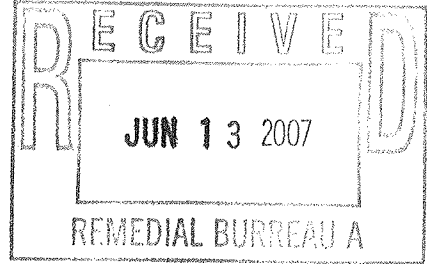




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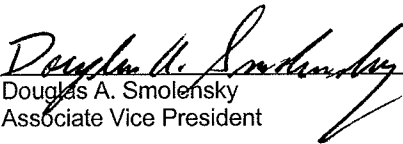
United Stellar Industries Property
131 Sunnyside Boulevard,
Plainview, New York

June 2007

ARCADIS



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Site Characterization Report

United Stellar Industries Property
131 Sunnyside Boulevard
Plainview, New York

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1. Introduction

This Site Characterization (SC) Report for the United Stellar Industries Property (the Property) has been prepared by ARCADIS on behalf of 131 Sunnyside, LLC (Sunnyside) and Gertrude Discount (Discount). The SC Report is submitted pursuant to Section II D "Submission of Final Reports and Annual Reports", of the Order On Consent (Consent Order or CO) Index # W1-1025-04-10, executed by the New York State Department of Environmental Conservation (NYSDEC), Sunnyside, and Gertrude Discount. The former United Stellar Industries Property is located at 131 Sunnyside Boulevard, Plainview, New York.

The objectives of the SC effort was as follows:

- Determine whether any significant concentration of hazardous waste remain at the Property.
- Document the activities conducted as part of the SC for the Property as required by the CO.

2. Property Description

The following sections describe the former United Stellar Industries Property.

2.1 General Property Description

Much of the information and descriptions presented in this section and the following sections have been taken from the April 2004 Report "Environmental Site Assessment Equine-Stellar Corp., 131 Sunnyside Boulevard, Plainview, NY", prepared by Anson Environmental Ltd. on behalf of 131 Sunnyside LLC and Astoria Federal Savings & Loan Association.

The property is located at 131 Sunnyside Boulevard, south of the Long Island Expressway on the eastern side of Sunnyside Boulevard in Plainview, Town of Oyster Bay (Figure 1). To the south, a portion of the property is bounded by Terminal Drive. The property is 3.3 acres and currently contains one building that has recently undergone renovation.

The property is also located on the western side of but within the Plainview Industrial Park (140 acres). The Industrial Park has been assigned NYSDEC Site Registry No.

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1-30-104 due to soil and groundwater contamination (primarily in the eastern part of the Park) that may have been the source of groundwater contamination detected in a Plainview Water District public supply well. Many of the sites within the Industrial Park are in various stages of environmental investigation/remediation. The property is not a listed site on the New York State Registry of Inactive Hazardous Waste Disposal Sites.

2.2 Property History

United Stellar Industries, Corp. and its successor company Equine-Stellar Corp. occupied the subject property from the late 1950s until the company's closure in 2002. Initially two separate buildings occupied the property, a single story shop and office area near Sunnyside Boulevard, and a second two-story office building near Terminal Drive. Following a series of expansions to the Sunnyside building in the 1960's, the two buildings were joined in the configuration shown on Figure 2. A current site plan is shown on Figure 3.

2.2.1 Former Activities

The property was used for the manufacture of metal parts for the aerospace industry, bicycles, and other metal structures. During the manufacturing process, hazardous materials were used to degrease the metals parts and to subsequently paint those parts. EPA generator identification number NYD055323760 was assigned to the site.

Nassau County Department of Health records reviewed by Anson indicated that

- plating operations took place on site in the late 1950s and early 1960s and associated chemicals were discharged to the ground from those operations (subsequent investigation of the plating area by Anson indicated no exceedances of TAGMs);
- hazardous materials were stored and used on-site;
- hazardous wastes were stored on-site prior to disposal off-site.

According to Anson Environmental, the NYSDEC reviewed the site operations in April 2002 and did not find any violations.

2.2.2 Previous Investigations Completed

Two previous investigations were conducted at the Property by Anson Environmental, Ltd. (AEL). Their titles and dates of completion are provided below:

- The report entitled, "Phase I Environmental Site Assessment, Site Location: 131 Sunnyside Boulevard, Plainview, New York", was completed on September 29, 2003.
- The report entitled, "Environmental Site Assessment Equine-Stellar Corp., 131 Sunnyside Boulevard, Plainview, NY", was completed on April 29, 2004.

Both of these reports have previously been provided to the NYSDEC.

The purposes of the AEL work conducted at the Property were as follows:

- Perform the due diligence associated with purchasing industrial real estate,
- Perform the underground injection control (UIC) investigation necessary to obtain closure for UIC structures, and
- Obtain closure of the EPA generator's permit for the site.

The scope of work associated with the Phase II environmental site assessment summarized in the April 2004 report included sampling of

- four drywells in the parking lot and driveway;
- floor drains in the hazardous material storage room;
- soils immediately beneath concrete patches in the floor;
- perched water beneath the western portion of the site;
- mold growing in the building interior; and
- suspected asbestos containing materials.

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Laboratory analysis of soil and sediment samples collected from the drywells, floor drain and patched concrete identified some concentrations of chromium and other metals that exceeded the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs) for these compounds. In addition, the drywell investigation identified underground pipes entering these drywells and the floor drain. Further investigation identified several drywells finished below grade associated with these pipes. In all cases of exceedances, excavation/removal was performed such that all endpoint samples were below TAGM 4046 RSCO levels (except for the northern post-cleanout sample from Drain 5 [tri-valent chromium slightly above RSCOs] where further excavation would have undermined a foundation footing).

The flooring and soil under the flooring in locations where hazardous materials were used or stored were sampled and analyzed using USEPA Methods 8260, 8270 and RCRA metals. Laboratory analytical data were compared to the New York State (NYS) TAGM 4046 RSCOs. Where soil did not meet the TAGM 4046 RSCOs, it was removed from the site and disposed of.

Laboratory analysis of the perched water sample collected by hydropunch was analyzed by United States Environmental Protection Agency (USEPA) Methods 8260, 8270, and Nassau County metals. No exceedances of the drinking water standards were found, except for trichloroethylene which was detected slightly above groundwater standards at 7 parts per billion (ppb), and Chromium which was found in unfiltered samples in excess of drinking water standards, but was not detected in the filtered sample.

The UIC closure plan (coordinated with the Nassau County Department of Health [NCDOH] and the United States Environmental Protection Agency [EPA]) included investigation/sampling of underground piping, drywells, and sanitary pools. Where sample results of soils exceeded TAGM 4046 RSCO levels, soil was excavated and disposed of offsite. Manifest documentation is provided in the AEL reports. All endpoint samples were below TAGM 4046 RSCO levels.

Closure of the EPA generator's identification number required sampling of the areas where hazardous materials and wastes were used or stored on site. As with the UIC work described above, excavation and proper offsite disposal was conducted in all areas exceeding TAGM 4046 RSCO levels. Endpoint samples were all below TAGM 4046 RSCO levels.

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Asbestos containing materials identified inside the building have been removed. Mold contaminated building materials have also been removed. All required manifests are documented in the AEL reports.

All work performed by AEL was presented to NYSDEC personnel (Nathan Putnam) at an onsite meeting on July 12, 2004. The reports cited above detailing the work performed were hand delivered to the Department at the July 12, 2004 meeting.

The closure letter pertaining to the UIC structures is referenced as:

- Letter from United States Environmental Protection Agency, dated September 10, 2004: Regarding Underground Injection Control Program Regulation Injection Well Closures and Authorization by Rule 131 Sunnyside, LLC (UICID:04NY05926070)

In the early 1990's, the NYSDEC commissioned the consulting firm of Dvirka and Bartilucci to perform a preliminary site assessment of the entire Plainview Industrial Park. That report is:

- Dvirka and Bartilucci, February 2003, Preliminary Site Assessment Report, Plainview Industrial Park, Plainview, Nassau County, New York; Prepared for NYSDEC.

The Dvirka and Bartilucci report focused on thirteen properties within the Industrial Park. Data suggests that some of the properties located in the eastern half of the Industrial Park may be linked to the Industrial Park eastern contamination and the offsite contamination that had been detected at the Plainview Water District supply well. The United Stellar Industries Property is the only property of the thirteen that is located at the western boundary of the Industrial Park. There is no evidence that links the eastern offsite contamination to this site.

On December 30, 2004, ARCADIS collected three sub-slab soil gas samples from beneath the footprint of the building. Due to the detection of various VOCs in the sub-slab soil gas, a vapor recovery system (VRS) pilot test was conducted in late April 2005 and into May. Based on the concentrations of VOCs detected in the soil vapor recovery system influent (during the pilot test), a full scale system was designed and constructed. The locations of the soil vapor extraction wells are shown on Figure 3. Influent vapor VOC data collected from the three VRS wells during VRS operation are shown on Figure 4.

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Substantial reductions in influent VOC concentrations have been observed, with a clear downward trend evident. It is clear that the system is operating as designed with significant benefits to the subslab environment. Additionally, subslab pressure monitoring points show that the system functions as a subslab depressurization system and successfully eliminates a potential pathway for vapors to enter the building. The system continues to operate and periodic system status reports are submitted to NYSDEC.

2.3 Environmental Setting

The following sections describe the environmental setting of the site.

2.3.1 Site Description

The United Stellar Industries Property is comprised of 3.3 acres, located on the east side of Sunnyside Boulevard, just south of the Long Island Expressway. The Property is bordered by Extra Space Storage, a self storage facility to the north; Nationwide Movers, BBB Van Lines, and Terminal Drive to the south; an automobile auction facility to the east; and Sunnyside Boulevard to the west. The Property is approximately 200 feet above mean sea level and is generally flat.

2.3.2 Site Area Geology

In general, the geology at the Property, from land surface down to the bottom of the Magothy Formation, consists primarily of sand with interbedded layers of silt, clay and gravel. The uppermost sequence of these sediments is part of the Upper Pleistocene outwash and/or morainal deposits, while the lower sequence comprises the Magothy Formation, which is part of the Atlantic Coastal Plain deposits. In the vicinity of the site, the Upper Pleistocene deposits are approximately 100 feet thick while the underlying Magothy deposits may be in excess of 500 feet thick (Smolensky, 1989). The Upper Pleistocene deposits in this area of Long Island may be coarse to fine sand and gravels, and may locally include clay lenses or layers. Within the Magothy Formation, the deposits tend to be fine to medium sands with interbedded clays and silts. The lowest 75 feet (approximate thickness) of the Magothy (referred to as the basal Magothy) tends to be coarser than the rest of the Magothy.

2.3.3 Site Area Hydrogeology

The water bearing units underlying the Property are the Upper Glacial and Magothy aquifers. Regional water table configuration maps (U.S.G.S., 1998 and 1987) indicate that the site is located just south of the regional groundwater divide. Recent drilling efforts at the site conducted by AEL noted the presence of perched water approximately 80 ft bls. Dvirka and Bartilucci (2003) also noted the presence of perched water in borings drilled to the east. Groundwater (the water table) exists approximately 125 ft bls. No natural surface water features exist in the area.

2.4 Summary of Existing Environmental Data

See section 2.2.2 for a summary of previously completed investigations and existing data. The reader is referred to reports by Anson Environmental, Ltd. for a detailed discussion of the work conducted, along with figures and tables showing data collection locations, analytical results and findings.

2.5 Site Conceptual Model

Based on a review of the previously cited reports by AEL, the following conceptual model has been developed. The Property was initially developed in the early 1950's with the construction of a building heated by natural gas and setup as a machine shop. In the 1960's, two buildings, one on Sunnyside Boulevard, and a second located on Terminal Drive, were connected following a series of expansions of the Sunnyside Boulevard building.

The Property was occupied by United Stellar Industries Corp., and its successor company CorpEquine-Stellar Corp. from the 1950's through the company's closure in 2002. Operations at the site involved the manufacture of various plated and painted metal components. During the performance of this work, hazardous materials, including degreasers were used. Data collected by AEL indicated multiple areas of soil impacts both beneath the facility floor, and in various floor drains located throughout the Property.

To date, all areas of concern (drywells, septic systems, floor drains, etc.) have been cleaned up to NYSDEC standards. All excavations of soil and sediment have been conducted to TAGM 4046 RSCO levels (except as noted on page 4). These efforts have been extensive and complete. They have addressed all known and/or suspected areas of contamination.

Following the company's closure in 2002, the Property had been unoccupied. Immediately following property transfer to the current owner, remediation of impacted soils occurred. The Property has since been renovated by the current property owners, 131 Sunnyside, LLC, and a portion of the building is now occupied.

3. Site Characterization Investigation and Results

The objective of, methodology employed, and results of the site characterization investigatory efforts are described in the following sections.

3.1 Site Characterization Investigation Objectives

The objectives of the Site Characterization effort were to:

- Determine the nature and extent (depth, thickness, direction of dip) of the confining unit underlying the on-site perched water horizon.
- Determine the presence of any significant impacts to the quality of the perched water (if any) with respect to volatile organic compounds, metals, or semivolatile organic compounds.
- Determine the presence of any significant impacts to the quality of the groundwater (the water table), if any, with respect to volatile organic compounds, metals, or semivolatile organic compounds.

3.2 Hydrogeologic Investigation

The hydrogeologic investigation of this site proceeded in a phased manner. Initially, five perched water monitoring wells were installed to characterize the local hydrogeologic framework and monitor perched water quality at the site. Following a review of the analytical results from the first groundwater sampling event, six additional perched water monitoring wells were installed and perched water samples collected.

The Prosonic® Corporation provided drilling services to collect continuous soil cores from each of the boreholes drilled at the site. ARCADIS' hydrogeologist reviewed, field screened and logged each of the soil cores. In addition, the five deepest borings (those that fully penetrated the upper perched zone) were gamma-logged. Copies of the boring logs and gamma-logs are included in Appendices A and B, respectively.

3.2.1 Assessment of potential perching zones

Clay lenses of varying thicknesses were encountered in each of the soil borings drilled at the site. The depth of the various clay lenses encountered during the site characterization investigation is noted in Table 1, along with the total depth of each boring. Table 2 provides the elevation (relative to mean sea level) of the top and bottom of the various clays encountered during the investigation. As can be seen from the tables, not every clay lens was encountered in each borehole.

Of the numerous clay lenses penetrated, two aerially extensive perching zones were encountered at approximately 80 and 100 ft below land surface, respectively. In an attempt to gauge the thickness of the deeper clay, soil boring PW-3D was advanced to a depth of 186 ft below land surface. Based on this borehole, it was determined that the deeper clay unit at this location is approximately 70 ft thick.

Of particular interest during this investigation are the extent, thickness and direction of dip of any clays supporting perched water. The clays at 80 and 100 ft below land surface, referred to as the shallow and deep clays, respectively, were the only clays found to support perched water. On Tables 1 and 2 these clays were the 4th and 5th clays encountered in the soil borings. Using the elevation data summarized in Table 2, ARCADIS developed surface configuration maps of these two clays, shown on Figures 5 and 6, respectively.

The surface of the shallow clay exhibits a slight ridge type feature extending from PW-1S to PW-6D, with the clay surface descending from this ridge from the southeast to the southwest. With the exception of PW-6S (which was not advanced deep enough to encounter the clay), this unit was noted in each of the borings drilled at the site. Maximum change in elevation of the clay over the site is approximately 5 ft. On average, its thickness has been estimated at about 7 ft.

The deeper clay was noted in each of the deeper boreholes. It dips to the south, and was noted to be approximately 70 ft thick in boring PW-3D (the only boring to fully penetrate the clay).

3.2.2 Monitoring Well Installation

In total, eleven monitoring wells were installed at the site. During the course of the investigation, two distinct perched water zones were observed. The first is

approximately 80 ft below land surface, and the second is approximately 100 ft below land surface.

Of the monitoring wells completed during the SC investigation, six are shallow perched water monitoring wells (PW-1S, PW-2S, PW-3S, PW-4S, PW-5S, and PW-6S), and five are deep perched water monitoring wells (PW-1D, PW-2D, PW-3D, PW-5D and PW-6D). Monitoring well locations are shown on Figure 6.

Monitoring well screen zones were selected such that well screens were placed just above the surface of the clay perching unit being monitored. Monitoring Well construction details are provided in Table 3.

Although the New York State Department of Environmental Conservation (NYSDEC) approved workplan called for the installation of both perched water and groundwater monitoring wells, only perched water wells were installed during this investigation. This deviation from the workplan was made under the following circumstances/conditions; During the initial phase of the site characterization effort, Mr. Nathan Putnam (NYSDEC project manager) was on site to observe the drilling method and collection of soil cores. As discussed above, the borehole log for soil boring PW-3D indicated that the deeper clay was approximately 70 ft thick. ARCADIS believed that this substantial clay unit would provide an effective barrier to any potential vertical contaminant migration between the deeper perched water and groundwater. Mr. Putnam agreed with this assertion and permitted ARCADIS to proceed with the installation of only shallow and deep perched water monitoring wells.

3.2.3 Water Level Measurement and Assessment of Perched Water Flow

Several water level measurement rounds were conducted during the course of this site characterization investigation. Water levels were monitored on July 28, 2006; October 16, 2006; February 14, 2007 and April 11, 2007. Perched water level elevations are summarized in Tables 4 through 7.

The perched water level elevation data indicates that the shallow perched water zone is unconfined, while the deeper perched water zone is confined. That is, the hydraulic head elevation of the deep perched water zone is above the bottom of the shallow clay (it must remain fully saturated to be considered confined). As such, the direction of deep perched water flow is not dependent on the slope of the deep clay surface, but rather on the distribution of hydraulic heads. Figures 7 and 8 show the contoured

hydraulic head elevations of the shallow and deep perched water surfaces, respectively.

