibrium to return to static levels.

3.3.1 Comparison to Historical Groundwater Quality

The attached charts (Chart 6a through Chart 6c) illustrate the historical concentration trends for PCE and/or TCE in three wells (EW-1a, EW-4c, SW-1). These wells were selected due to consistent elevated VOC analytical results and the presence of sufficient historical data. In all cases, the results continue to indicate a general downward trend in VOC concentrations.

3.3.2 Plume Evaluation

An assessment of groundwater contamination distribution was conducted by creating contaminant isopleth charts depicting PCE and TCE concentrations versus time (Charts 6a through 6c). In addition, cross sections and plume footprint maps (Figures 3a and 3b) were generated for this sampling event. In general, a decreasing level of contamination was observed. Monitoring wells not associated with the Claremont Site monitoring program, but with the Former American Louvre site is represented on the map as these sites are located hydraulically upgradient and the Old Bethpage Landfill site is represented on the map as these sites are located hydraulically side gradient with an upgradient aspect from the Claremont Site.

PCE Contamination (Figure 3a)

PCE has historically been present above groundwater criteria in two zones of the sampling area for the site. Cross section A-A' east of the site shows an on-site migrating PCE plume with maximum observed concentrations of 18 ug/l at EW-4D and EW-7C. A separate plume appears to originate on-site, with maximum concentrations of 57 ug/l in SW-1 (Cross section C-C'). These plumes seem to be separate (Figure 3A, Cross Section Location cutout). Additional exceedances were noted in the southern portion of the study area, centered on wells BP-3b (73 ug/l) and BP-3c (77 ug/l).

TCE Contamination (Figure 3b)

TCE contamination is predominant to the east of the Site building (Cross section A-A'), and is at its highest concentration (300 ug/l) in well EW-7c, upgradient of the site, and in the furthest downgradient monitoring well to the southeast towards EW-14d (340 ug/l). This plume appears to be separate from an onsite generated plume (Cross section B-B'). The on-site generated plume has maximum observed concentrations of 8.1 ug/l in SW-1 (Cross section C-C'). As with PCE contamination, additional exceedances were noted in the southern portion of the study area, centered on well BP-3c.

4.0 EXTRACTION WELL CONTAMINANT PROFILE AND MODIFICATION

On December 5, 2012, the recovery pumps were removed from the extraction wells and a series of PDBs were deployed in each extraction well at several predetermined depths described below to evaluate the contributing zones of contamination in each extraction well. Previous to this sample event, the extraction wells had not been sampled utilizing PDBs, but were sampled in a single stream through the use of the extraction system utilizing the pumps. Prior to this data was used to optimize recovery pump placements and install packers to limit groundwater flow from clean screened intervals in the extraction wells.

Contaminated groundwater was observed in EX-1 and EX-2 in the shallowest samples, and throughout EX-3. Packers were installed in EX-1 and EX-2 to concentrate groundwater removal to the impacted depths. Following installation of the packers, all three pumps were replaced, and system operation resumed. Step-draw down pumping tests were conducted on June 27, 2013 in each recovery well to optimize flow rates and ensure contaminant capture. The step-draw down test data recommended a 10% reduction in order to reduce overall influent clean groundwater and limit capture from the up-gradient plume/source while maintaining the capture from contamination originating on-site from EX-1 and EX-2.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

HRP completed a groundwater monitoring event in March 2014 at the Claremont Polychemical Corporation Site, in which groundwater samples from 44 wells (groundwater monitoring wells and extraction wells) were collected. Analysis of the data has resulted in the following conclusions:

- A groundwater plume of VOCs, primarily PCE, originates from the south of the main site building;
- Based on the contamination noted in the upgradient monitoring wells, additional co-mingled plumes (potentially former American Louvre site, Old Bethpage Landfill, Trilite Site, and/or the Fireman's Training Center) migrate into the remediation area, and are marked by TCE predominance. The upgradient wells and southeastern wells are out of the operable unit VI and the radius of influence of the remediation system;
- Some of the TCE plume originating northeast of the Site is not being captured by the current treatment system;
- Two plumes identified southeast of the site may be related to the northernmost plume, although based on the current monitoring network, data gaps between the plumes exist;

- Since the reduction in the flow rate to EX-1 and EX-2 and retrofit of the packers, the rate of contamination has been consistent with past sampling rounds, and has slightly increased from historic removal rates as shown on Chart 5;

- The results from the first quarter 2014 groundwater sampling event showed compounds detected above criteria during the March 2014 sampling event include tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, 1,1-dichloroethylene, vinyl chloride, 1,1,1-trichloroethane, freon 113, 1,1-dichloroethane, 1,2-dichloroethane, acetone, benzene, dichlorofluoromethane, and isopropylbenzene; and

5.2 Recommendations

Based on analysis of data collected during this and historical events, HRP has the following recommendations for the Claremont Polychemical Corporation site:

- Twenty-one of the groundwater monitoring wells currently sampled are recommended for removal from the groundwater monitoring program or a reduction in the frequency of sampling. Refer to the February 18, 2014 "Recommendations on a Reduction in the Number of Groundwater Monitoring Well Sampled and on the Installation of Additional Groundwater Monitoring Wells" letter report for additional details;

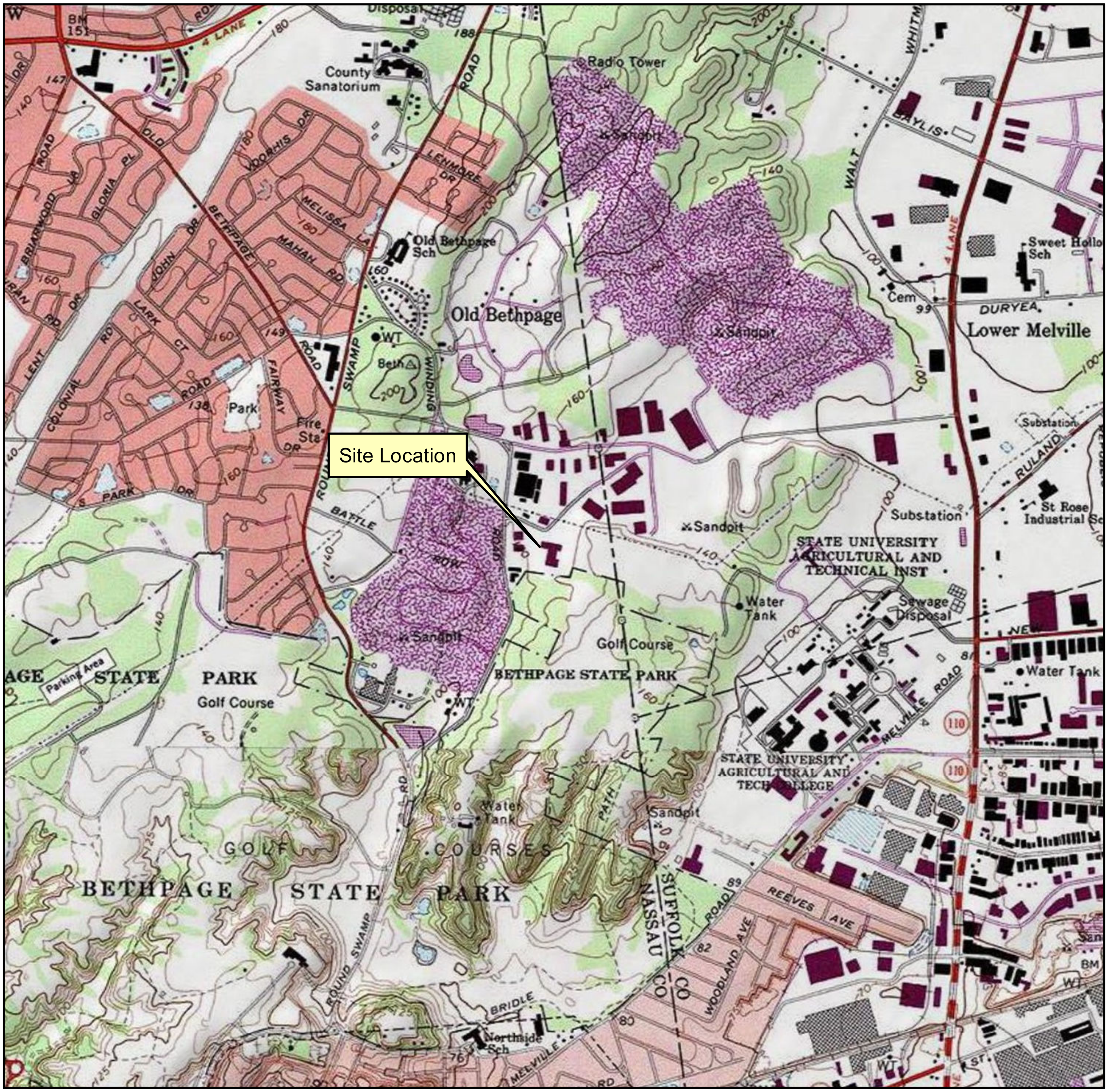
- Continued quarterly VOC monitoring of 20 observation wells using PDBs;

- Evaluate the need for the liquid phase carbon units in active remediation and use as a final polish in the treatment train. Remove granular activates carbon if the step is found to be redundant and evaluate the removal of the carbon tanks themselves;

- Investigation of soils in the southern and eastern portions of the former building location and operable unit (OU) IV to further investigate the plume originating from the Site to evaluate shallow groundwater impact observed in EX-2 and EX-3. Refer to the February 18, 2014 "Recommendations on a Reduction in the Number of Groundwater Monitoring Well Sampled and on the Installation of Additional Groundwater Monitoring Wells" letter report for additional details; and

- Additional investigation to identify the source and connectivity of the plumes or elevated concentrations identified in the MW-10 well cluster, the BP-3 well cluster and specifically at EW-14D (Figure 3d).

FIGURES



USGS Quadrangle Information
Quad ID: 40073-G4
Name: Huntington, New York
Date Rev: 1977
Date Pub: 1979

0 1,000 2,000 4,000 6,000 8,000 Feet

1 inch = 2,000 feet

N

Figure 1
Site Location
Claremont Polychemical Corporation
Old Bethpage, New York
HRP # NEW9625.OM
Site Code 130015
Scale 1" = 2,000'

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Figure 2a - Monitor Well Network
Claremont Polychemical Corporation
Old Bethpage, New York
HRP # NEW9625.OM - Site Code 130015
Scale 1" = 300'

Legend

- Monitoring Well
- Extraction Well
- Injection Well
- Oyster Bay Extraction Well
- Site Buildings

300 150 0 300 Feet

1 inch = 300 feet

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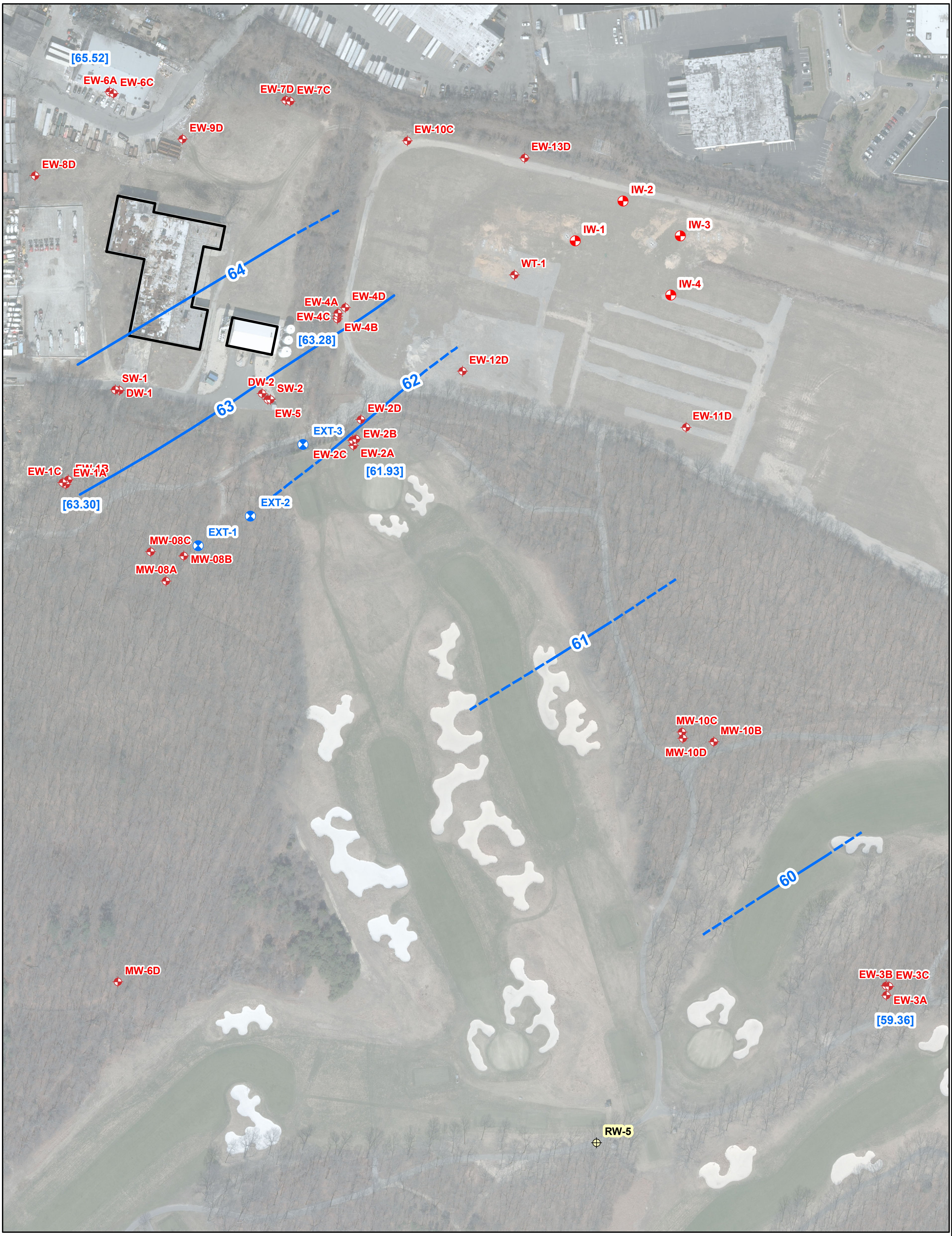