Based on the equipotential lines (perched water contours shown on the figures), the shallow perched water direction flow is to the northeast, while the deep perched water has the potential to flow to the southwest. Water level measurements indicate that approximately 10 ft of perched water existed in the shallow perched zone. It is unknown, however, how the perched zone may behave under periods of low precipitation. Theoretically, the perched zone will become thinner as surface recharge is reduced. Based on the data collected, it is not known if this zone has ever been or could ever be entirely dry. Of course, if the perched zone were to be dry, there would be no potential for contaminant transport. The current horizontal hydraulic gradients for the shallow and deep zones is approximately 0.0066 and 0.0025 ft/ft, respectively.

3.2.4 Perched-Water Sampling

Several rounds of perched water sampling were conducted during the course of this site characterization investigation. Water quality samples for the assessment of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and the eight Resource Conservation and Recovery Act (RCRA) metals (metals) were collected from PW-1S, PW-1D, PW-2S, PW-3D, and PW-4S on August 10, 2006. Based on the analytical results for these samples, and with the approval of Mr. Nathan Putnam (NYSDEC project manager), subsequent water quality sampling was limited to VOCs only.

Based on the August 2006 water quality results, additional monitoring wells were installed and sampled. Specifically, monitoring wells PW-2D, PW-3S, PW-5S, PW-5D, PW-6S and PW-6D were installed and sampled for VOCs on February 15, 2007. Based on the analytical results of those samples, verification samples were collected from monitoring wells PW-2D, PW-3D and PW-6D on March 16, 2007.

Analytical results of the laboratory analyses of VOCs, SVOCs and metals in perched water are presented in Tables 8, 9 and 10, respectively. Sample collection logs and chain of custody forms are provided in Appendix C and D, respectively.

No metals were found above NYS Ambient Water Quality Standards and Guidance Values in any of the samples collected. Similarly, no SVOCs were found above the standards and guidance values in the samples collected.

No VOCs were found above the standards and guidance values in any of the shallow perched water samples. Some deeper perched zone samples indicated the presence of VOCs, primarily Trichloroethylene (TCE) and cis-1,2 Dichloroethene (DCE). Specifically, wells PW-1D, PW-2D, PW-3D, and PW-6D had detections of TCE and DCE of 6.9 and not detected, 98 and 21, 200 and 28, and 460 and 93 ppb, respectively. These data are shown on Figure 9.

Based on these data, impacted perched water beneath the site is limited primarily to the lower perched water unit, and the south-eastern portion of the property. VOC-impacted groundwater was found in monitoring wells PW-1D, PW-2D, PW3D, and PW-6D. Given the apparent continuity of the shallow clay layer it would be expected that there exists some degree of hydraulic separation between the shallow and deep perched horizons. Logically, this separation would limit the potential for contaminant transport from the shallow to the deeper perched zone. Therefore, it is not clear how the VOCs observed in the deeper perched zone may relate to the perched water in the shallow zone (where VOCs were not observed). This circumstance could indicate that the deeper perched water and the VOCs observed in that horizon are currently migrating beneath the property but had originated offsite.

3.2.5 Quality Control/Quality Assurance Methods

To ensure the reliability of the groundwater quality data, a number of quality assurance and quality control methods were employed. Both field blank and trip blank samples were collected during each sample collection effort; resulting in a total of eight quality control samples – four field blanks and four trip blanks. Additionally, a blind replicate sample was collected from Perched Water Well PW-3D during the first round of groundwater sample collection.

In addition to the blank and replicate samples, ARCADIS collected verification samples from several of the perched water monitoring wells. Specifically, following an initial detection of elevated VOC concentrations in perched water, a second set of perched water samples were collected from Perched Water Wells PW-2D, PW-3D and PW-6D for the analysis of VOCs. The analytical results from the second sampling round confirmed the results of the first round.

The analytical results of the blank samples indicated that the data collection methods were reliable and did not impart any contamination to the water samples. Analysis of the replicate sample indicated that the laboratory was accurately reporting the concentrations of contaminants in the samples.

3.2.6 Data Analysis and Validation

The laboratory analytical results for the August 2006 and February 2007 perched water sampling events were reviewed and validated by ARCADIS. In general the analytical results were deemed acceptable with some qualifiers, as noted in the data validation memoranda provided in Appendix E.

4. Refined Site Conceptual Model

Based on the additional information gathered during this site characterization effort, the following site conceptual model has been revised and is presented below.

The site is underlain by several clays lenses (that appear to be continuous beneath the property) ranging in thickness from 2 ft to more than 60 ft. The water table beneath this site is approximately 125 ft below land surface.

Perched water exists in two distinct zones beneath the site. In the shallowest perched water zone (approximately 80 ft below land surface), perched water flows to the northeast. It is not known if this perched zone is always saturated or significantly varies in thickness on a season or annual basis. In the deeper perched water zone (approximately 100 ft below grade), perched water flows to the southwest, albeit under a lower hydraulic gradient than the upper perched water.

The perched water zones are not directly connected to the water table (Upper Glacial) or deeper (Magothy) aquifers. The presence of the deeper clay layer (approximately 70 ft thick) eliminates the vertical pathway for flow or discharge of the perched water to the underlying water table. The two perched water zones are separated by a continuous clay layer approximately 7 ft thick. This clay layer likely inhibits the local exchange of water from the shallow perched zone to the deeper. In fact, it is possible that the perched water in the deeper zone may not have come from the shallow perched zone beneath the property. It is possible that water within the deeper onsite perched zone may be flowing beneath the property from other neighboring properties.

Water quality sampling and analysis show no detection above standards/guidance values for VOCs, SVOCs, and metals in shallow perched zone and SVOCs and metals in the deeper perched zone. Both TCE and PCE were detected in the deeper perched zone.

The renovated building functions as a cap over the area it occupies. Recharge from precipitation cannot enter the vadose zone directly beneath the building. This condition removes any potential for any residual subslab contamination to be transported to the shallow perched zone. In addition, the VRS system continues the removal of VOCs from subslab vapors. Therefore, not only is the potential pathway for transport removed, but residual subslab contamination is also being removed.

5. Conclusions and Recommendations

The following sections describe the conclusions reached following the site characterization investigation, and recommendations for further action, as appropriate.

- Several continuous, thick, clay layers underlie the property.
- Two perched water zones that correspond to the continuous clay layers underlie the property.
- During the soil boring/monitoring well installation program, no indications of any soil contamination were observed.
- Sampling and analysis of perched water samples showed no detections/exceedances of SVOCs or metals, respectively.
- No VOC impacts were observed in perched water samples collected from the shallow perched zone.
- VOC impacts were observed in the deeper perched water in monitoring wells PW-2D, PW-3D, and PW-6D (and minimal concentrations in PW-1D).
- The hydrogeologic nature of the shallow clay layer would tend to limit vertical migration of impacted perched water from the shallow to the deeper perched horizons. Therefore, the VOCs observed in the deeper perched zone may have originated offsite and are currently migrating across the subject property. No VOCs observed in the shallower perched zone supports this circumstance.
- The deeper clay zone is approximately 70 feet thick and serves to protect the underlying water table aquifer from the potential vertical migration of VOCs observed in the deeper perched zone beneath the property.

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- Any recharge/leakage through the building slab that occurred during the renovation period has been eliminated. The structure now serves as a cap of the underlying vadose zone.
- The VRS system is successfully removing residual VOC vapors from the subslab environment, and the concentration of the vapors is steadily declining.

Considering all previous investigative, sampling, and remedial efforts conducted at the property, such as UIC closure, soil excavation/removal, VRS system installation/operation, it is highly likely that VOCs detected in the perched water will decline over time. Of course this assumes that the VOCs are present due to past onsite activities and not activities of neighboring properties. Therefore, based on all the above, ARCADIS recommends semi-annual sampling of the deeper perched water horizon, take place as part of OM&M activities. Sampling and analysis should be for VOCs only. A brief letter report summarizing each sampling event should be submitted to the NYSDEC. The letter report should document the wells sampled, sample results, any trends observed, any problems encountered, and recommendations, if any. These reports would supplement the VRS system OM&M reports that are currently being submitted to NYSDEC on a quarterly basis.

6. References

- ARCADIS, June 20, 2005. Letter to Mr. Nathan Putnam, Division of Environmental Remediation, NYSDEC, re: Records Search Report, Index #W1-1025-04-10.
- Anson Environmental, Ltd., September 29, 2003. Phase I Environmental Site Assessment, Site Location: 131 Sunnyside Boulevard, Plainview, New York.
- Anson Environmental, Ltd., April 29, 2004. Environmental Site Assessment, Equine-Stellar Corp., 131 Sunnyside Boulevard, Plainview, New York.
- Busciolano, Monti, and Chu, 1998. Water Table and Potentiometric Surface Altitudes of the Upper Glacial, Magothy, and Lloyd Aquifers on Long Island, New York, in March-April 1997, with a Summary of Hydrologic Conditions. U.S. Geological Survey WRI Report 98-4019
- Doriski, Thomas, 1987. Potentiometric Surface of the Water-Table, Magothy, and Lloyd Aquifers on Long Island, New York, in 1984. U.S. Geological Survey WRI Report 86-4189.
- Dvirka and Bartilucci, February 2003. Preliminary Site Assessment Report, Plainview Industrial Park, Plainview, Nassau County, New York; Prepared for NYSDEC.
- New York State Department of Environmental Conservation, May 12, 2005. Order on Consent, Index # W1-1025-04-10.
- Smolensky, D.A., Buxton, H.T., and Shernoff, P.K., 1989. Hydrologic Framework of Long Island, New York. U.S. Geological Survey Hydrologic Investigations Atlas HA-709.
- United States Environmental Protection Agency, September 10, 2004. Letter to Mr. Jeffrey Wilkes re: Underground Injection Control Program Regulation Injection Well Closures and Authorization by Rule, 131 Sunnyside LLC (UICID:04NY05926070).

ARCADIS

Table 1. Depth to Clay Surfaces, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Land Surface Elevation (ft absl)	Depth to Clay No.1 Top (ft bls)	Depth to Clay No.1 Bottom (ft bls)	Depth to Clay No.2 Top (ft bls)	Depth to Clay No.2 Bottom (ft bls)	Depth to Clay No.3 Top (ft bls)	Depth to Clay No.3 Bottom (ft bls)	Depth to Clay No.4 Top (ft bls)	Depth to Clay No.4 Bottom (ft bls)	Depth to Clay No.5 Top (ft bls)	Depth to Clay No.5 Bottom (ft bls)	Total Depth of Boring (ft bls)
PW-1S	207.38	NE	NE	NE	NE	NE	NE	79	86	NE	NE	86
PW-2S	206.48	0	2	36	38	48	56	78.5	86	NE	NE	86
PW-3S	205.32	NE	NE	NE	NE	NE	NE	79	85	NE	NE	NE
PW-4S	206.00	2	10	36	38	58	64	80	86	NE	NE	86
PW-5S	205.46	NE	NE	NE	NE	NE	NE	80	88	NE	NE	NE
PW-6S	202.68	NE	NE	NE	NE	67	69	NE	NE	NE	NE	NE
PW-1D	206.18	NE	NE	NE	NE	NE	NE	79	82	96	106	106
PW-2D	206.69	NE	NE	NE	NE	NE	NE	80	85	100	112	112
PW-3D	205.37	NE	NE	NE	NE	NE	NE	78	86	98	166	186
PW-5D	205.15	7	9	10	12	NE	NE	81	91	101	127	127
PW-6D	202.79	NE	NE	29	30	68	69	73	75	96	117	117

ft bls feet below land surface.
 ft absl feet above sea level.
 NE Not encountered in boring.

ARCADIS

Table 2. Elevation of Clay Surfaces, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Land Surface Elevation (ft absl)	Elevation of Clay No.1 Top (ft bls)	Elevation of Clay No.1 Bottom (ft bls)	Elevation of Clay No.2 Top (ft absl)	Elevation of Clay No.2 Bottom (ft absl)	Elevation of Clay No.3 Top (ft absl)	Elevation of Clay No.3 Bottom (ft absl)	Elevation of Clay No.4 Top (ft absl)	Elevation of Clay No.4 Bottom (ft absl)	Elevation of Clay No.5 Top (ft absl)	Elevation of Clay No.5 Bottom (ft absl)
PW-1S	207.38	NE	NE	NE	NE	NE	NE	128.4	121.4	NE	NE
PW-2S	206.48	206	204	170	168	158	150	128.0	120.5	NE	NE
PW-3S	205.32	NE	NE	NE	NE	NE	NE	126.3	120.3	NE	NE
PW-4S	206.00	204	196	170	168	148	142	126.0	120.0	NE	NE
PW-5S	205.46	NE	NE	NE	NE	NE	NE	125.5	117.5	NE	NE
PW-6S	202.68	NE	NE	NE	NE	136	134	NE	NE	NE	NE
PW-1D	206.18	NE	NE	NE	NE	NE	NE	127.2	124.2	110	NE
PW-2D	206.69	NE	NE	NE	NE	NE	NE	126.7	121.7	107	NE
PW-3D	205.37	NE	NE	NE	NE	NE	NE	127.4	119.4	107	39
PW-5D	205.15	198	196	195	193	NE	NE	124.2	114.2	104	NE
PW-6D	202.79	NE	NE	174	173	135	134	129.8	127.8	107	NE

ft bls feet below land surface.
 ft absl feet above sea level.
 NE Not encountered in boring.

ARCADIS

Table 3. Summary of Monitoring Well Construction Data, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Diameter (in)	Casing Length (ft)	Screen Length (ft)	Sump Length (ft)	Total Depth (ft bls)	Land Surface Elevation ^(b) (ft absl)	Measuring Point Elevation ^(b) (ft absl)	Screen Top Elevation (ft absl)	Screen Bottom Elevation (ft absl)
PW-1S	2	69.65	10	2	81.65	205.73	205.33	135.7	125.7
PW-1D	2	85.3	10	2	97.3	205.93	205.68	120.4	110.4
PW-2S	2	67.1	10	2	79.1	206.74	206.16	139.1	129.1
PW-2D	2	90	10	2	102	206.69	206.32	116.3	106.3
PW-3S	2	71	10	0	81	205.32	205.02	134.0	124.0
PW-3D	2	94	5	0	99	205.6	204.83	110.8	105.8
PW-4S	2	68.5	10	2	80.5	206.09	205.79	137.3	127.3
PW-5S	2	69	10	2	81	205.46	205.19	136.2	126.2
PW-5D	2	89	10	2	101	205.15	204.89	115.9	105.9
PW-6S	2	62.5	10	0	72.5	202.68	202.15	139.7	129.7
PW-6D	2	89	10	2	101	202.79	202.52	113.5	103.5

in inches.
 ft feet.
 ft bls feet below land surface.
 ft absl feet above sea level.
 (b) surveyed March 30, 2007, following final grading.

Table 4. Perched Water Elevation on July 28, 2006, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Measuring Point Elevation (ft absl)	Depth to Water (ft bls)	Perched-Water Level Elevation (ft absl)
PW-1S	207.04	70.82	136.22
PW-1D	205.84	74.92	130.92
PW-2S	206.15	70.15	136
PW-3D	204.91	73.78	131.13
PW-4S	205.83	71.25	134.58

ft bls feet below land surface.

ft absl feet above mean sea level.

Table 5. Perched Water Elevation on October 16, 2006, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Measuring Point Elevation (ft absl)	Depth to Water (ft bls)	Perched-Water Level Elevation (ft absl)
PW-1S	207.04	70.66	136.38
PW-1D	205.84	74.03	131.81
PW-2S	206.15	70.66	135.49
PW-3D	204.91	75.23	129.68
PW-4S	205.83	71.78	134.05

ft bls feet below land surface.

ft absl feet above mean sea level.

Table 6. Perched Water Elevation on February 27, 2007, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Measuring Point Elevation (ft absl)	Depth to Water (ft bls)	Perched-Water Level Elevation (ft absl)
PW-1S	205.33	69.74	135.59
PW-1D	205.68	75.14	130.54
PW-2S	206.16	NM	NM
PW-2D	206.32	75.51	130.81
PW-3S	205.02	69.61	135.41
PW-3D	204.83	74.05	130.78
PW-4S	205.79	71.51	134.28
PW-5S	205.19	70	135.19
PW-5D	204.89	74.07	130.82
PW-6S	202.15	66.08	136.07
PW-6D	202.52	72.03	130.49

ft bls feet below land surface.
 ft absl feet above mean sea level.
 NM not measured.

Table 7. Perched Water Elevation on April 11, 2007, United Stellar Industries Property, 131 Sunnyside Boulevard, Plainview, New York.

Well ID	Measuring Point Elevation (ft absl)	Depth to Water (ft bls)	Perched-Water Level Elevation (ft absl)
PW-1S	205.33	69.91	135.42
PW-1D	205.68	75.44	130.24
PW-2S	206.16	71.06	135.1
PW-2D	206.32	75.9	130.42
PW-3S	205.02	69.99	135.03
PW-3D	204.83	74.41	130.42
PW-4S	205.79	72.04	133.75
PW-5S	205.19	70.37	134.82
PW-5D	204.89	74.53	130.36
PW-6S	202.15	66.39	135.76
PW-6D	202.52	72.35	130.17

ft bls feet below land surface.

ft absl feet above mean sea level.

Table 8. Perched-Water TVOC Analytical Results, United Stellar Industries Property, 131, Sunnyside Boulevard, Plainview, New York.