N

200 100 0 200 400
Feet

1 inch = 200 feet

Figure 2b
Shallow Groundwater
Elevation Contours
March 2014
Claremont Polychemical Corporation
Old Bethpage, New York
HRP # NEW9625.OM
Site Code 130015
Scale 1" = 200'

Legend

- Monitoring Well
- Extraction Well
- Injection Well
- Oyster Bay Extraction Well
- March 2014 Groundwater

Note: Contours dashed where inferred.

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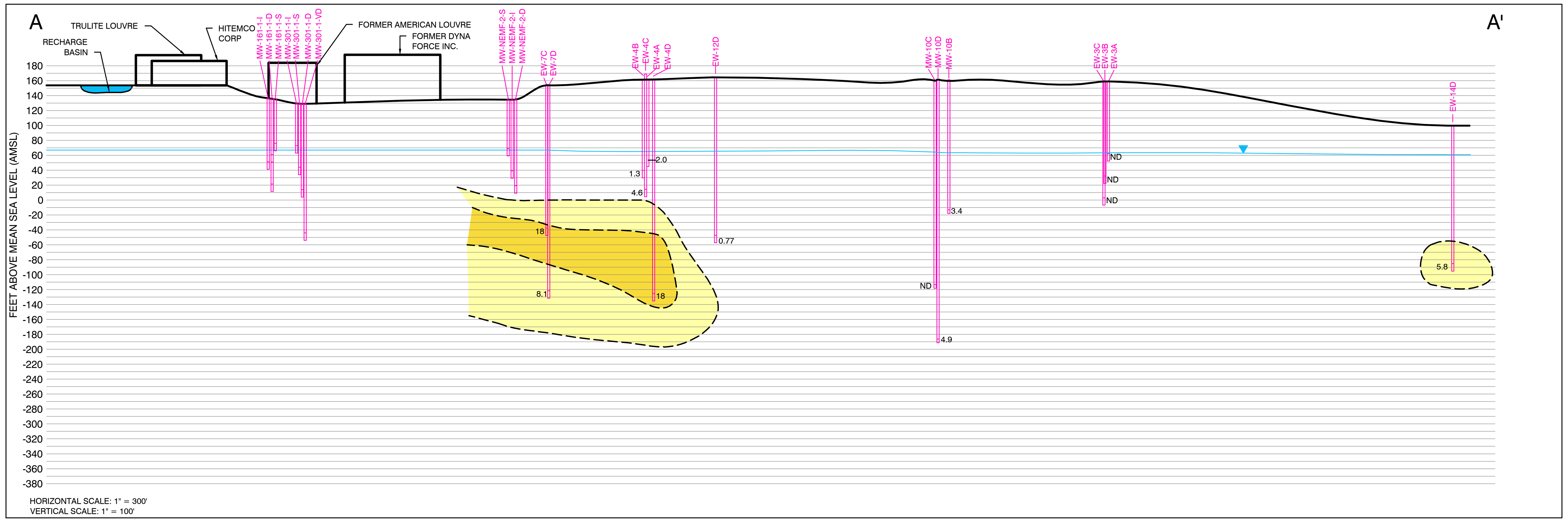
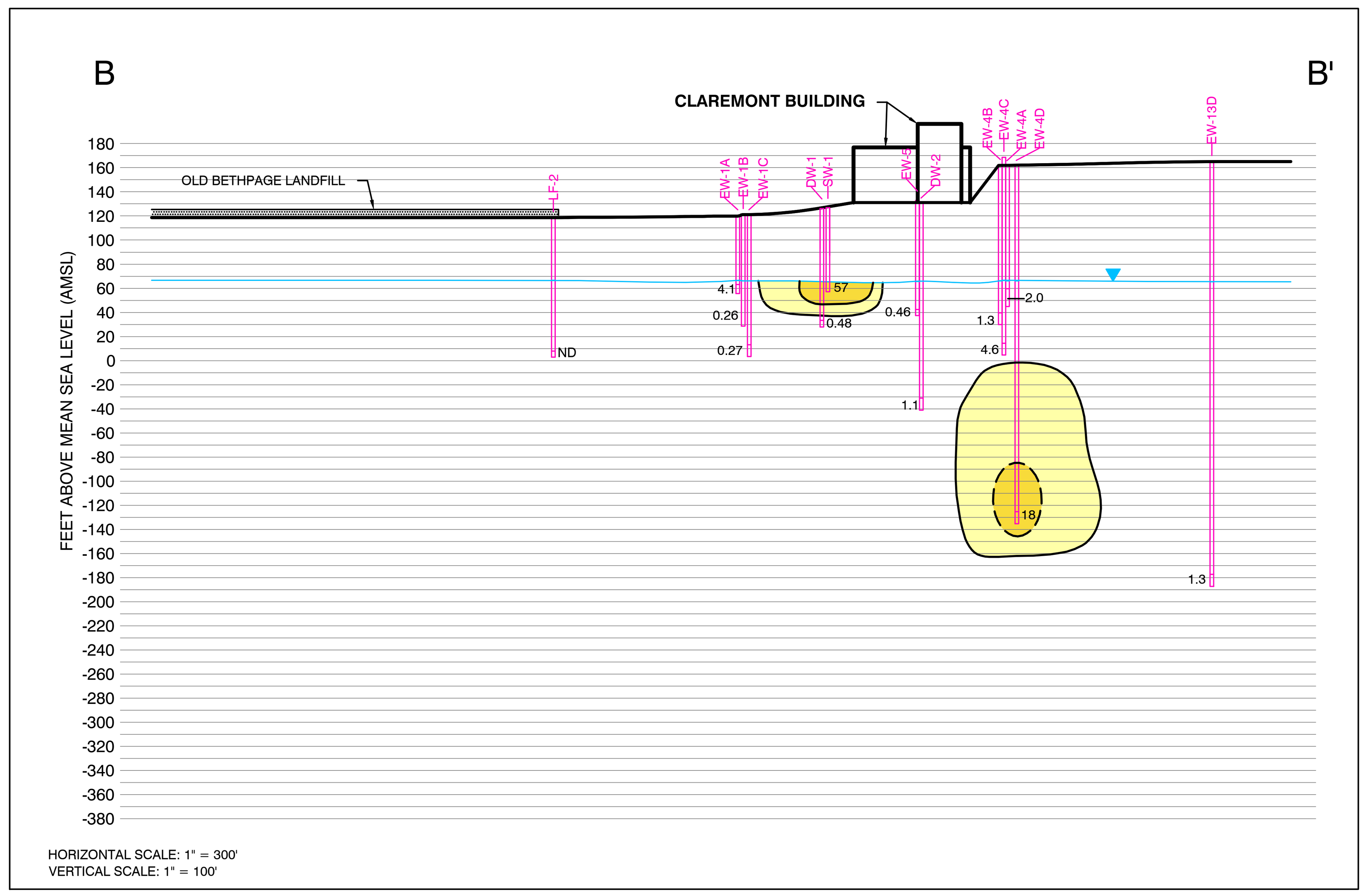




LEGEND

- WATER TABLE

PCE CONCENTRATION ISOPLETHS

- 5 ug/l - 10 ug/l
- 10 ug/l - 100 ug/l
- >100 ug/l
- 3.1 - PCE CONCENTRATION IN ug/l
- MONITOR WELL
- SCREENED INTERVAL

1" = 100'

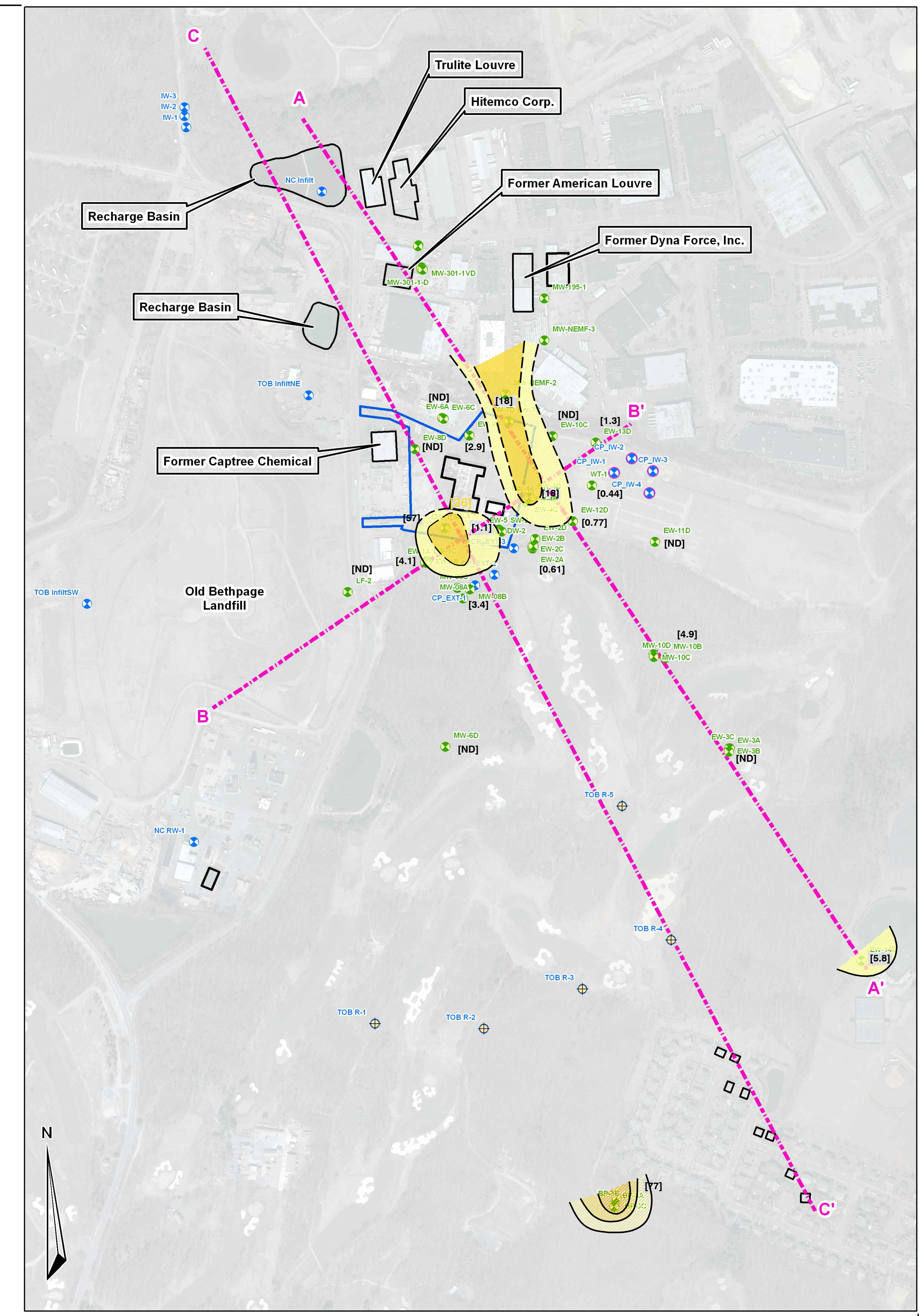
100 0 50 100 200

VERTICAL SCALE IN FEET

1" = 300'