	Location ID:	PW-1S	PW-1D	PW-1D (Replicate)	PW-2S	PW-2D	PW-2D	PW-2D
	Sample ID:	PW-5-20060810	MW-1-20060810	REP081006-20060810	PW-2-20060809	MW-03	MW-03	MW-03
	Sample Date:	8/10/2006	8/10/2006	8/10/2006	8/9/2006	2/15/2007	2/15/2007	3/16/2007
Parameters (units in ug/L)								
	NYS Ambient Water Quality Standards (1)	NYS Guidance Values (1)						
1,1,1-Trichloroethane	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
1,1,2,2-Tetrachloroethane	--	5	< 5	< 5	< 5	< 5	<5.0	< 10
1,1,2-Trichloroethane	5	1	< 5	< 5	< 5	< 5	<5.0	< 10
1,1-Dichloroethane	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
1,1-Dichloroethylene	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
1,2-Dichloroethane	0.6	--	< 5	< 5	< 5	< 5	<5.0	< 10
1,2-Dichloropropane	1	--	< 5	< 5	< 5	< 5	<5.0	< 10
2-Butanone	--	--	< 10	< 10	< 10	< 10	<10	< 10
4-Methyl-2-pentanone	NR	--	< 10	< 10	< 10	< 10	<10	< 10
Acetone	--	50	< 10	< 10	< 10	< 10	<10	< 10
Benzene	1	--	< 5	< 5	< 5	< 5	<5.0	< 10
Bromodichloromethane	--	50	< 5	< 5	< 5	< 5	<5.0	< 10
Bromomethane	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
Carbon Disulfide	--	60	< 5	< 5	< 5	< 5	<5.0	< 10
Carbon Tetrachloride	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
Chlorobenzene	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
Chlorodibromomethane	--	50	< 5	< 5	< 5	< 5	<5.0	< 10
Chloroethane	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
Chloroform	7	--	< 5	< 5	< 5	< 5	<5.0	< 10
Chloromethane	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
cis-1,2-Dichloroethene	5	--	< 5	1.1 J	1.0 J	< 5	21	20
cis-1,3-Dichloropropene	0.4 (j)	--	< 5	< 5	< 5	< 5	<5.0	< 10
Dichloromethane	5	--	< 5	< 5	< 5	< 5	--	< 10
Ethylbenzene	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
Methyl N-Butyl Ketone	--	--	< 10	< 10	< 10	< 10	--	< 10
Methylbenzene	5	--	< 5	< 5	< 5	< 5	--	< 10
Methylene Chloride	--	--	--	--	--	--	--	1.9
Styrene (Monomer)	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
Tetrachloroethene	5	5	< 5	< 5	< 5	1.0 J	0.93 J	1.3
trans-1,2-Dichloroethene	5	--	< 5	< 5	< 5	< 5	<5.0	< 10
trans-1,3-Dichloropropene	0.4 (j)	--	< 5	< 5	< 5	< 5	<5.0	< 10
Tribromomethane	--	50	< 5	< 5	< 5	< 5	--	< 10
Trichloroethylene	5	--	< 5	6.9	6.7	< 5	98	130
Vinyl chloride	2	--	< 5	< 5	< 5	< 5	<5.0	< 10
Xylene (total)	5 (o)	--	< 5	< 5	< 5	< 5	<5.0	< 10

See footnotes on last page.

Table 8. Perched-Water TVOC Analytical Results, United Stellar Industries Property, 131, Sunnyside Boulevard, Plainview, New York.

	Location ID:	PW-3S	PW-3D	PW-3D	PW-4S	PW-5S	PW-5D	PW-6S	PW-6D	PW-6D	
	Sample ID:	PW-07	MW-2-20060809	MW-02	PW-4-20060809	PW-06	MW-05	PW-08	MW-04	MW-04	
	Sample Date:	2/16/2007	8/9/2006	3/16/2007	8/9/2006	2/15/2007	2/15/2007	2/16/2007	2/15/2007	3/16/2007	
Parameters (units in ug/L)	NYS Ambient Water Quality Standards (1)	NYS Guidance Values (1)									
1,1,1-Trichloroethane	5	--	<10	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
1,1,2,2-Tetrachloroethane	--	5	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
1,1,2-Trichloroethane	5	1	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
1,1-Dichloroethane	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
1,1-Dichloroethylene	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
1,2-Dichloroethane	0.6	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
1,2-Dichloropropane	1	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
2-Butanone	--	--	<10	<20	<50	<10	<10	<10	<10	<40	<100
4-Methyl-2-pentanone	NR	--	<10	<20	<25	<10	<10	<10	<10	<40	<50
Acetone	--	50	<10	<20	41 JB	<10	<10	<10	<10	<10	99 JB
Benzene	1	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Bromodichloromethane	--	50	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Bromomethane	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Carbon Disulfide	--	60	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Carbon Tetrachloride	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Chlorobenzene	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Chlorodibromomethane	--	50	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Chloroethane	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Chloroform	7	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Chloromethane	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
cis-1,2-Dichloroethene	5	--	<5.0	28	32	<5	<5.0	0.85 J	<5.0	93	85
cis-1,3-Dichloropropene	0.4 (j)	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Dichloromethane	5	--	--	<10	<25	<5	<5.0	--	--	--	<50
Ethylbenzene	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Methyl N-Butyl Ketone	--	--	--	<20	<25	<10	<5.0	--	--	--	<50
Methylbenzene	5	--	--	<10	<25	<5	<5.0	--	--	--	<50
Methylene Chloride	--	--	--	--	4.6 JB	--	--	--	--	--	11 JB
Styrene (Monomer)	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Tetrachloroethene	5	5	<5.0	1.1 J	<25	<5	<5.0	4.3	<5.0	3.7 J	<50
trans-1,2-Dichloroethene	5	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
trans-1,3-Dichloropropene	0.4 (j)	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Tribromomethane	--	50	<5.0	<10	<25	<5	<5.0	--	--	--	<50
Trichloroethylene	5	--	<5.0	200	270	1.1 J	<5.0	<5.0	<5.0	460	400
Vinyl chloride	2	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50
Xylene (total)	5 (o)	--	<5.0	<10	<25	<5	<5.0	<5.0	<5.0	<20	<50

See footnotes on last page.

Table 8. Perched-Water TVOC Analytical Results, United Stellar Industries Property, 131, Sunnyside Boulevard, Plainview, New York.

Parameters (units in ug/L)	Location ID: Sample ID: Sample Date:	QAQC TB080906-20060809 8/9/2006	QAQC FB080906-20060809 8/9/2006	QAQC TB081006-20060810 8/10/2006	QAQC FB081006-20060810 8/10/2006	QAQC TB021507 2/15/2007	QAQC FB021507 2/15/2007	QAQC TB021707 2/17/2007	QAQC FB021707 2/17/2007
1,1,1-Trichloroethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethylene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
2-Butanone	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10
4-Methyl-2-pentanone	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10
Acetone	9.3 J	< 10	9.4 J	< 10	6.8 J	6.8 J	8.6 J	6.8 J	7.8
Benzene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Bromomethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Carbon Disulfide	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Carbon Tetrachloride	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Chlorodibromomethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Chloroethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Chloroform	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Chloromethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Dichloromethane	5.8	1.7 J	7.1	2.1 J	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Methyl N-Butyl Ketone	< 10	< 10	< 10	< 10	< 10	<5.0	<5.0	<5.0	<5.0
Methylbenzene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Methylene Chloride	-	-	-	-	4.3 J	5.5	4.4 J	5.2	5.2
Styrene (Monomer)	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Tribromomethane	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0
Xylene (total)	< 5	< 5	< 5	< 5	< 5	<5.0	<5.0	<5.0	<5.0

See footnotes on last page.

Table 8. Perched-Water TVOC Analytical Results, United Stellar Industries Property, 131, Sunnyside Boulevard, Plainview, New York.

NR	Not regulated by the Principal Organic Environmental Conservation.
-	No standard available
ug/L	micrograms per liter
NYS	New York State
(o)	Value applies to each isomer
(j)	Standard is for the sum of these two compounds
(1)	Taken from Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.
J	Estimated value.
B	Analyte detected in blank sample.
Bold	detection above method detection limits
	detection above groundwater standards.

Table 9. Perched-Water SVOC Analytical Results, United Stellar Industries Site, 131, Sunnyside Boulevard, Plainview, New York.

Parameters (units in ug/L)	Location ID:		PW-1S	PW-1D	PW-2S	PW-3D	PW-4S	QAQC	REP081006
	Sample ID:		PW-5-20060810	MW-1-20060810	PW-2-20060809	MW-2-20060809	PW-4-20060809	FB080906-20060809	REP081006-20060810
	Sample Date:		8/10/2006	8/10/2006	8/9/2006	8/9/2006	8/9/2006	8/9/2006	8/10/2006
	NYS Ambient Water Quality Standards (1)	NYS Guidance Values (1)							
1,2,4-Trichlorobenzene	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
1,2-Benzphenanthracene	--	0.002	< 10	< 10	< 11	< 11	< 10	< 11	< 10
1,2-Dichlorobenzene	3	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
1,4-Dichlorobenzene	3	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2,2'-oxybis(1-Chloropropane)	--	5	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2,4,5-Trichlorophenol	1.0 (i)	--	< 50	< 50	< 57	< 56	< 50	< 57	< 50
2,4,6-Trichlorophenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2,4-Dichlorophenol	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2,4-Dimethylphenol	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2,4-Dinitrophenol	--	10	< 50	< 50	< 57	< 56	< 50	< 57	< 50
2,4-Dinitrotoluene	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2,6-Dinitrotoluene	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2-Chloronaphthalene	--	10	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2-Chlorophenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2-Methylnaphthalene	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2-Methylphenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
2-Nitroaniline	5	--	< 50	< 50	< 57	< 56	< 50	< 57	< 50
2-Nitrophenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
3,3'-Dichlorobenzidine	5	--	< 20	< 20	< 23	< 22	< 20	< 23	< 20
3,5,5-Trimethyl-2-Cyclohexene-1-One	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
3-Nitroaniline	5	--	< 50	< 50	< 57	< 56	< 50	< 57	< 50
4,6-Dinitro-2-methylphenol	1.0 (i)	--	< 50	< 50	< 57	< 56	< 50	< 57	< 50
4-Bromophenyl Phenyl Ether	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
4-Chloro-3-methylphenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
4-Chlorophenyl Phenyl Ether	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
4-Methylphenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
4-Nitrophenol	1.0 (i)	--	< 50	< 50	< 57	< 56	< 50	< 57	< 50
Acenaphthene	--	20	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Acenaphthylene	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Anthracene	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Benzo(a)anthracene	--	0.002	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Benzo(a)pyrene	ND	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Benzo(b)fluoranthene	--	0.002	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Benzo(g,h,i)perylene	--	NR	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Benzo(k)fluoranthene	--	0.002	< 10	< 10	< 11	< 11	< 10	< 11	< 10

See footnotes on last page.

Table 9. Perched-Water SVOC Analytical Results, United Stellar Industries Site, 131, Sunnyside Boulevard, Plainview, New York.

Parameters (units in ug/L)	Location ID:		PW-1S	PW-1D	PW-2S	PW-3D	PW-4S	QAQC	REP081006
	Sample ID:		PW-5-20060810	MW-1-20060810	PW-2-20060809	MW-2-20060809	PW-4-20060809	FB080906-20060809	REP081006-20060810
	Sample Date:		8/10/2006	8/10/2006	8/9/2006	8/9/2006	8/9/2006	8/9/2006	8/10/2006
	NYS Ambient Water Quality Standards (1)	NYS Guidance Values (1)							
Benzyl Alcohol	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Benzyl Butyl Phthalate	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
bis(2-Chloroethoxy)methane	--	5	< 10	< 10	< 11	< 11	< 10	< 11	< 10
bis(2-Chloroethyl)ether	1.0	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
bis(2-Ethylhexyl)phthalate	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Carbazole	--	5	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Dibenz(a,h)anthracene	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Dibenzofuran	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Diethyl Phthalate	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Dimethyl Phthalate	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Di-n-butylphthalate	50	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Di-n-octyl phthalate	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Fluoranthene	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Fluorene	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Hexachloro-butadiene	0.5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Hexachlorobenzene	0.04	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Hexachlorocyclopentadiene	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Hexachloroethane	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Indeno(1,2,3-cd)pyrene	--	0.002	< 10	< 10	< 11	< 11	< 10	< 11	< 10
m-Dichlorobenzene	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Naphthalene	--	10	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Nitrobenzene	0.4	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
N-Nitrosodi-n-propylamine	NR	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
n-Nitrosodiphenylamine	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
p-Chloroaniline	5	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Pentachlorophenol	1.0 (i)	--	< 50	< 50	< 57	< 56	< 50	< 57	< 50
Phenanthrene	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10
Phenol	1.0 (i)	--	< 10	< 10	< 11	< 11	< 10	< 11	< 10
p-Nitroaniline	5	--	< 20	< 20	< 23	< 22	< 20	< 23	< 20
Pyrene	--	50	< 10	< 10	< 11	< 11	< 10	< 11	< 10

See footnotes on last page.

Table 9. Perched-Water SVOC Analytical Results, United Stellar Industries Site, 131, Sunnyside Boulevard, Plainview, New York.

- NR Not regulated by the Principal Organic Environmental Conservation.
- No standard available
- ug/L micrograms per liter
- NYS New York State
- (i) Value applies to the sum of phenolic compounds (total phenols).
- (1) Taken from Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.

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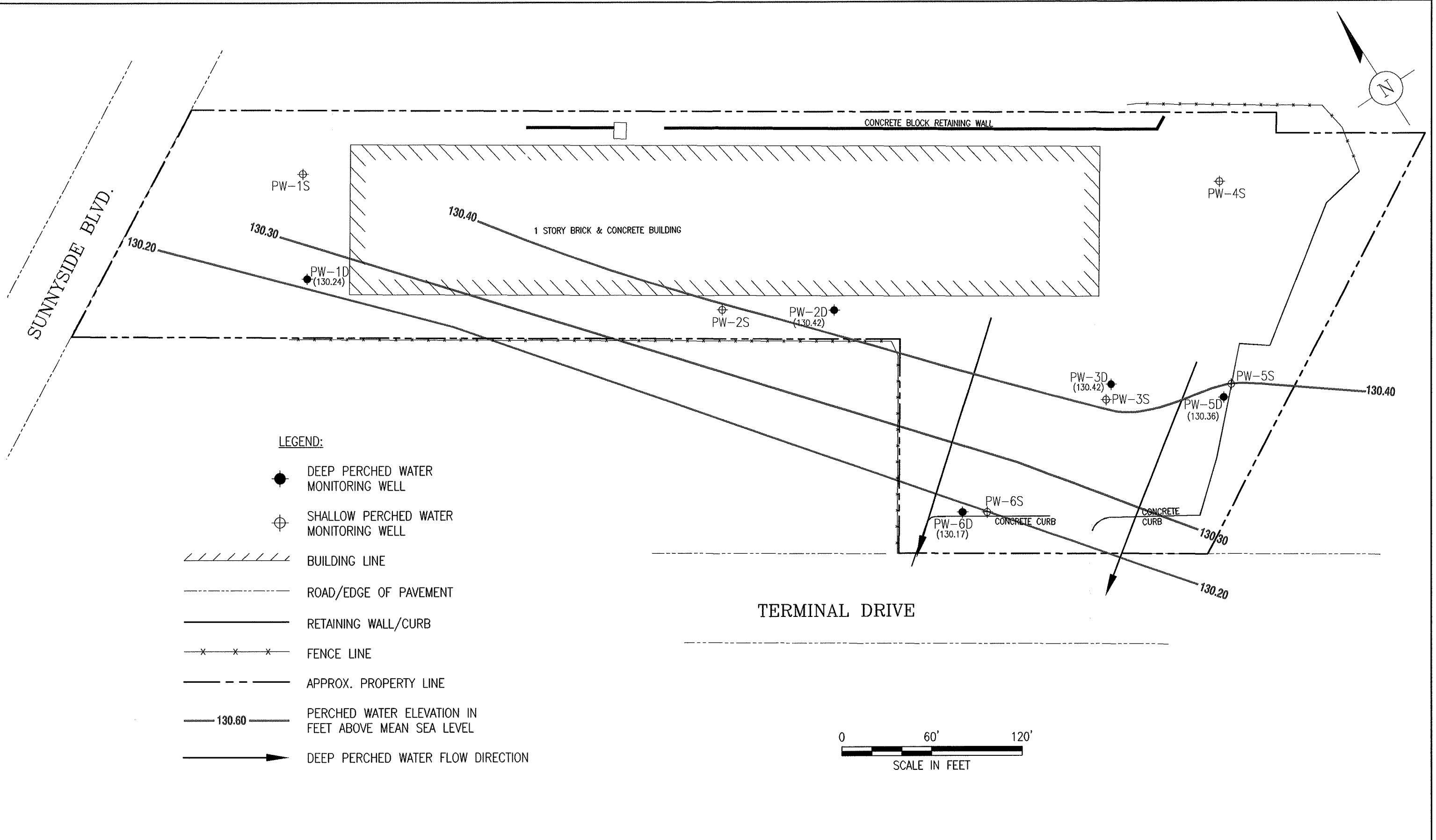
Table 10. Perched-Water Metals Analytical Results, United Stellar Industries Site, 131, Sunnyside Boulevard, Plainview, New York.

Parameters (units in ug/L)	New York State Ambient Water Quality Standards and Guidance Values (1)	Location ID:	PW-1S	PW-1D	PW-2S	PW-3D	PW-4S	QAQC	REP081006
		Sample ID:	PW-5-20060810	MW-1-20060810	PW-2-20060809	MW-2-20060809	PW-4-20060809	FB080906-20060809	REP081006-20060810
		Sample Date:	8/10/2006	8/10/2006	8/9/2006	8/9/2006	8/9/2006	8/9/2006	8/10/2006
Arsenic	25	< 40	< 200	< 40	< 40	< 40	< 40	< 40	< 200
Barium	1000	92.0	675	144	84.5	81.7	1.0 J	688	
Cadmium	5	< 10	< 50	< 10	< 10	< 10	< 10	< 50	
Lead	25	< 10	< 50	< 10	3.9 J	< 10	< 10	< 50	
Selenium	10	< 30	< 150	< 30	< 30	< 30	< 30	< 150	
Silver	50	< 6	< 30	< 6	< 6	< 6	< 6	< 30	
Total Recoverable Chromium	50	< 10	< 50	< 10	< 10	26.3	< 10	< 50	
Mercury	0.7	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	

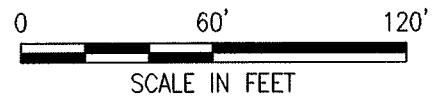
(1) Taken from Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.

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Layout Tab: FIG 8

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User Name : a.sanchez
Path Name : G:\PROJECT\Spillage\CADD\FIGURE B.dwg



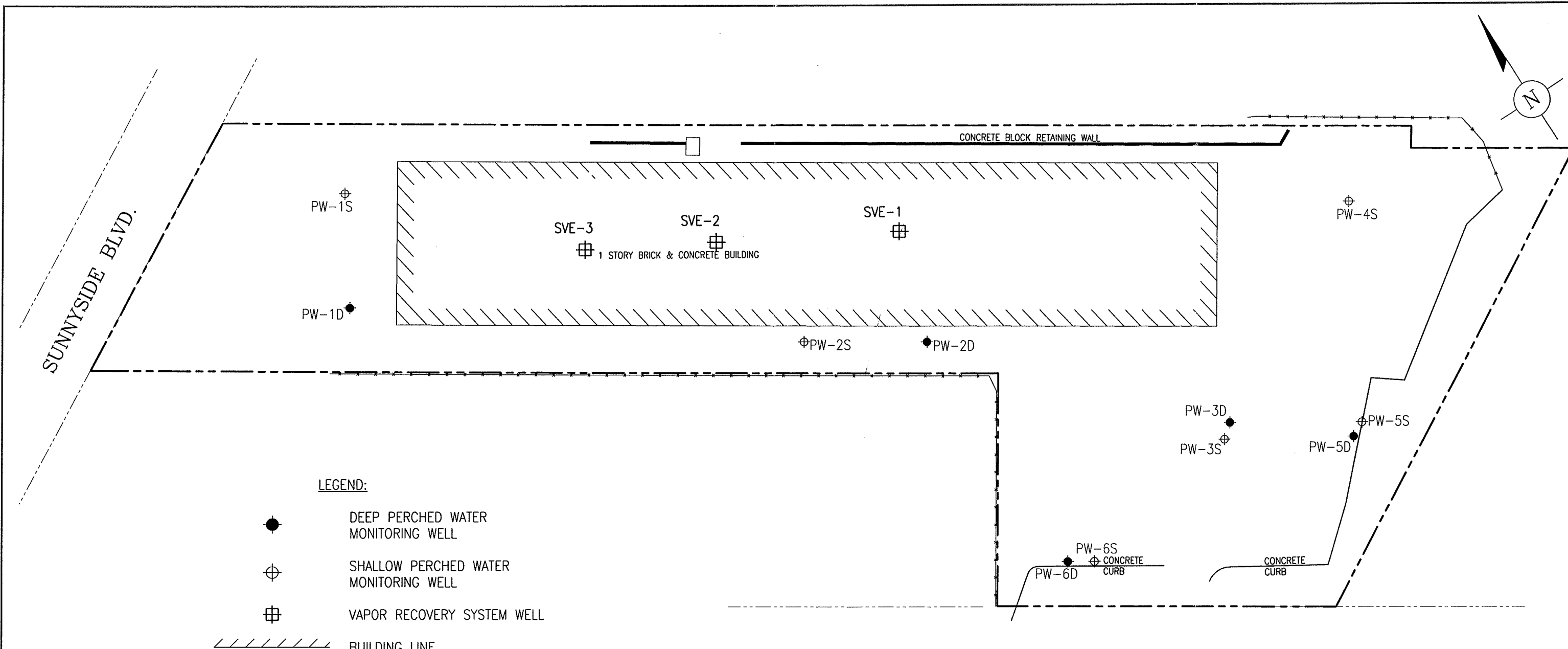
- LEGEND:**
- DEEP PERCHED WATER MONITORING WELL
 - ⊕ SHALLOW PERCHED WATER MONITORING WELL
 - ////// BUILDING LINE
 - - - - ROAD/EDGE OF PAVEMENT
 - RETAINING WALL/CURB
 - x - x - x - FENCE LINE
 - · - · - · - - - - - APPROX. PROPERTY LINE
 - 130.60 ——— PERCHED WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - > DEEP PERCHED WATER FLOW DIRECTION



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						131 SUNNYSIDE BOULEVARD PLAINVIEW, TOWN OF OYSTER BAY NASSAU COUNTY, NEW YORK		SHEET TITLE DEEP PERCHED WATER ELEVATION APRIL 11, 2007 131 SUNNYSIDE BOULEVARD PLAINVIEW, NEW YORK		TASK/PHASE NUMBER 00004 PROJECT NUMBER NY001422.0006		DRAWN BY A. SANCHEZ DRAWING NUMBER 8			
NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD	 Two Huntington Quadrangle Suite 1S10 Melville, NY 11747 Tel: 631-249-7600 Fax: 631-249-7610 www.arcadis-us.com											

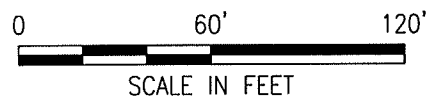
Current Plotstyle : BpColor
Layout Tab: FIG 3

Acad Version : R17.0a (LMS Trench) Date/Time : Tue, 12 Jun 2007 - 12:24pm
User Name : abianchez Path Name : C:\PROJECTS\Signal\CADD\FIGURE 3.dwg



LEGEND:

- DEEP PERCHED WATER MONITORING WELL
- SHALLOW PERCHED WATER MONITORING WELL
- VAPOR RECOVERY SYSTEM WELL
- BUILDING LINE
- EDGE OF PAVEMENT
- RETAINING WALL/CURB
- FENCE LINE
- APPROX. PROPERTY LINE



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NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD

KEYPLAN

SEAL

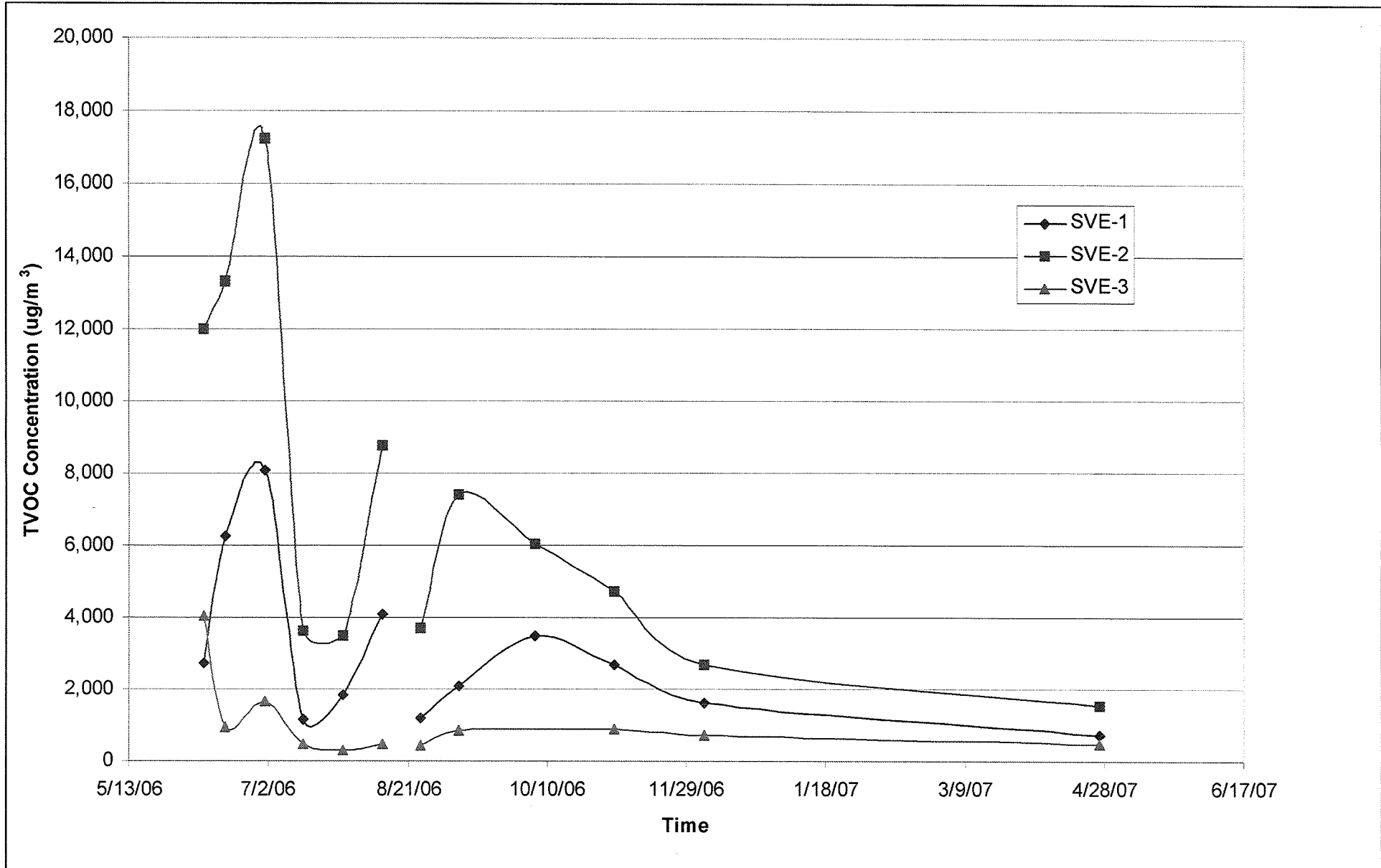
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PROJECT TITLE

131 SUNNYSIDE BOULEVARD
PLAINVIEW, TOWN OF OYSTER BAY
NASSAU COUNTY, NEW YORK

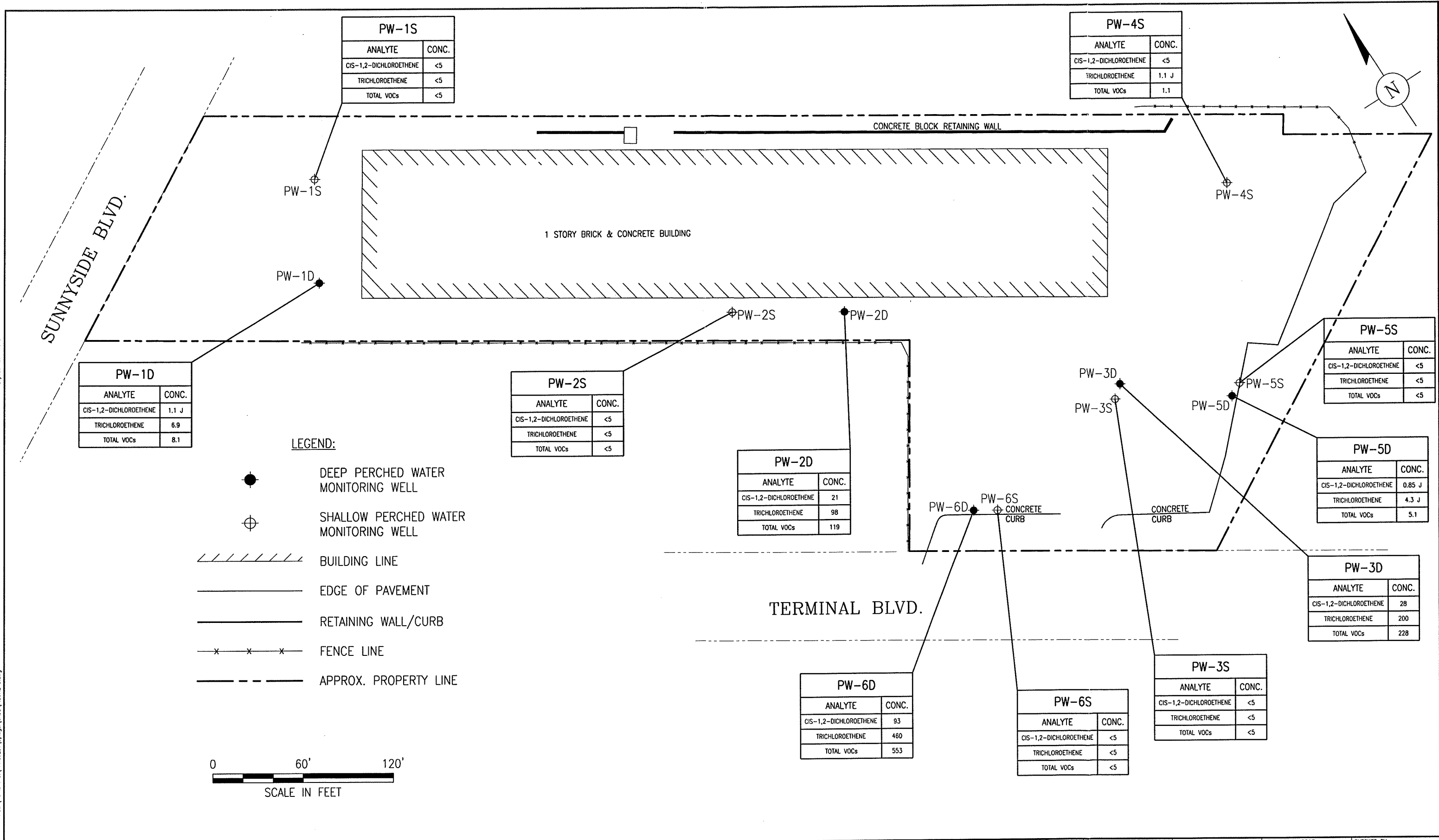
PROJECT MANAGER R. PORSCHE	DEPARTMENT MANAGER D. SMOLENSKY	LEAD DESIGN PROF.	CHECKED BY R. PORSCHE
SHEET TITLE EXISTING BUILDING FOOTPRINT AND MONITORING WELL LOCATIONS 131 SUNNYSIDE BOULEVARD PLAINVIEW, NEW YORK		TASK/PHASE NUMBER 00004	DRAWN BY A. SANCHEZ
PROJECT NUMBER NY001422.0006		DRAWING NUMBER 3	



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		SHEET TITLE TVOC CONCENTRATIONS FROM VAPOR RECOVERY SYSTEM WELLS			TASK/PHASE NUMBER 00004	DRAWN BY A. SANCHEZ
		131 SUNNYSIDE BOULEVARD PLAINVIEW, NEW YORK			PROJECT NUMBER NY001422.0006	DRAWING NUMBER 4
Two Huntington Quadrangle Suite 1S10, Melville, NY 11747 Tel: 631-249-7600 Fax: 631-249-7610 www.arcadis-us.com						

Current Plotfile: PlColor
Layout Tab: FIG 9

Aspd Version: R17.0s (LMS Tech)
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User Name: abelarcher
Plot Name: C:\PROJECT\Spring\CAAD\FIGURE 9.dwg



PW-1D	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	1.1 J
TRICHLOROETHENE	6.9
TOTAL VOCs	8.1

PW-1S	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	<5
TRICHLOROETHENE	<5
TOTAL VOCs	<5

PW-2S	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	<5
TRICHLOROETHENE	<5
TOTAL VOCs	<5

PW-2D	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	21
TRICHLOROETHENE	98
TOTAL VOCs	119

PW-4S	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	<5
TRICHLOROETHENE	1.1 J
TOTAL VOCs	1.1

PW-5S	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	<5
TRICHLOROETHENE	<5
TOTAL VOCs	<5

PW-5D	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	0.85 J
TRICHLOROETHENE	4.3 J
TOTAL VOCs	5.1

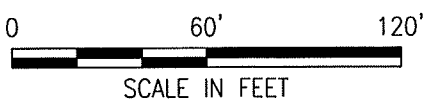
PW-3D	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	28
TRICHLOROETHENE	200
TOTAL VOCs	228

PW-6D	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	93
TRICHLOROETHENE	460
TOTAL VOCs	553

PW-6S	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	<5
TRICHLOROETHENE	<5
TOTAL VOCs	<5

PW-3S	
ANALYTE	CONC.
CIS-1,2-DICHLOROETHENE	<5
TRICHLOROETHENE	<5
TOTAL VOCs	<5

- LEGEND:**
- DEEP PERCHED WATER MONITORING WELL
 - SHALLOW PERCHED WATER MONITORING WELL
 - BUILDING LINE
 - EDGE OF PAVEMENT
 - RETAINING WALL/CURB
 - FENCE LINE
 - APPROX. PROPERTY LINE



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					<p>131 SUNNYSIDE BOULEVARD PLAINVIEW, TOWN OF OYSTER BAY NASSAU COUNTY, NEW YORK</p>	SHEET TITLE	TASK/PHASE NUMBER 00004	PROJECT NUMBER NY001422.0006	DRAWN BY A. SANCHEZ
NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD						

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Appendix A

Boring Logs

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Following implementation of the Site Characterization Workplan, the designations assigned to the Shallow and Deep Perched Water Monitoring Wells were revised.