300 200 100 0 150 300 600

HORIZONTAL SCALE IN FEET



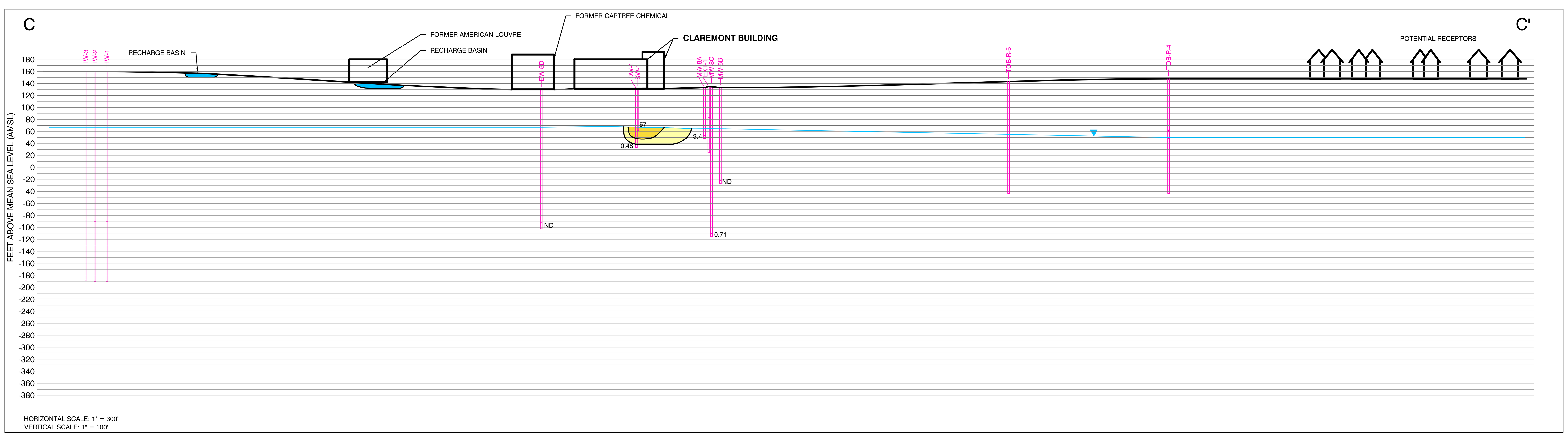
CROSS SECTION LOCATIONS

SCALE 1" = 500'

1" = 500'