The table below relates the Originally Assigned ID (used in the Workplan) with the Revised ID (used in the Site Characterization Report).

Originally Assigned ID	Revised ID (4/17/07)
MW-1	PW-1D
MW-2	PW-3D
MW-3	PW-2D
MW-4	PW-6D
MW-5	PW-5D
PW-2	PW-2S
PW-4	PW-4S
PW-5	PW-1S
PW-6	PW-5S
PW-7	PW-3S
PW-8	PW-6S

Sample/Core Log

Boring/Well MW-1 Project/No. NY001422.0005.00001 Page 1 of 3
 Site Location Plainville, NY Drilling Started 1200 (7/20) Drilling Completed 11:15 (7/21/06)
 Total Depth Drilled 106 Feet Hole Diameter 6" inches Drilling Method Sonic
 Length and Diameter of Coring Device 10' x 4" Type of Coring/Sampling Device _____
 Sampling Interval 10' feet Drilling Fluid Used water or Bentonite/H₂O mix
 Drilling Contractor Pro Sonic
 Prepared By D. Zuck

Sample/Core Depth (feet below land surface)

Core Recovery (feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
0	6	6	*Photos	Hand auger; Back fill: ^{Med to fine} Sand + pebbles	0.0
(6)	(16)	10	422-424	Sand: med → very fine, ^{flat} 2.5 ft + white → Lt. Brown quartz sand, sub angular → sub rounded, few → some pebbles + granules ≈ 10 → 15%, moist (SW) → 7.5 ft. ^(above) some composition with med brown → Lt. brown color, fine → very fine, ≈ 5 → 10% granules → small pebbles, moist (SW)	
6	26	10	425-428	Sand: Lt gray w/ some Browns for 1' ^(last) sub rounded, moist, some ^{few} granules, few ^{stray} pebbles; 1' → 10' is (med ^{Brown} sand), fine → very fine, sub rounded → rounded, moist (SW) Ⓢ: 25' → 16'	0.0
26	36	10	429-434	26' → 28' med gray → Lt. gray-white mix, sand, med → fine grained, sub angular → sub rounded, wet → moist, ≈ 15% granules → small pebbles (SW) 28' → 28' 2" very Dry sand no moisture, very fine → sandy silt (Dust texture) Lt. Brown rounded (SM) Next 28' 2" → 36' fine → very fine sand (section of 28' → 28' 2" @ ≈ 30'), med brown → Lt brown, sub rounded → rounded, Dry to moist (SM)	0.0

Sample/Core Log (Cont.d)

Boring/Well MW-1

Prepared by D. Zude

Sample/Core Depth
(feet below land surface)

Core
Recovery
(feet)

Notes: Notes

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes	Sample/Core Description	PID (ppm)
36	40	10	435-439	Sand: med → fine grains for 36' → 39', sub rounded → rounded, med. Brown, moist, some trace mica, few granules (SM); 39' → 40': Lt Brown w/silts or Extremely fine sands mixed with fine → very fine, moist up to 44', then Dry Like found @ 28' + 30' (SM)	0.0
46	56	10	440-443	Sand med → very fine grains, sub rounded → rounded, color varies from layers of med Brown to med Brown w/tint of orange, texture is uniform: moist (SM)	0.0
56	66	10	444-447	56' → 57' sand med → Lt gray w/some Brown, 57' → 66' Lt. Brown → med Brown w/orange tint Layers: All 56' → 66' same composition med → Very fine sand, no pebbles trace granules, moist, Quartz grains, (SM)	0.0
66	76	10	448-450	Sand med → fine, some very fine, moist → wet, trace granules, med Brown in color, sub rounded → rounded, (SM)	0.0
76	78	10	451	2' of med → fine sand, med → med orange, sub angular → sub rounded, moist → wet, (SM)	0.0
78	81'2"		454	3.2" of Clay med Brown, High plasticity, moist, very fine grains (H) Varved clay*	
81'2"	86'		451-454	med. → very fine sand, sub rounded → rounded, inner mixing layers of med Brown + med Brown/orange, Quartz, moist → wet, (SM)	

Sample/Core Log

Boring/Well MW-2 Project/No. NY001422.0005.00001 Page 1 of 3
 Site Location 131 Sannyside Blvd. Drilling Started 10:55 Drilling Completed ≈ 11:00 (7/12/06)
 Total Depth Drilled 186 Feet Hole Diameter 6 inches Drilling Method Sonic
 Length and Diameter of Coring Device 10 ft x 6" Type of Coring/Sampling Device ✓
 Sampling Interval 10ft feet Drilling Fluid Used Water
 Drilling Contractor ProSonic
 Prepared D. Zuck

Sample/Core Depth (feet below land surface)

Core Recovery (feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
0	5		Hard Age	Back fill (sand, silt, pebbles)	
6	16	10	Photo 300-303	First bag ≈ 4ft med → coarse sand throughout few pebbles med brown → Light Brown 2 ft (med) (5) ft light → back to med brown all some composition Dry (G.P), Non plastic, angular to sub angular Quartz sand. 2nd + 3rd some composition (Lt Brn)	0.0
16-26	26	10	304-306	Quartz sand med sand v/fine + coarse, some pebbles; Sub angular to Sub-Rounded med. Brown Sands; Quartz pebbles; Non plastic, moist, few silts, (SW).	0.0
26	36	10	306-30	26 → 28: Sand med → coarse sub angular → Sub Rounded, whitish gray, Quartz; some pebbles of quartz rounded; moist (G.P) 28 → 34: Sand med → fine, sub rounded Lt. Brn → Redish Brown quartz; few silt grains, moist (SM); 34 → 36: Same as 26 → 28 but Lt. Brown + more compressed, not plastic.	0.0
36	46	10	311 → 313 ≈ 300 gal water used 26 → 46	Sand fine grained, sub angular → sub rounded, med. Brown, some silt; moist, some plastic, (SM)	0.0

Sample/Core Log (Cont.d)

ing/Well

MW-2

Page

2

Prepared by

D. Zuck

Sample/Core Depth
(at below land surface)

Core
Recovery
(feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
46	56	56 10	315-318	Sand, fine grain, sub angular → sub round med → Lt. Brown color, w/silt, moist → wet, Some plasticity (SM)	0.0
56	66	10	319-321	Sand, fine grain, sub angular → sub rounded, Stratified layers of color: from 66 → 56 Lt Brown 6" med brown Red 2" Lt Brown 1.5" Red/Lt Brown 1", whitish/Lt. Brn. 3" w/mica particulates few pebbles, Root: Lt. Brown/white; with some silt, moist → wet, Some plasticity (SM)	0.0
66	76	10	322-324	Sand, fine grained, sub angular → sub rounded, Lt → med Brown, w/silt, moist → wet, Some plasticity (SM)	0.0
76	86	10	325-327	2ft (76-78') sand fine grained, sub angular → sub rounded Lt → med Brn. w/silt moist → wet some plasticity (SM) 78 → 86: clay fine grained med → high plasticity, med color, smooth + Dull, wet, (CL)	0.0
86	96	20	328-332	Sand, fine → med grain, sub angular → rounded Lt Brown → changing to med. Brn @ 91', w/silt moist → wet some plasticity (SM); changing to more fine Lt Brn sand more packed see photo (332)	0.0
96	106	↓	333-335	Sand Like 86-96 core for 1' then: clay hard Packed fine grain, high plasticity, med Brn. color smooth + Dull, wet (CL)	0.0
106	126	20	336-340	Solid gray clay, fine, high plasticity, smooth, wet, (stiff)	0.0
126	146	20	341-343	" SAME	0.0

Sample/Core Log (Cont.d)

Boring/Well MW-3

Prepared by D. Zuck

Sample/Core Depth
(feet below land surface)

Core
Recovery
(feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
37	57	13.1		0 → 4.2 SAA; Except: wet → soft, mod Dense Packed, trace mica.	0.0
				4.2 → 6.4 (6.4) SAA; Except: Dry, Loose packed Lt → mod Brown, fine → very fine sand, sub rounded, trace silt, med dense, [SP → SM]: moist	
				7.5 → 10.9 SAA; Except: Lt Brown w/ tint of orangeish Brown, loose packed, moist, [SM]	
				10.9 → 13.1 SAA; Except: Lt Brown → whitish gray;	
57	77	4		0 → 1.7 SAA; Except: wet from Intro. H ₂ O (0.0)	
				1.7 → 7.9 Lt Brown w/ tint of med Brown Yellowish orange, med → very fine sand, sub rounded, trace mica, loose packed, trace → few silt, [SM] moist	
				7.9 → 9 SAA; Except: Lt Brown → whitish yellow, no mica	
77	97	21.5		0 → 1.9 Clayey sand, med → very fine gray, (Lt Brown) sub rounded, wet from Intro. H ₂ O, low plasticity & soft [SC]	0.0
				1.9 → 4.2 Sandy clay, Lt Brown, med → fine sand ≈ 90% sand, sub rounded, wet → soft loose packed, [SM → SC]	
				4.2 → 11 Clay, Varied w/ layers of fine sand & (Lt Brown) mica w/ silt, ≈ 1 matric, low → med plasticity, med stiff, moist, [CL]	

Sample/Core Log (Cont.d)

Boring/Well

MW-3

Prepared by

D. Zude

Sample/Core Depth
(feet below land surface)

Core
Recovery
(feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
77	97	21.5		11 → 12.6 Med → Lt. Brown Sand, med → fine grains, sub rounded, trace clay, moist → wet, loose pack, trace coarse sand, [SW → SC]	(0.0)
				12.6 → 16.85 fine Lt Brown w/tint of Lt gray + white, fine sub rounded grains, trace coarse grains, moist → wet, loose packed [SP]	
				16.85 → 20.45 Lt Brown, fine → very fine sand, some silt, trace mica in first 10 ft, sub rounded, wet, loose packed, [SM]	
				20.45 → 21.5 SAA; Except: mod Dense packed	
97	112	22.1		0 → 2.8 SAA; Except: @ 2.0 trace clay (0.0) [SC]	
				2.8 → 12.8 Lt Brown clay, variegated, med ^{stiff} dense → stiff, mod. plasticity [CL → CH]	
				12.8 → 16.9 Lt Gray, stiff clay, med → High plasticity, trace silt variegated, [CH]	
				16.9 → 19.4 Lt Brown tint of Lt Gray, fine sub rounded sand, mod. Dense pack, moist, trace silt, [SM]	
				19.4 → 22.1 Same As (12.8 → 16.9)	

ARCADIS GERAGHTY & MILLER
Sample/Core Log

Boring/Well MW-4 Project/No. NY001422.0006.00002 Page 1 of 3

Site Location Plainview, NY Drilling Started 1/24/07 4:20 Drilling Completed 1/25/07

Total Depth Drilled 117 Feet Hole Diameter 6" → 7" inches Type of Sample/ Coring Device Drill pipe

Length and Diameter of Coring Device 10 → 20' x 4" Sampling Interval 10 → 20' feet

Ground-Surface Elev. 205 feet Surveyed Estimated Datum _____

Drilling Fluid Used H₂O Drilling Method Rotasonic

Drilling Contractor Pro Sonic Driller Brian Helper Joe/Rich

Prepared by D. Zuch Hammer Weight / Hammer Drop / ins.

Sample/Core Depth (feet below land surface)	Core Recovery (feet)	Pressure or Blows per 6 inches	Sample/Core Description
0	7	0.0	Top Soil / Pavment + Med → Loose sand w/ pebbles
7	17	0.0	0 → 4.7 Lt. Brown Sand, fine → med grains, sub rounded, trace pebbles + coarse sand, moist, loose pack, [SW]
17	37	0.0	0 → 1.75 SAA
			1.75 → 2.3 SAA; Except: thin layer of olive gray 5cm thick.
			2.3 → 4' SAA LT Brown, med → fine sand, sub rounded, trace coarse sand, moist, loose pack, [SM]
			4' → 7.6' SAA; Except: trace mica fragments, loose → med. dense sand [SM]
			7.6 → 7.8 Lt Gray + tint of Lt. Brown, med fine sand, sub rounded → rounded, moist, [SW]
			7.8 → 12.1 Same As: (4' → 7.6') [SM]
			12.1 → 12.3 Dark Brown color; All the Rest: SAA
			12.3 → 12.4 Same As (7.8 → 12.1)
37	57'	0.0	0 → 3.4 Greenish Gray mixed w/ med. sand, med → fine grains, sub rounded, moist → wet, loose pack, [SW → SM]
			3.4 → 5.8 SAA; Except: Lt Brown

Sample/Core Log (Cont.d)

Boring/Well

MW-4

Page 2

Prepared by

D. Zuck

Sample/Core Depth

(feet below land surface)

Core

Recovery

(feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
37	57	14.8		5.8 → 7.9 SAA; Except Loose → Med. Packed	0.0
				7.9 → 14.8 Intermixing layers of off white - Lt. Brown - Med. Brown; var fine → fine grains sub rounded, moist, trace mica, loose → var loose pack, [SW → SM]	
57	77	14.7	0.0	0 → 3' Lt Brown w/ tint of Lt gray; med → fine sand, sub rounded, Loose → very Loose pack, moist → wet, [SW → SA]	0.0
				3' → 7.3' Lt Brown w/ small layers of gray sand fine → med grains, trace mica, sub rounded, Loose packed, wet → moist [SW]	
				7.3' → 10.7' SAA; Except: No Mica + some trace Silts [SM]	
				10.7' → 12.4' Clays mixed w/ layers of sand, sand SAA, clays med. stiff, moist → wet, [SC]	
				12.4' → 14.7' med Lt. Brown → Yellowish Orange, med → fine grains, sub rounded, moist → wet, Loose Density, [SM]	
77	97	22.2	0.0	0 → 10.3 Lt Brown w/ tint of Lt Gray, med fine grains, sub rounded, trace coarse grains; ^{few rounded} pebbles .5 → 1cm @ (1.0 → 1.3), wet → sat, Loose packed. [SW → SM]	0.0
				10.3' → 18.7' SAA; Except: Lt → med brown, No coarse + pebble grains, trace clay pins [SM → SC]	
				18.7' → 22.2' Lt Brown, Varied silty clay low plasticity, soft → med. stiff [SC]	

Sample/Core Log

Boring/Well MW-5 Project/No. NY601422.6006.00002 Page 1 of 3

Site Location Sunnyside Blvd / Plathvrow NY. Drilling Started ≈ 9:30 Drilling Completed ≈ 4:10

Total Depth Drilled 117 Feet Hole Diameter 6+4 inches Type of Sample/ Coring Device Core Barrel

Length and Diameter of Coring Device 10.5' x Sampling Interval Core length feet ≈ 10'

Land-Surface Elev. 205 feet Surveyed Estimated Datum _____

Drilling Fluid Used H₂O Drilling Method Robo Sonic

Drilling Contractor Pro Sonic Driller Brian Helper Joe/Rich

Prepared By D. Zuck Hammer Weight / Hammer Drop / ins.

Sample/Core Depth (feet below land surface)

From	To	Core Recovery (feet)	PID Reading (ppm)	Sample/Core Description
0	1.5	1.5	0.1	1.2' Back fill + Bluff top Dark Gray + Black (temp. Effluent readings)
				.3" native Lt. Brown Sand, fine grained w/ trace pebbles .5cm, med. Sand sub rounded, moist, [SW]
5	10	4.5	0.0	SAA; trace pebbles 2cm → 3cm Sandy Clay, very fine sands w/ trace, sub rounded, 5cm pebbles, low plasticity, moist Lt Brown. [SC]
				3.3' → 4.5' Lt Brown, med + coarse grained sub-rounded sand, trace pebbles (.5cm → 3cm), moist [SW]
10	20	8.3	0.0	0 → 3.4' Clayey Sand, Lt Brown, med plasticity, some, med. Sands sub rounded, moist → wet, [SC]
				3.4' → 8.3' Lt. Brown → Yellowish orange; fine + med sands, sub rounded, trace fine gravel, + trace coarse sand, Dry → Moist [C-W → C-P]

600 gal + 600 gal + 600 + 400



Sample/Core Log (Cont.d)

Boring/Well

MW-5

Page 2 of 3

Prepared by

D. Zuck

Sample/Core Depth
(feet below land surface)

Core Recovery (feet) PID Reading (ppm)

From To Sample/Core Description

From	To	Core Recovery (feet)	PID Reading (ppm)	Sample/Core Description
20	37	8.1'	0.1	0 → 5.2': SAA
				5.2 → 5.8': SAA; Light Brown color
				5.8 → 6.0' Dry Very fine sand, sub rounded + silts, yellow orange color, Dry. [SW → SM]
				6.0 → 6.2' Same as (0 → 5.2')
				6.2 → 6.7' Same as (5.8' → 6.0')
				6.7' → 8.1' Same as (0 → 5.2') w/o gravels [SW]
37'	57'	12'	0.0	0 → 6.3' ^{Dense} Packed Sand, Very fine → fine, Lt. Brown → Yellowish orange; sub rounded, moist, [SM]
				6.3' → 12' SAA; Less Packed
57'	67'	8.3'	0.0	0 → 2.7' Lt. Gray w/Lt. Brown; Fine Sand mixed with silts; sub rounded; moist → wet, [SM]
				2.7' → 5.3' Lt. Brown → Yellowish orange; fine sand, sub rounded; moist → wet [SW]
				5.3' → 5.65' Orange fine sand, sub rounded → rounded, moist → wet [SW]
				5.65' → 8.3' SAME as (2.7' → 5.3')
67'	77'	9.1'	0.0	0 → 2.5' Lt gray + Lt Brown; fine rounded → sub rounded sand, moist → wet, loose compaction, [SW]
				2.5' → 4' SAA; Except: Trace mica, orange → Lt Brown.
				4' → 8' SAME as (0 → 2.5')
				8' → 9.1' SAA; Except: Surfaced
77'	97'	24.8'	0.0	0 → 4.1' Silty fine Sand, med + fine sub rounded sand, Lt. Brown, low No plasticity, moist [SM]
				4.1' → 7.4' Clayey sand, med + fine sub rounded sand, Lt Brown, low → No plasticity, moist → wet, [SM] [SL]



Sample/Core Log (Cont.d)

Boring/Well

MW-5

Page 3 of 3

Prepared by

D. Zula

Sample/Core Depth
(feet below land surface)

Core Recovery (feet) PID Reading (ppm)

Sample/Core Description

From	To	Core Recovery (feet)	PID Reading (ppm)	Sample/Core Description
77'	97'	24.6	0.0	7.4 → 14' Clay, w/ Varved layers, fine Silts + Sands, Moist, Low → med. Plasticity, Lt. Brown [CL]
				14' → 18.9 Silty Sand, Lt Brown, med → fine, Sub rounded, Moist → wet, [SM]
				18' → 23.2 Sand med → fine grained, Sub rounded, trace Silt, Lt → med Brown, wet, [SW]
				23.2 → 24.1 SAA; Except: med → Dark Brown
				24.1 → 24.4 SAME AS: (18 → 23.2)
97	127'	27.1	0.0	0 → 8.5' Core Barrel Break material inside Sounds like Sand: (hit Hammer on side of pipe) Dense Sand. close @ 8.5; Bottom of Barrel filled w/ clay.
				8.5 → 13.7' Varved Clay w/ mixing layers of Sand (var fine → fine) Moist, [CL] Lt. Brown, med. Plasticity
				13.7 → 20.1 Varved clay of silt layers, Lt. Brown, Moist, Dense, High plasticity. [CH]
				20.1 → 27.1 Varved clay w/ silt layers, Lt. Gray → Olive Gray, Moist, Dense, High Plasticity, [CH]

Sample/Core Log (Cont.d)

Boring/Well

PW-2

Page 2

Prepared by

D. Zuck

Sample/Core Depth

(feet below land surface)

Core Recovery

Notes:

Sample/Core Description

PID (ppm)

From	To	(feet)	Notes:	Sample/Core Description	PID (ppm)
36	46	10	Photos 396-398	fine → very fine sand, med → Lt. Brown, trace amounts of mica, 1 layer ≈ 44' med. brown w/ shade of rust red: same composition, sub rounded → rounded, moist, not plastic (SM)	0.0
46	56	10	399-401	Sand fine → very fine, intermixing layers of med → Lt Brown + med w/ red tint sands, ≈ 52' Dark Brown sand of very fine consistency, sub-rounded → rounded, moist (SM)	0.0
56	66	10	402-405	1.5 ft (56 → 57.5): white quartz rich sand med → fine grained, sub angular → sub rounded, moist, 5 ft: fine → very fine sands intermixing layers of same consistency ranging from med brown → med. brown w/ red, moist, sub rounded → rounded (SW); 3.5 ft: med brown-red sand of same consistency, moist (SW)	0.0
66	76	10	406-409	2.5 ft (66 → 68.5) intermixing layers of sand all fine → very fine, sub angular rounded, layers of light brown → med brown w/ tint of red, orange, moist (SW); 6": orange sand some above consistency; 5 ft: same as first 2.5 ft; last 2" are a light brown → white quartz sand some Lt. gray tint as well, moist, but some consistency consistency.	0.0
76	86	10	410-414	2.5 ft of clayey sand mixing strata of thin clay + med → fine sandy, med → med brown, slight plasticity (SC); 5" of clay med brown dense reddish, high plasticity, (CH); 3' of med → fine sand, wet → moist, Lt → med brown, sub rounded → rounded for both sections (first 2 1/2' last 3'), (SC → SW).	0.0

Sample/Core Log (Cont.d)

Boring/Well

PW-4

Page

2

Prepared by

D. Zuck

Sample/Core Depth
(feet below land surface)

Core
Recovery
(feet)

Notes:

Sample/Core Description

sand & silt

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
36	46	10	Photos	Sandy silt, med → fine grained / Sub Rounded → Rounded, moist, not plastic, few pebbly granules, med brown w/ some reds. (SM)	0.0
			367-370		
46	56	10	371-373	Consistent: fine → very fine sand / silt ≈ 90% sand 2% pebbles / 1 cm quartz 8% silt. Moist, not plastic, sub rounded → rounded Lt. Brown → med red brown (SM)	0.0
56	66	10	374-377	6" of 56' is same as above, next 6" is mix of fine → very fine sand w/ some mica sub angular mica, sub rounded → rounded sand moist, not plastic some granules, (SP → SM) med brown	0.0
				57' 57' → 66' all same, show stratigraphy in different shades of brown some composition as 46' → 56' (SM → SP)	
66	76	10	378-380	Mainly sandy silt ≈ 90% sand fine → very fine sand few ≈ 2% granules Lt → med. brown color, different stratigraphic cols same composition, quartz, few silt grains, some → none plasticity (SP) moist	0.0
76	86	10	383-386	76 → 80 Sand, mix of med → very fine grains, sub rounded → rounded, w/ some fine mica fragments @ ≈ 76' moist throughout wet @ 76 → 77', color is med brown w/ hints of gray, not plastic (SM) 80 → 86 mix of layering clay and 1 layer of sand ≈ 6" thick @ 83' med brown clay dense packed, med → high plasticity (SH)	0.0

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Sample/Core Log

Boring/Well PW-5 Project/No. NY001422.0005.00001 Page 1 of 2

Site Location 131 Sunnyside Blvd Plainview NY Drilling Started 9:45 Drilling Completed 1:00

Total Depth Drilled 46 Feet Hole Diameter 4" → 6" inches Drilling Method Sonic

Length and Diameter of Coring Device 4" x 10' Type of Coring/Sampling Device Sample Bag

Sampling Interval 10 feet Drilling Fluid Used Water or Bentonite mix

Drilling Contractor Pro Sonic

Prepared By D. Zuck

Sample/Core Depth (feet below land surface)

Core Recovery (feet)

Photos: Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Photos: Notes:	Sample/Core Description	PID (ppm)
0	6	-	-	Hand dug ^{(med. fine) ~ 2m} dirt fill, sand, cobbles, wood, mud ^{~ 6.5'}	0.0
6	16	10	469-472	3.5 ft (6 → 9.5'): muddie clay mix, fine → very fine sands, w/ silt ≈ 80%, pebbles, Dark → med. Brown, wet, sub rounded (SC)	0.0
				6.5 ft (9.5 → 16) Sand med → very fine, some pebbles, few granules @ ≈ 10' 6" Lt. Brown → med. Brown intermixing layers w/ hints of red, sub rounded → rounded, dry → moist (SW)	
16	26	10	473-476	Sand w/ gravel mix, med → fine sand, sub rounded → rounded, @ ≈ 16' 6" → 17' Dark organic coal → tar like material Dry, chunks, mixed w/ sand, Sands med → fine w/ pebble + granules throughout, Lt → med Brown sands, sub rounded, intermixing layers, Dry → moist, Brown w/ reds @ ≈ 25' (SW)	0.0
26	36	10	477-479	26 → 28 Dark Brown w/ grays sand w/ pebbles + granules, sand med → fine, sub rounded, 28 → 36: med → Lt. Brown intermixing layers, moist, fine to very fine some silt, sub rounded → rounded; @ ≈ 35' → 35' 6" white sand, dry rounded sand), (SP → SW)	0.0

Sample/Core Log

Boring/Well PW-7 Project/No. NY001422.0006.00002 Page 1 of 2

Site Location Plainview N.Y. Drilling Started 8:10 Drilling Completed 4:45

Total Depth Drilled 205 Feet Hole Diameter 6 inches Type of Sample/ Coring Device Core Barrel

Length and Diameter of Coring Device 10-20' X 3 1/2" Sampling Interval 10-20 feet

Land-Surface Elev. 205 feet Surveyed Estimated Datum _____

Drilling Fluid Used H₂O Drilling Method Rotosonic

Drilling Contractor Prosonic Driller Brian Helper Joe R, Enz

Prepared by D. Zuck Hammer Weight ✓ Hammer Drop ✓ ins.

Sample/Core Depth (feet below land surface) Core Recovery (feet) PID (HM) Pressure or Blows per 6 inches

From	To	Core Recovery (feet)	Pressure or Blows per 6 inches	Sample/Core Description
0	7	—	—	Back fill + gravelly sand
7	17	8.2	0.0	0 → 5.7 Lt Brown → Orangeish yellow, med → fine sand, some coarse sand + pebbles .5cm → 3cm, trace & very fine sand + silts, sub rounded → sub angular, moist, loose density pack, [5-V → 6-M]
				5.7 → 8.2 SAA; Except: Lt Brown only.
17	37	12.1	0.0	0 → 1.5 SAA
				1.5 → 6 Lt Brown → orangeish yellow tint of Lt Gray loam, med → very fine sand, few pebbles + coarse sand, trace silt, moist, sub rounded → sub angular, loose packed, [SP]
				6 → 12.1 Lt Brown w/ tint of orangeish yellow, fine → very fine grains, few silt, moist, sub rounded, loose → low dense sand, [SP → SM]
37	57	13.3	0.0	0 → 2.5 Lt Brown, fine → very fine sub rounded sand, some silt, loose packed, moist [SM] → [SP]
				2.5 → 4.4 SAA; Except: Lt → med Brown, loose → med. Dense packed.
				4.4 → 7.4 SAA; Except: Lt Brown

Sample/Core Log (Cont.d)

Boring/Well PW-7

Prepared by D. Zuck

Sample/Core Depth
(feet below land surface)

Core
Recovery
(feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
37	57	13.3		7.4 → 7.9 Lt Brown → Cream, Very fine sand powder, w/silts, Dry, Very Loose packed [SM]	0.0
				7.4 → 13.3 Lt Brown tint of orange, fine → Very fine sand, sub rounded, Moist → wet, some silt, SM	
57	77	10.4		0 → 10.5 Lt Brown w/tints of med. Brown & orangish yellow, fine → very fine sand, some med. sand, sub rounded → sub angular, moist → wet, few silts, Loose packed; [SW → SM]	0.0
77	83	9.5		0 → 2' SAA	0.0
				2 → 6.7 Lt → med Brown, clayey sand, med → fine sand, sub angular → sub rounded; Clay med stiff, Low plasticity [SC → CL]	
				6.7 → 9.5 Lt Brown clay, med plasticity, varved, silt/fine sand lam layers, med stiff, [CL]	

ARCADIS GERAGHTY & MILLER
Sample/Core Log

Boring/Well PW-8 Project/No. NY001422.0006.00002 Page 1 of 1
 Site Location Plainview, NY Drilling Started 1/31/07 5:30 Drilling Completed 12:30 PM
 Total Depth Drilled 73 Feet Hole Diameter 6" inches Type of Sample/ Coring Device Drill pipe
 Length and Diameter of Coring Device 10' x 4" → 20' x 4" Sampling Interval 10 → 20 feet
 Land-Surface Elev. 205 feet Surveyed Estimated Datum _____
 Drilling Fluid Used H₂O Drilling Method Rotasonic
 Drilling Contractor Prosonic Driller Rich Helper Joey/Eric
 Prepared by D. Zuck Hammer Weight ✓ Hammer Drop ✓ ins.

From (feet)	To (feet)	Core Recovery (feet)	Blows per Foot (PPM)	Sample/Core Description
0	7	11.5	—	Hand Dig (overburden top soil, Gravelly sand, Asphalt)
7	17	11.5	0.0	0 → 5.3 Lt. Brown, med → fine sand, some coarse sand. Some pebbles 5cm → 3cm, sub rounded, Loose packed, moist → wet, [G-W → SW]
			↓	5.3 → 11.5 Lt Brown med → fine sand, trace coarse sand + pebbles, sub rounded sand, moist, Loose packed [SP]
17	37	10	0.0	0 → 2.0 Lt Brown tint of Lt gray, sub rounded sand, some coarse sand, trace pebbles, wet, Loose packed [SW]
			↓	2 → 3.4 Lt. Brown sand, med → fine sub rounded sand, Loose packed, moist, [SP]
			↓	3.4 → 6.7 SAA; Except: med Dense packed, Dry → moist
			↓	6.7 → 7.7 SAA; Except: Dry, Loose packed, no med sand.
			↓	7.7 → 10' Lt. Brown, fine sand w/ med sand, trace mica, sub rounded sand grains, moist → wet, Loose packed, [SP]
37	57	14	0.0	0 → 2.6 Lt gray tint of Lt Brown, Sand, med → very fine sand, Loose → med packed, sub rounded, wet (from introduced H ₂ O), [SP]

Sample/Core Log (Cont.d)

Boring/Well PW-8
 Prepared by D. Zwick

Sample/Core Depth
 (feet below land surface)

Core
 Recovery
 (feet)

Notes:

Sample/Core Description

PID (ppm)

From	To	Core Recovery (feet)	Notes:	Sample/Core Description	PID (ppm)
37	57	14		2.6 → 5.1 Lt Brown loam w/ grey loam, med → Vay fine sand, Loose → med Dense packed, sub rounded, trace Silts, [SP → SM] Moist	0.0
				5.1 → 8.3 SAA: Except (Lt Brown ONLY)	
				8.3 → 11.3 Lt Gray + Whites, Sub rounded very fine → fine sand, DRY, trace pebbles + loose sand, some Silts, [SM] Quartz	
				11.3 → 14 Lt Brown → med Brown, Sand, Sub angular → sub rounded, moist → wet, Loose packed, med → fine grains, trace mica + Silts [SP → SM]	
57	73	11		0 → 3' Lt Brown tinted Lt. Gray, Sub rounded, med → fine sand, trace Silts, wet (from intro. H ₂ O), Loose packed, [SP → SM]	0.0
				3 → 9.5 Lt → med Brown, Sand med → fine, Sub angular → sub rounded, trace Silt + mica, moist → wet, Loose packed, [SM]	
				9.5 → 11 Lt → med Brown, Clayey sand, some Silt, sub rounded sand fine grains, moist → wet, med Dense packed, [SM → SC]	

ARCADIS

Appendix B

Geophysical Logs

ARCADIS

Following implementation of the Site Characterization Workplan, the designations assigned to the Shallow and Deep Perched Water Monitoring Wells were revised.

The table below relates the Originally Assigned ID (used in the Workplan) with the Revised ID (used in the Site Characterization Report).

Originally Assigned ID	Revised ID (4/17/07)
MW-1	PW-1D
MW-2	PW-3D
MW-3	PW-2D
MW-4	PW-6D
MW-5	PW-5D
PW-2	PW-2S
PW-4	PW-4S
PW-5	PW-1S
PW-6	PW-5S
PW-7	PW-3S
PW-8	PW-6S