500 0 250 500 1000

PLAN VIEW SCALE IN FEET



NO.	DATE	DESCRIPTION

PCE CONTAMINATION - MARCH 2014

CLAREMONT POLYCHEMICAL CORP.
OLD BETHPAGE, NEW YORK

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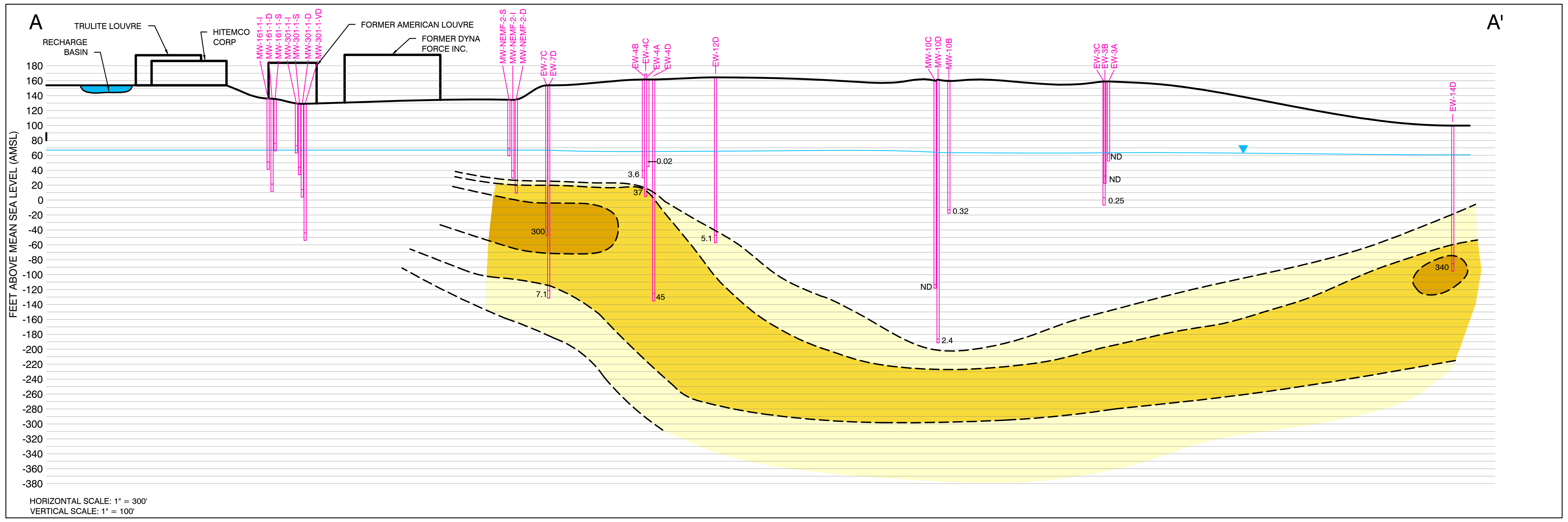
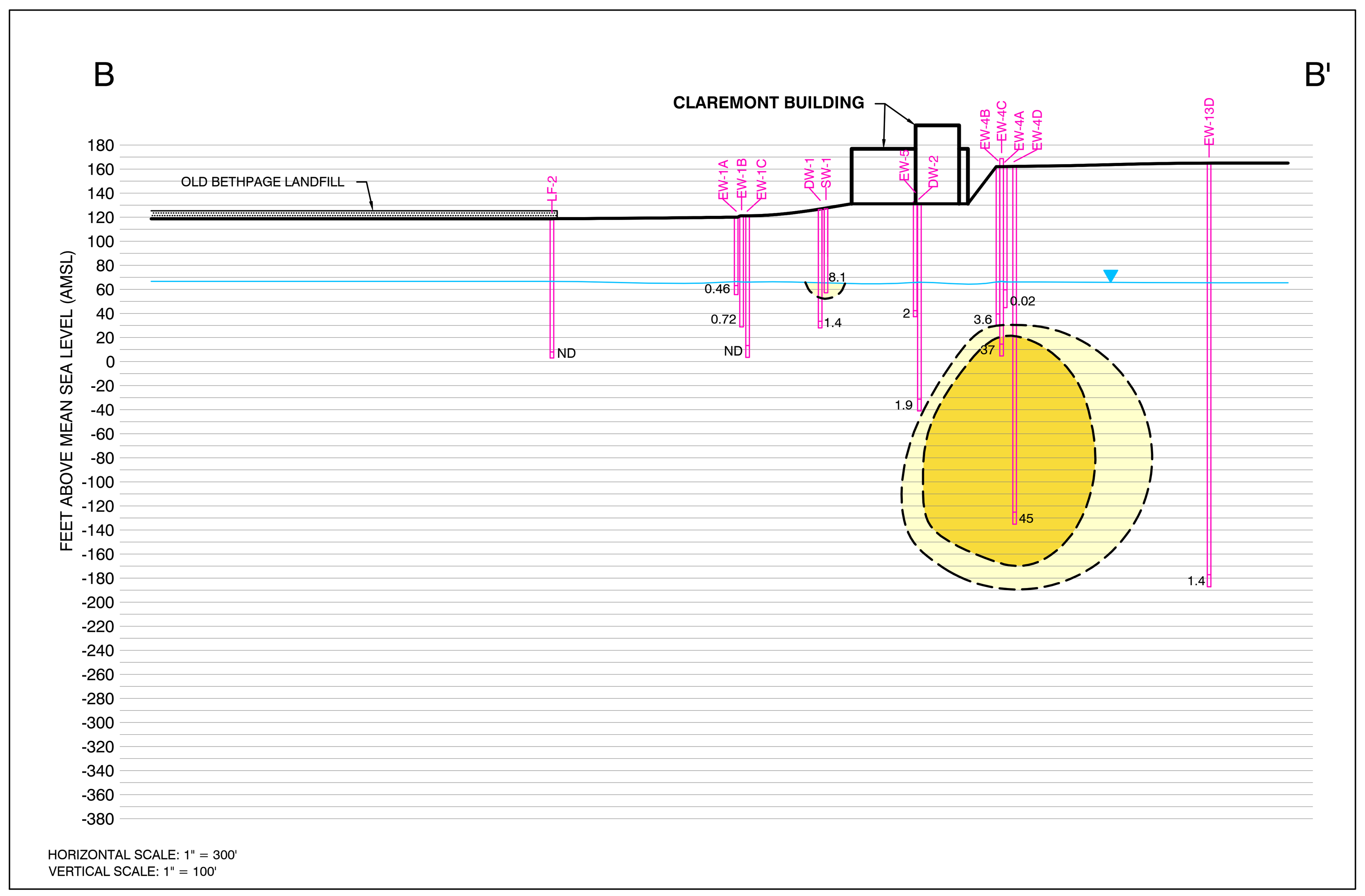
JMP DESIGNED	JK APPROVED	AS NOTED SCALE
DML DRAWN	4/8/2014 DATE	
GTS CHECKED	NEW9625.OM PROJECT NO.	FIG. 3A SHEET NO.





LEGEND

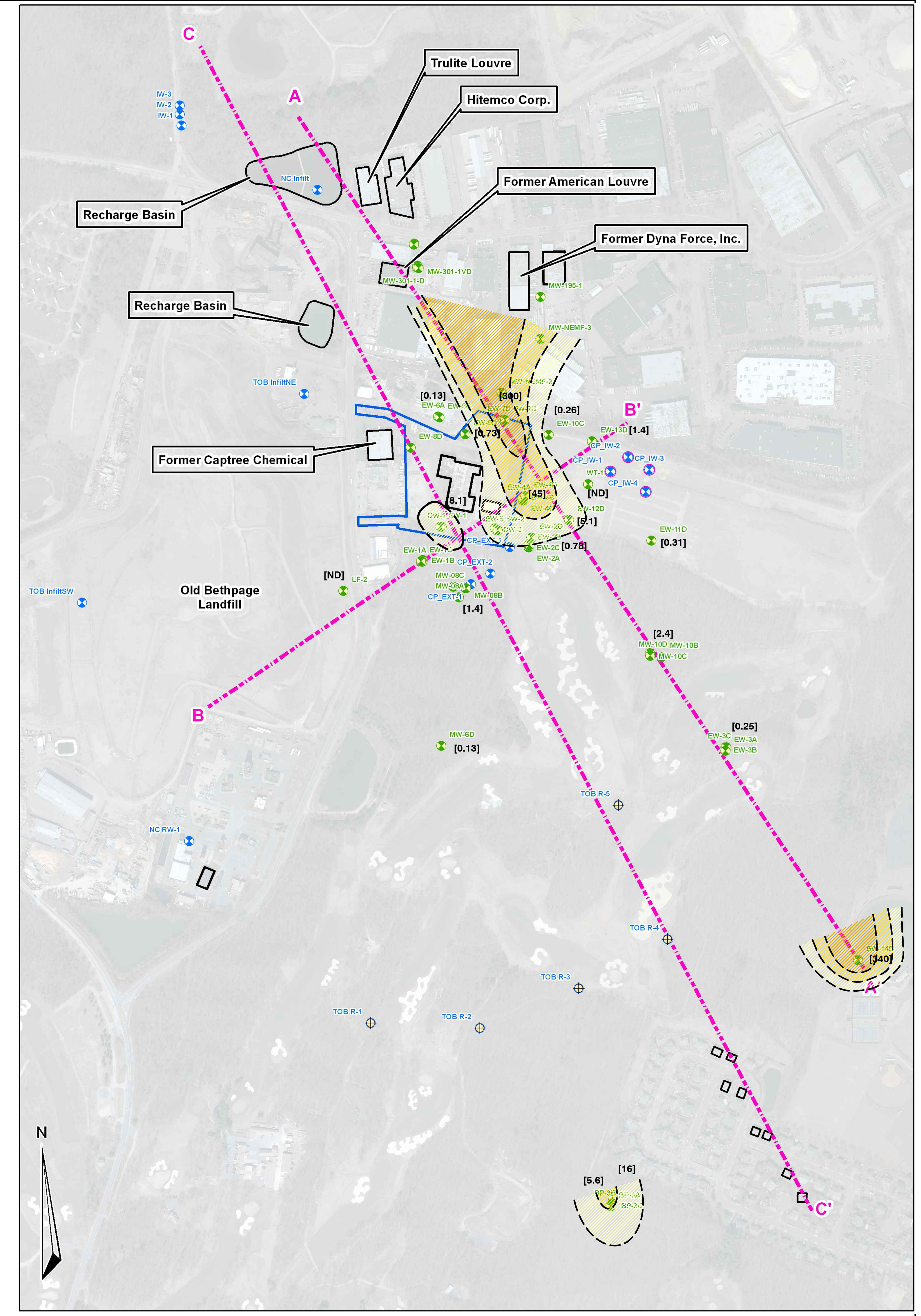
- WATER TABLE

TCE CONCENTRATION ISOPLETHS

- 5 ug/l - 10 ug/l
- 10 ug/l - 100 ug/l
- >100 ug/l
- 0.53 - TCE CONCENTRATION IN ug/l
- DASHED WHERE INFERRED

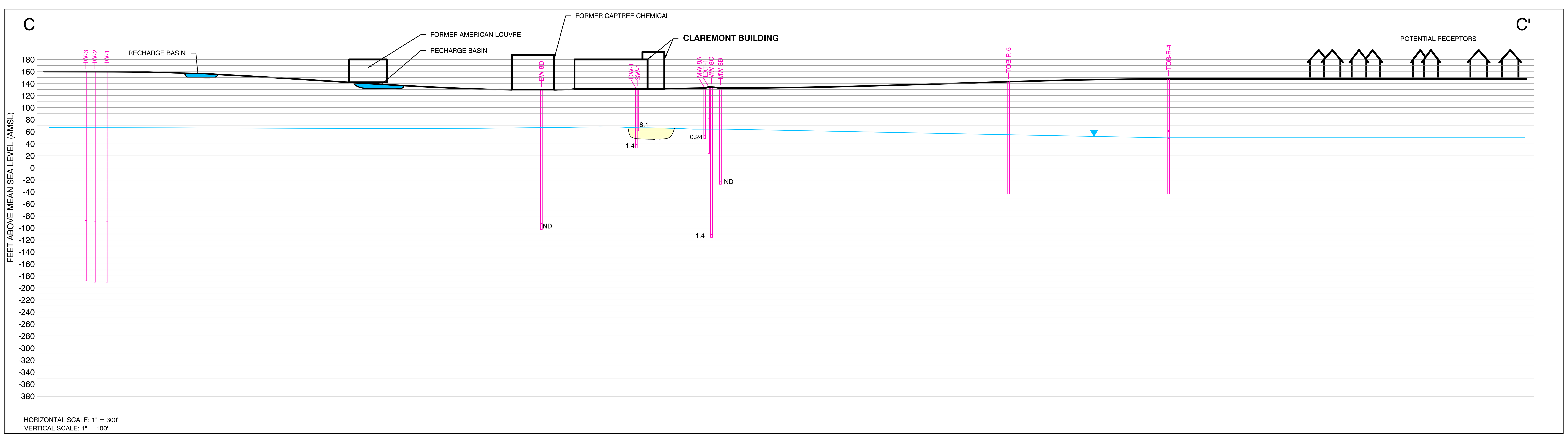
1" = 100'
100 0 50 100 200
VERTICAL SCALE IN FEET

1" = 300'
300 200 100 0 150 300 600
HORIZONTAL SCALE IN FEET



CROSS SECTION LOCATIONS
SCALE 1" = 500'

1" = 500'
500 0 250 500 1000
PLAN VIEW SCALE IN FEET



NO.	DATE	DESCRIPTION

TCE CONTAMINATION - MARCH 2014

CLAREMONT POLYCHEMICAL CORP.
OLD BETHPAGE, NEW YORK

HRP Associates, Inc.
dba HRP Engineering P.C.
Environmental/Civil Engineering & Hydrogeology
Creating the Right Solutions Together
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JMP DESIGNED	JK APPROVED	AS NOTED SCALE
DML DRAWN	4/8/2014 DATE	FIG. 3B SHEET NO.
GTS CHECKED	NEW9625.OM PROJECT NO.	

TABLES

Table 1: Groundwater Elevations
Claremont Polychemical Superfund Site
September 2013 (3Q13) Groundwater Sampling Event
Old Bethpage, NY
HRP#NEW9625.OM
Site Code: 130015
WA# D006130-19

Well ID	Sample Date	Depth to Water Below Ref El[b] (ft)	Water Elevation (ft AMSL)
EW-1A	14-Mar-14	66.70	63.30
EW-1B	14-Mar-14	67.22	63.31
EW-1C	14-Mar-14	67.30	63.14
EW-2A	14-Mar-14	95.43	61.93
EW-2B	14-Mar-14	95.49	62.24
EW-2C	14-Mar-14	95.42	62.24
EW-2D	14-Mar-14	95.30	62.94
EW-3A	14-Mar-14	99.59	59.36
EW-3B	14-Mar-14	99.60	59.49
EW-3C	14-Mar-14	98.85	60.10
EW-4A	14-Mar-14	98.50	63.28
EW-4B	14-Mar-14	98.55	63.25
EW-4C	14-Mar-14	98.34	63.20
EW-4D	14-Mar-14	98.36	63.41
EW-5	14-Mar-14	73.20	63.78
EW-6A	14-Mar-14	64.80	65.52
EW-6B	abandoned		
EW-6C	14-Mar-14	65.30	65.10
EW-7C	14-Mar-14	88.90	64.89
EW-7D	14-Mar-14	89.10	64.61
EW-8D	14-Mar-14	66.50	65.04
EW-9D	14-Mar-14	72.99	64.54
EW-10C	14-Mar-14	96.48	64.46
EW-11D	14-Mar-14	102.74	62.59
EW-12D	14-Mar-14	101.54	62.88
EW-13D	14-Mar-14	101.05	63.68
EW-14D	14-Mar-14	44.00	58.13
SW-2	dry		
DW-2	14-Mar-14	73.93	62.49
SW-1	14-Mar-14	68.42	63.07
DW-1	14-Mar-14	68.30	63.08
LF-02	14-Mar-14	59.00	59.70
PPW-1	Permanently closed Oct. 2008		
WT-01	14-Mar-14	98.10	66.47
MW-6D	14-Mar-14	98.43	61.96
MW-8A	14-Mar-14	72.30	60.88
MW-8B	14-Mar-14	71.80	62.44
MW-8C	14-Mar-14	73.00	62.72
MW-10B	14-Mar-14	99.72	61.40
MW-10C	14-Mar-14	99.65	60.62
MW-10D	14-Mar-14	99.45	61.72
BP-3A	14-Mar-14	67.42	57.12
BP-3B	14-Mar-14	67.42	56.15
BP-3C	14-Mar-14	67.50	56.18
RW-01	abandoned		