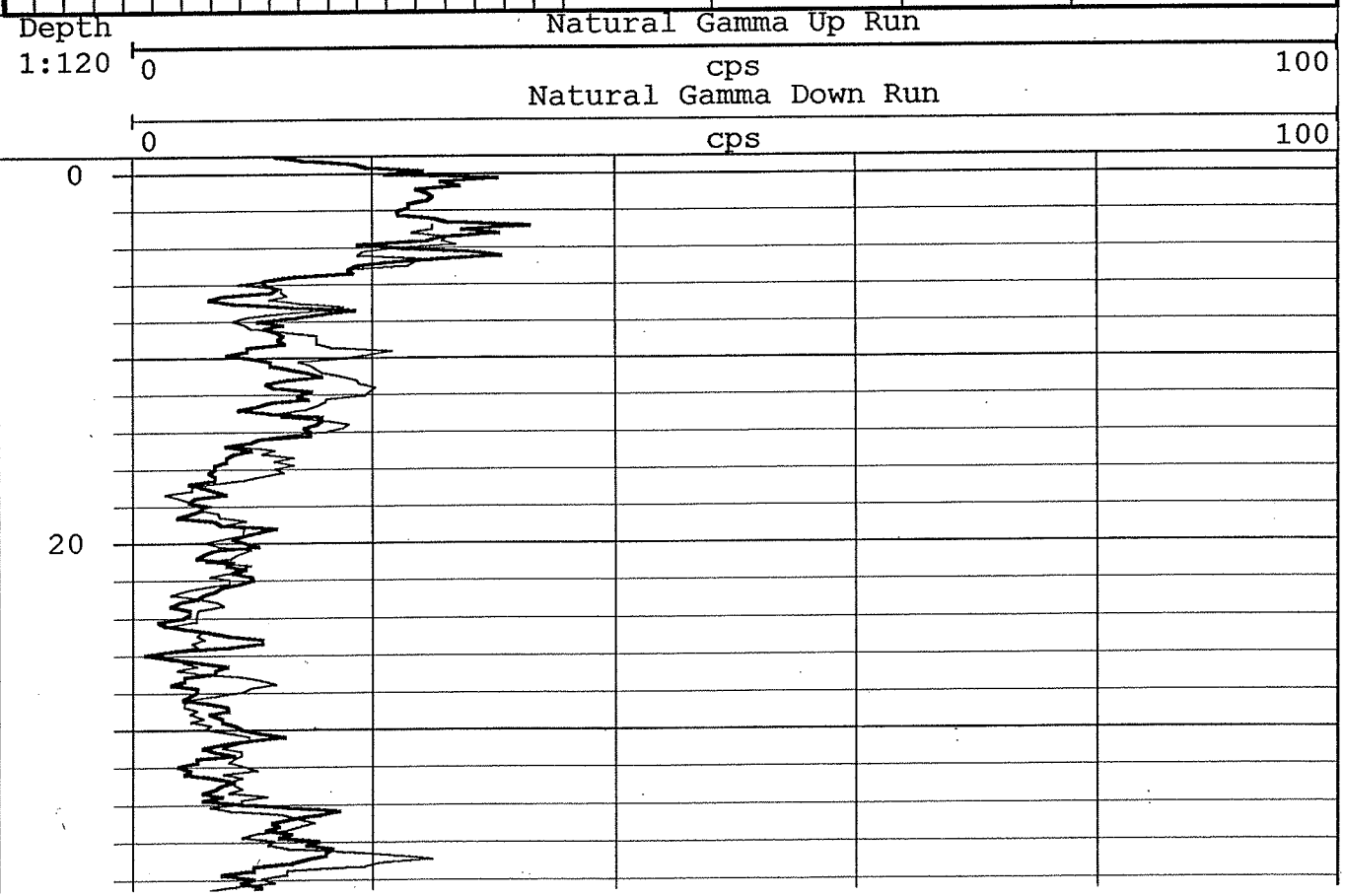
AQUA TERRA GEOPHYSICS INC

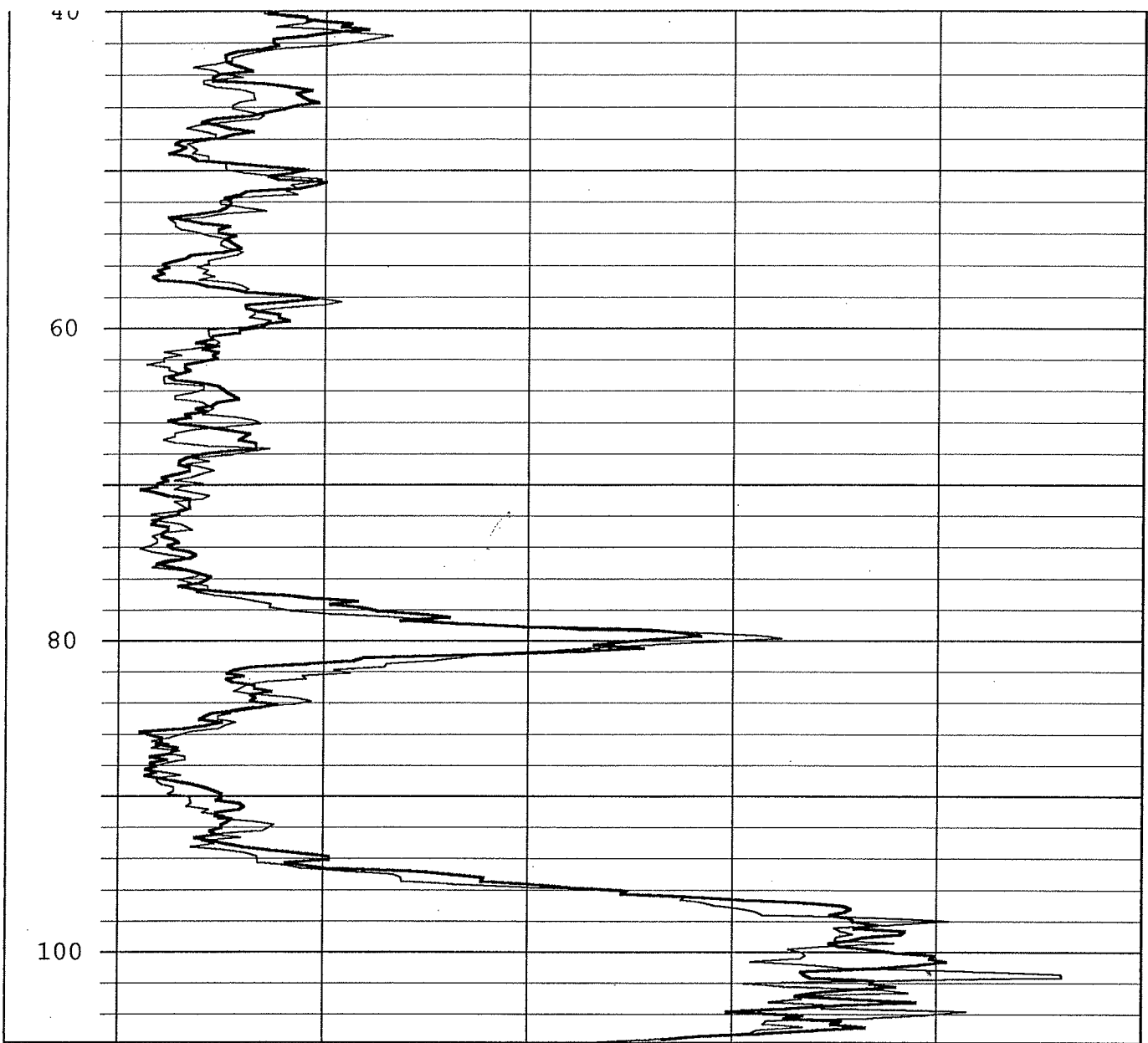
COMPANY ARCADIS G & M
 WELL ID MW - 1
 FIELD 131 SUNNYSIDE BLVD., PLAINVIEW
 COUNTRY NASSAU STATE NEW YORK

CO WELL FLD CTS STE FILING No
 PERMANENT DATUM
 LOG MEAS. FROM GROUND SURFACE ABOVE PERM. DATUM
 DRILLING MEAS. FROM
 DATE JULY 21, 2006
 RUN No
 TYPE LOG
 DEPTH-DRILLER
 DEPTH-LOGGER
 BTM LOGGED INTERVAL
 TOP LOGGED INTERVAL
 OPERATING RIG TIME
 RECORDED BY
 WITNESSED BY

LOCATION
 SEC TWP RGE
 ELEVATION
 K.B.
 D.F.
 G.L.
 TYPE FLUID IN HOLE
 SALINITY
 DENSITY
 LEVEL
 MAX. REC. TEMP.
 BOREHOLE RECORD
 BIT FROM TO
 6 INCH SONIC
 CASING RECORD
 SIZE WGT. FROM TO
 7 INCH STEEL
 6 INCH
 GROUND SURFACE 80 FEET
 GROUND SURFACE TOTAL DEPTH

NO.	6 INCH	SONIC							





Natural Gamma Down Run

0 cps 100

Natural Gamma Up Run

Depth

1:120

0 cps 100

AQUA TERRA GEOPHYSICS INC

COMPANY ARCADIS G & M

WELL ID MW - 2

FIELD 131 SUNNYSIDE BLVD, PLAINVIEW

COUNTRY NASSAU STATE NEW YORK

LOCATION

OTHER SERVICES

CO	SEC	TWP	RGE	K.B.
WELL				D.F.
FLD				GL.
CTY				
STE				
FILING No				

PERMANENT DATUM ELEVATION

LOG MEAS. FROM GROUND SURFACE ABOVE PERM. DATUM

DRILLING MEAS. FROM

DATE JULY 12, 2006 TYPE FLUID IN HOLE

RUN No TYPE LOG SALINITY

DEPTH-DRILLER 176 FEET DENSITY

DEPTH-LOGGER 172 FEET MAX. REC. TEMP.

BITM LOGGED INTERVAL

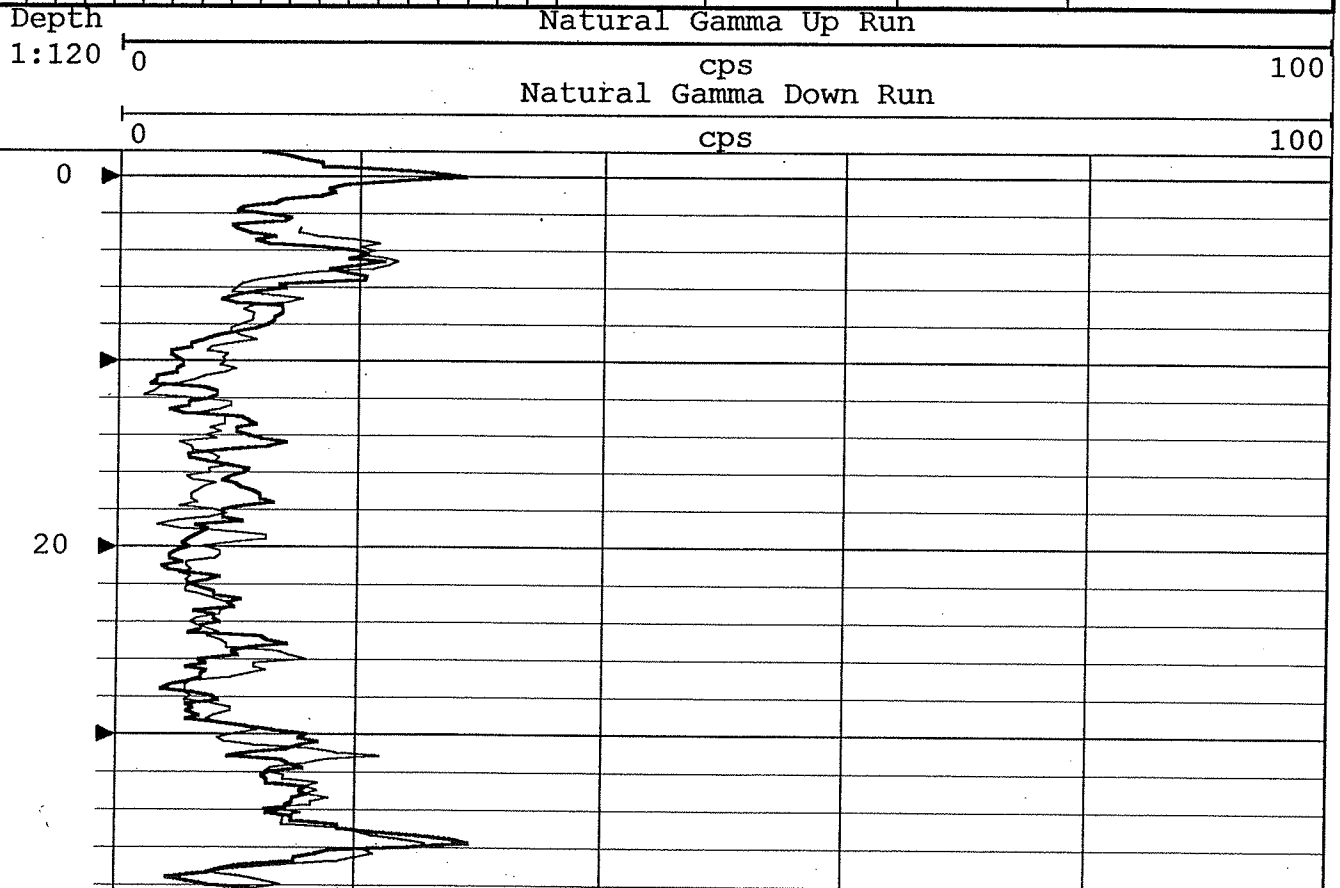
TOP LOGGED INTERVAL

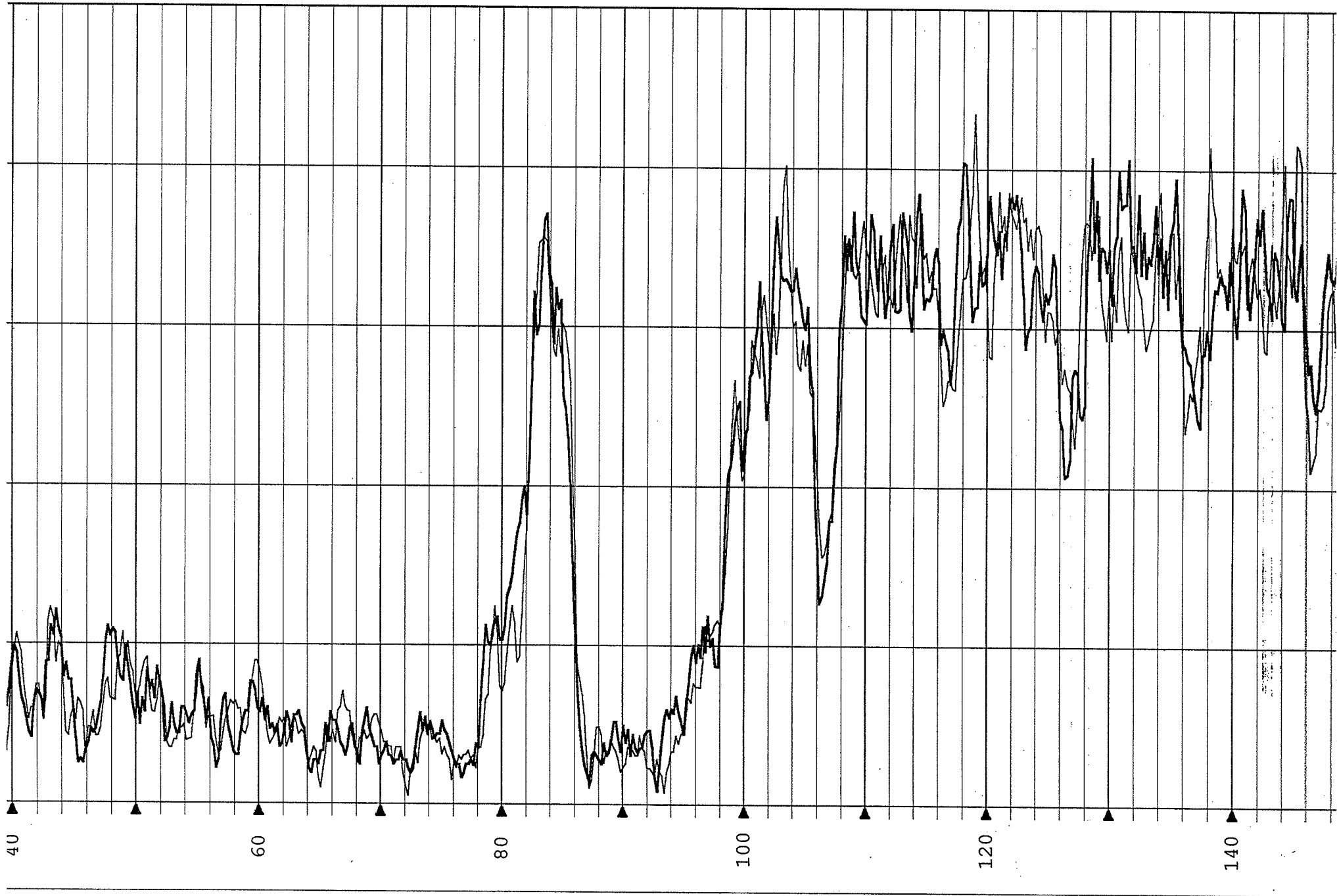
OPERATING RIG TIME

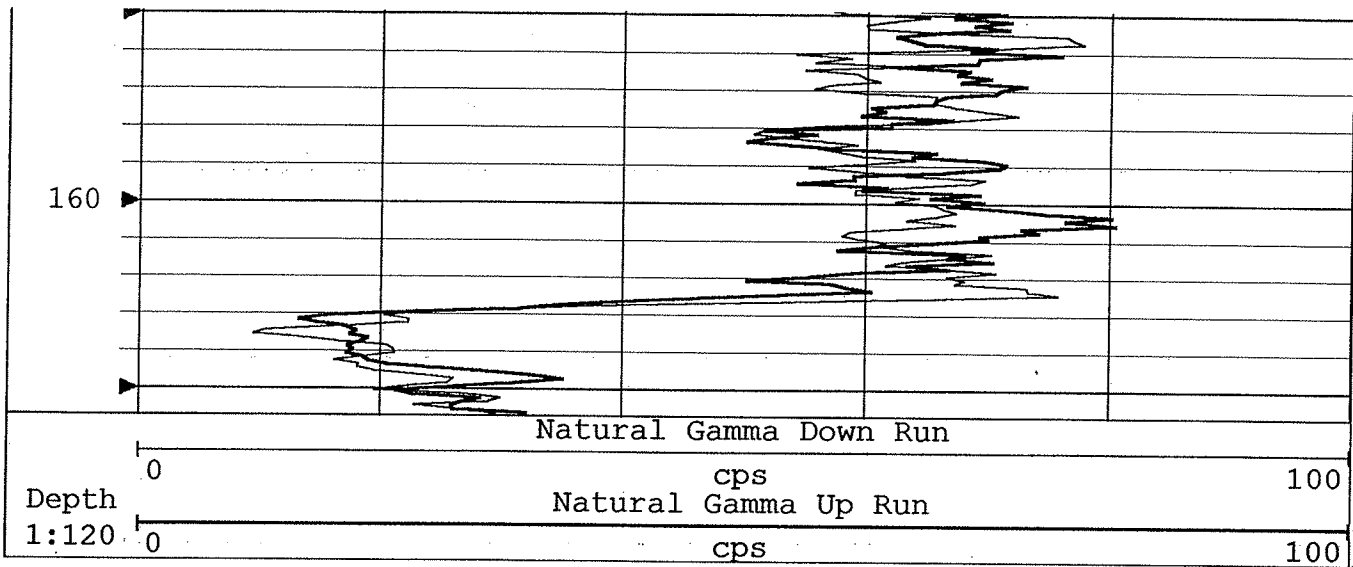
RECORDED BY BENJAMIN RICE

WITNESSED BY ROBERT PORSCHKE

RUN NO.	BOREHOLE RECORD		CASING RECORD				
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
	6 INCH	SONIC		7 INCH	STEEL	0	85 FEET
				6 INCH	STEEL	0	TOTAL DEPTH