CAS		127-18-4	79-01-6	156-59-2	156-60-5	75-35-4	75-01-4	71-55-6	79-00-5	76-13-1	75-34-3	95-50-1	107-06-2	106-46-7	78-93-3	67-64-1	71-43-2	108-90-7	67-66-3	110-82-7	75-71-8	98-82-8	179601-23-1	75-09-2	1634-04-4	95-47-6	108-88-3	75-69-4
Unit		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
NYSDEC Class GA Criteria		5	5	5	5	5	2	5	1	5	5	3	5	5	50	50	1	5	7	NS	5	5	5	5	10	5	5	5
Sample Name	**Date Collected**	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	1,1-Dichloroethylene	Vinyl chloride	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2-Trichlorotrifluoroethane (freon 113)	1,1-Dichloroethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,4-Dichlorobenzene	2-Butanone (MEK)	Acetone	Benzene	Chlorobenzene	Chloroform	Cyclohexane	Dichlorodifluoromethane	Isopropylbenzene	m/p-Xylenes	Methylene chloride	Methyltertbutyl ether	o-Xylene	Toluene	Trichlorofluoromethane
BP-3a	3/17/14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	**0.46**	<1	<1	<1	<1	<1	<1	<1	<1	<1
BP-3b	3/17/14	**73**	**5.6**	**29**	**0.21**	**0.28**	**0.27**	**0.39**	<1	**0.4**	**2.5**	<1	<1	<1	<5	<5	**0.11**	<1	**0.23**	<1	**1.3**	<1	<1	<1	<1	<1	<1	<1
BP-3c	3/17/14	**77**	**16**	**140**	**0.61**	**0.93**	**4.3**	**1.6**	**0.62**	**5.1**	**10**	<1	**0.6**	<1	<5	<5	**0.67**	<1	**0.57**	**0.24**	**12**	<1	<1	**1.3**	<1	<1	<1	**0.86**
DW-1	3/18/14	**0.48**	**1.4**	**0.36**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
DW-2	3/18/14	**0.46**	**2**	**0.58**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-1a	3/18/14	**4.1**	**0.46**	**0.79**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-1b	3/18/14	**0.26**	**0.72**	**0.24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-1c	3/18/14	**0.27**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	**0.27**	<1	<1	<1
EW-2a	3/17/14	<1	**0.76**	**0.54**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-2b	3/17/14	<1	**0.35**	**0.2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-2c	3/17/14	<1	**0.33**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-2d	3/17/14	**0.61**	**0.78**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	**0.51**	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-3a	3/17/14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	**0.42**	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-3b	3/17/14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-3c	3/17/14	<1	**0.25**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-4a	3/17/14	**2**	**0.2**	**0.31**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-4b	3/17/14	**1.3**	**3.6**	<1	<1	**0.7**	<1	<1	<1	<1	**0.15**	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-4c	3/17/14	**4.6**	**37**	**1.3**	**2.4**	**1.9**	<1	**2.3**	<1	<1	**0.4**	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-4d	3/17/14	**18**	**45**	<1	<1	**0.2**	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-5	3/18/14	**1.1**	**1.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2.8**	**620**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-6a	3/18/14	<1	**0.13**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**0.21**
EW-6c	3/18/14	<1	**0.13**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	**14**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-7c	3/18/14	**18**	**300**	**5.2**	<1	**0.54**	<1	<1	<1	<1	**0.22**	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	**1.1**	<1	<1	<1
EW-7d	3/18/14	**8.1**	**7.1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-8d	3/17/14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-9d	3/18/14	**2.9**	**0.73**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	**0.33**	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-10c	3/17/14	<1	**0.26**	<1	<1	**0.17**	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	**0.33**	<1	<1	<1
EW-11d	3/17/14	<1	**0.31**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-12d	3/17/14	**0.77**	**5.1**	**1.5**	<1	**0.92**	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-13d	3/17/14	**1.3**	**1.4**	<1	<1	**0.4**	<1	<1	<1	<1	**0.2**	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EW-14d	3/17/14	**5.8**	**340**	**2**	<1	**38**	<1	**45**	**0.87**	**0.94**	**0.86**	<1	**9.5**	<1	<5	<5	<1	<1	**1.5**	<1	<1	<1	<1	**0.48**	<1	<1	<1	<1
LF-2	3/18/14	<1	<1	**0.41**	<1	<1	<1	<1	<1	<1	<1	**1.1**	<1	**2.7**	<5	<5	**3.2**	**2.8**	<1	<1	<1	**5**	**1.9**	<1	<1	**0.59**	**0.35**	<1
MW-6d	3/17/14	<1	**0.13**	**0.23**	<1	<1	<1	<1	<1	<1	<1	**0.37**	<1	<1	<5	<5	**0.3**	**0.52**	<1	**0.16**	<1	<1	<1	<1	**2**	<1	<1	<1
MW-8a	3/17/14	**3.4**	**0.24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-8b	3/17/14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-8c	3/17/14	**0.71**	**1.4**	<1	<1	**0.19**	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-10b	3/17/14	**0.38**	**0.32**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	**0.17**	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-10c	3/17/14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW-10d	3/17/14	**4.9**	**2.4**	**0.4**	<1	<1	<1	<1	<1	<1	<1	<1	**0.68**	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW-1	3/18/14	**57**	**8.1**	**7**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WT-1	3/17/14	**0.44**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1