AQUA TERRA GEOPHYSICS INC

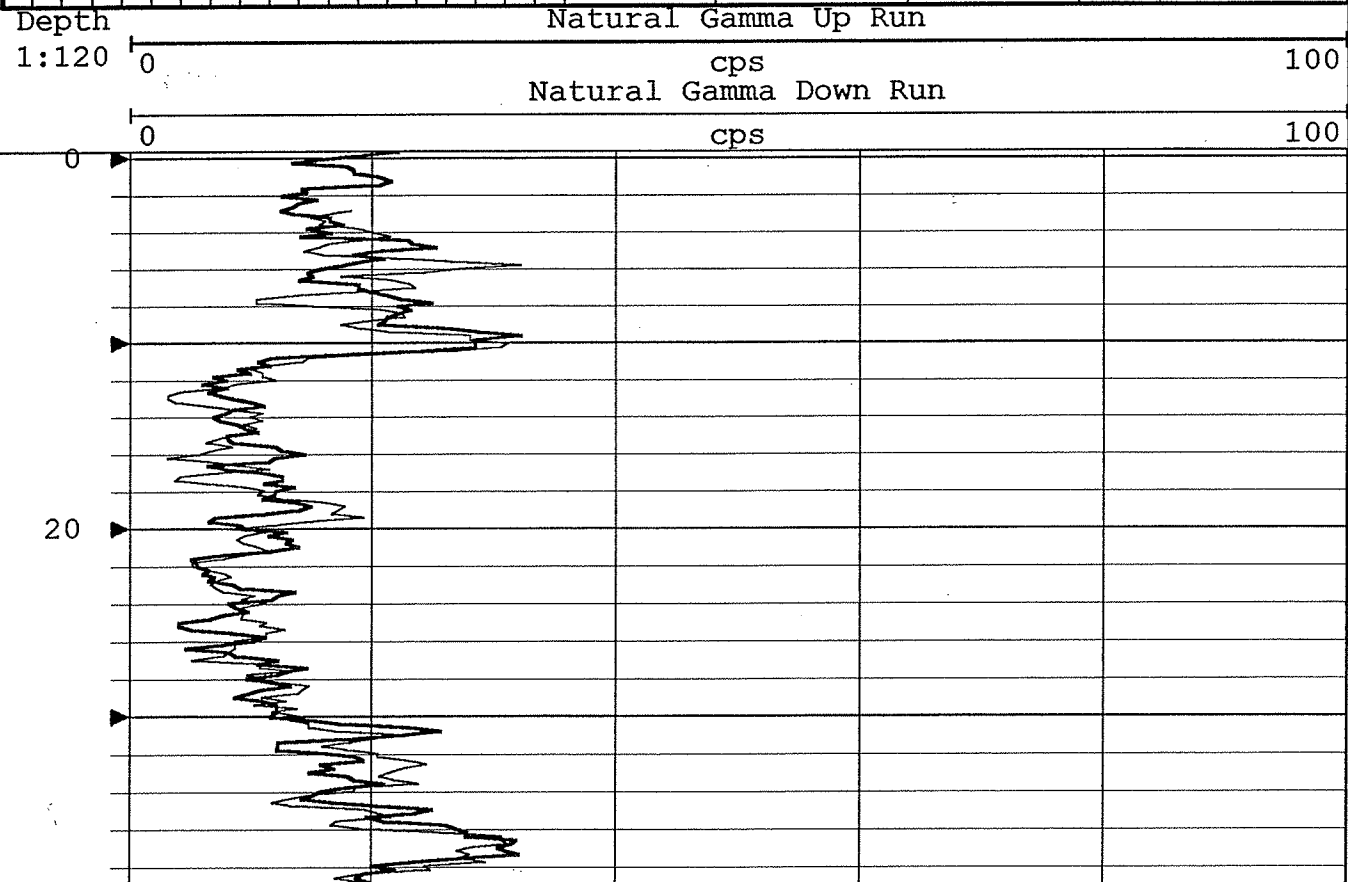
COMPANY ARCADIS
 WELL ID MW - 3
 FIELD 131 SUNNYSIDE BLVD.
 COUNTRY PLAINVIEW STATE NEW YORK

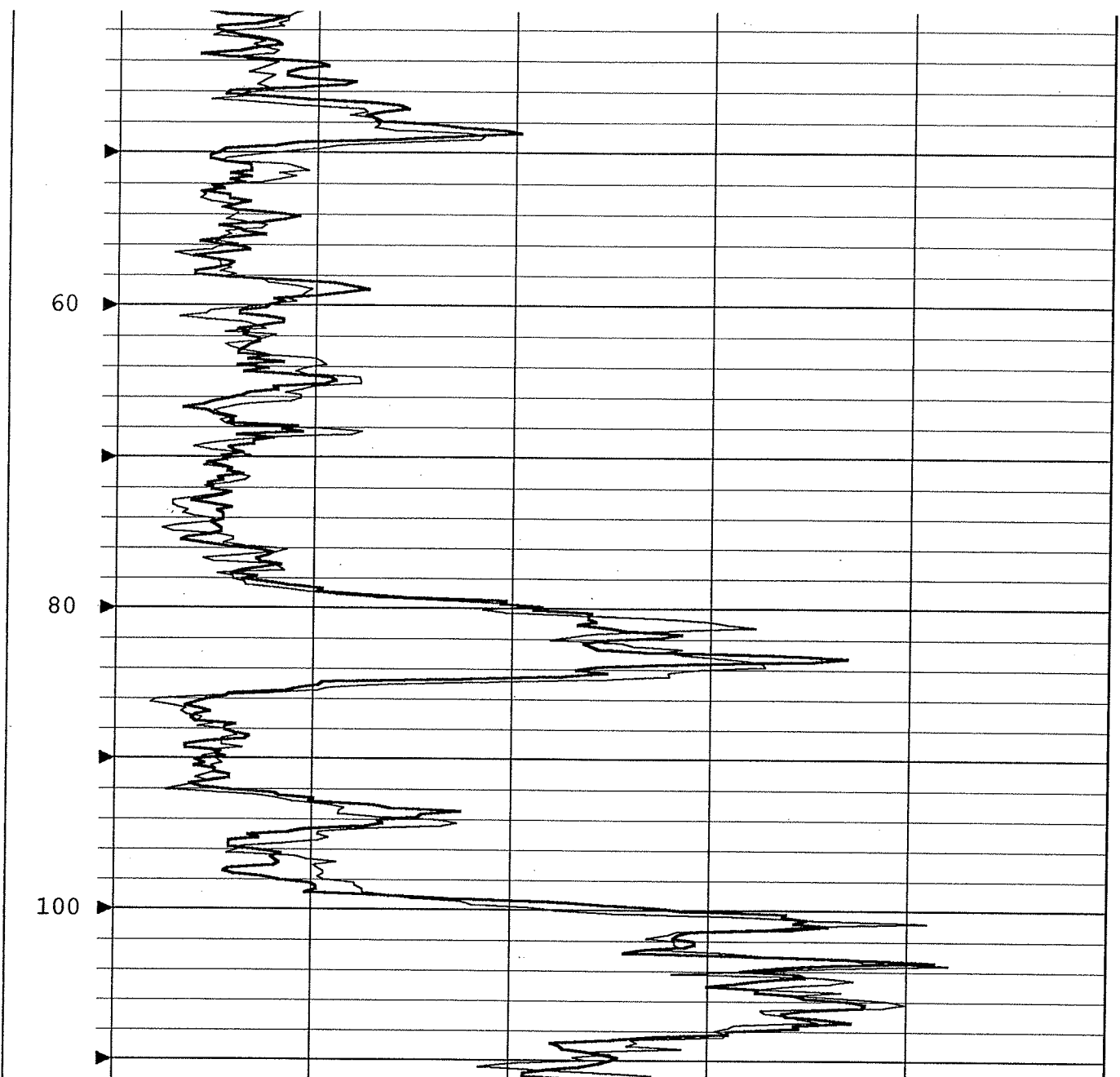
CO WELL FLD CTY STE FILING No
 PERMANENT DATUM LOCATION OTHER SERVICES
 SEC TWP RGE

LOG MEAS. FROM BLACKTOP ABOVE PERM. DATUM K.B. D.F. G.L.
 DRILLING MEAS. FROM

DATE JANUARY 31, 2007 TYPE FLUID IN HOLE
 RUN No SALINITY
 TYPE LOG DENSITY
 DEPTH-DRILLER 112 FEET LEVEL
 DEPTH-LOGGER 113 FEET MAX. REC. TEMP.
 BITM LOGGED INTERVAL
 TOP LOGGED INTERVAL
 OPERATING RIG TIME
 RECORDED BY BENJAMIN RICE
 WITNESSED BY DAN ZUCK

RUN NO. BOREHOLE RECORD FROM TO CASING RECORD FROM TO
 NO. BIT FROM TO SIZE 6 INCH WT. STEEL TOTAL DEPTH

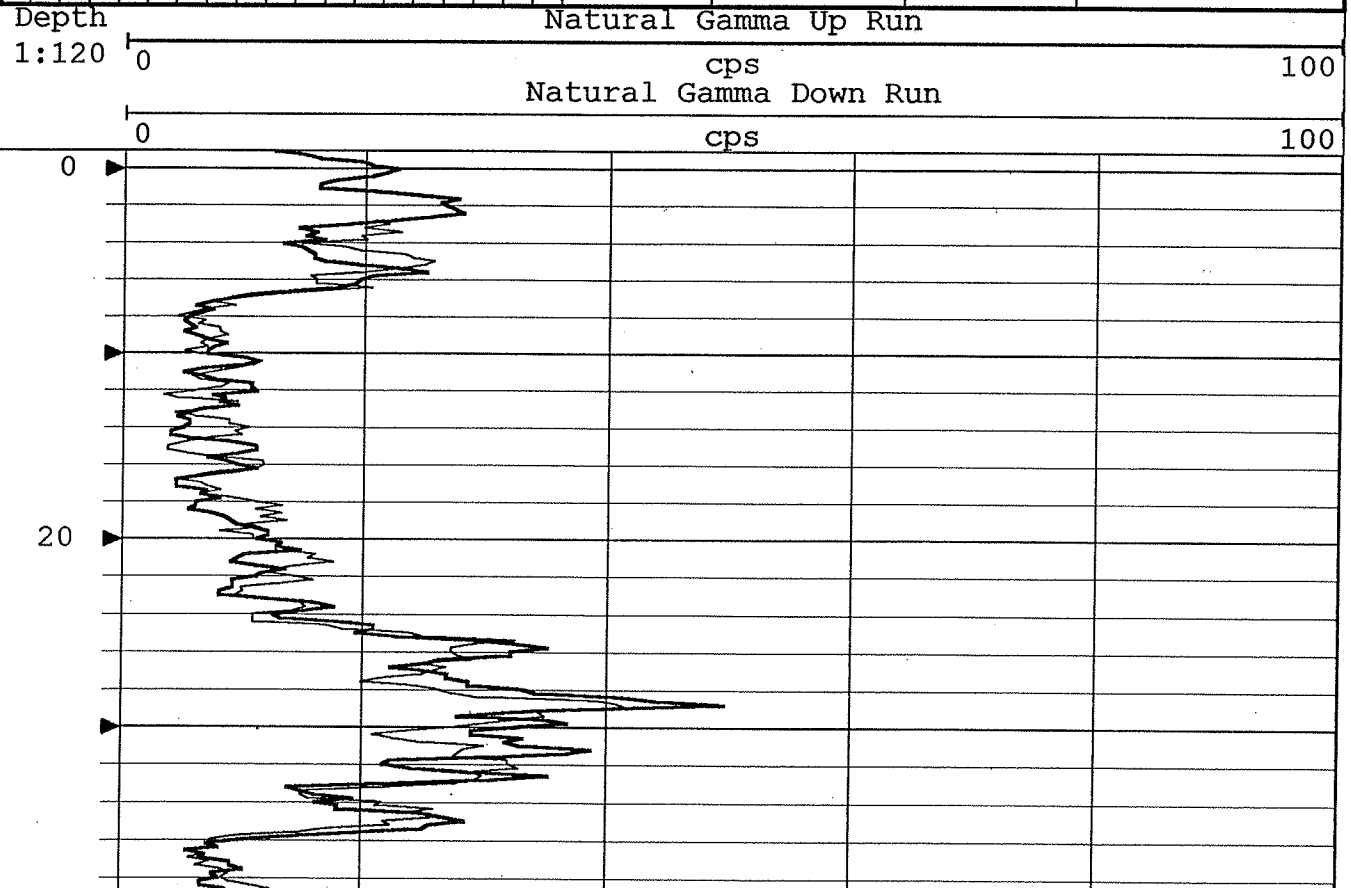


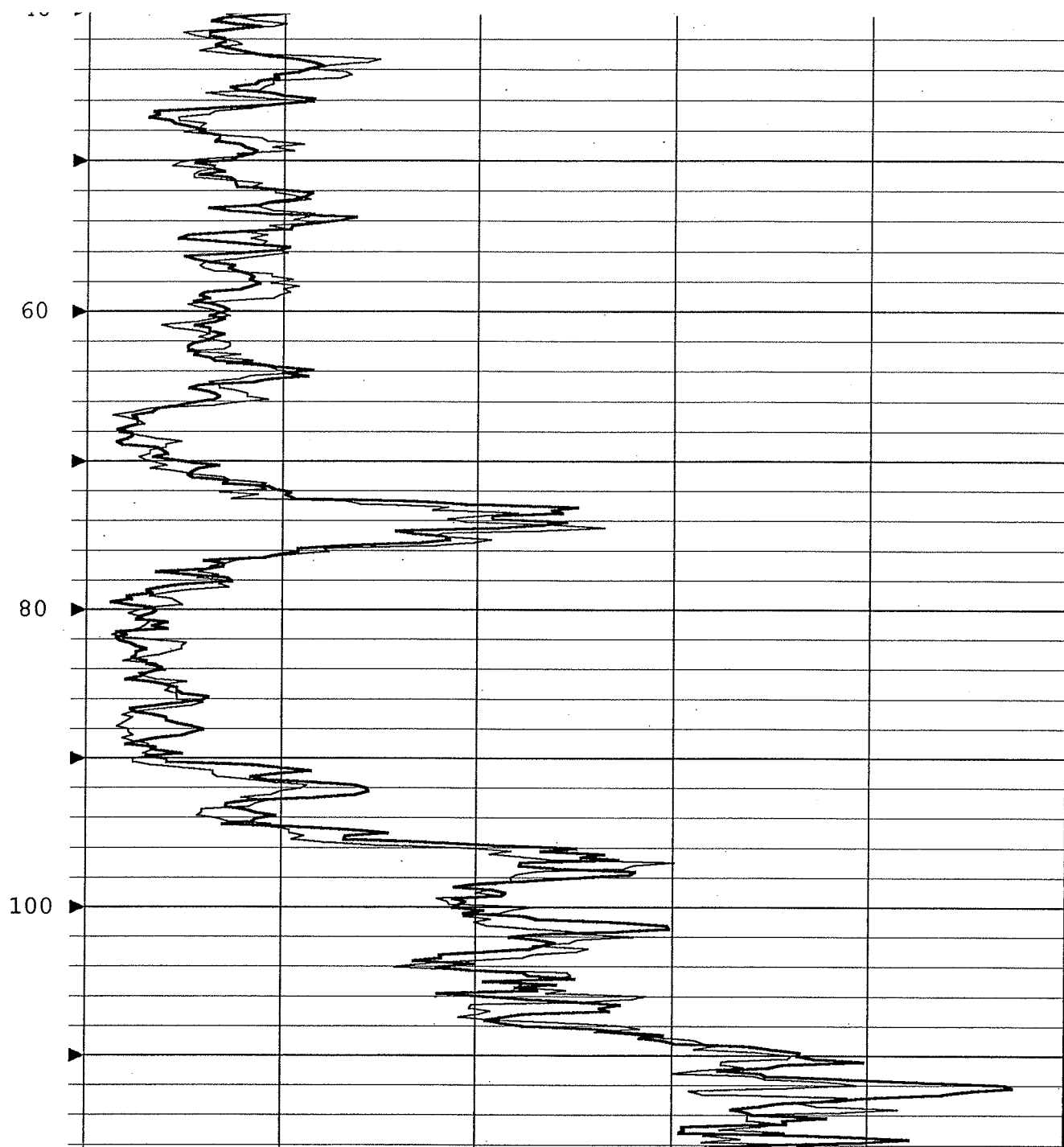


	Natural Gamma Down Run	
Depth	cps	100
1:120	Natural Gamma Up Run	
	cps	100

AQUA TERRA GEOPHYSICS INC

CO		WELL		FLD		CTY		STE		FILING No	
PERMANENT DATUM		BLACKTOP		ABOVE PERM. DATUM		ELEVATION		K.B.		D.F.	
LOG MEAS. FROM		DRILLING MEAS. FROM		DATE		JANUARY 25, 2007		TYPE FLUID IN HOLE		GL.	
RUN No		TYPE LOG		DEPTH-DRILLER		117 FEET		SALINITY		DENSITY	
DEPTH-LOGGER		DEPTH-LOGGER		117 FEET		MAX REC. TEMP.		LEVEL			
BITM LOGGED INTERVAL		TOP LOGGED INTERVAL		OPERATING RIG TIME		RECORDED BY		BENJAMIN RICE		WITNESSED BY	
DAN ZUCK		CASEING RECORD		SIZE		WGT.		FROM		TO	
NO.		BIT		FROM		TO		6 INCH		STEEL	
BLACKTOP		TOTAL DEPTH									





Natural Gamma Down Run

0

cps

100

Depth

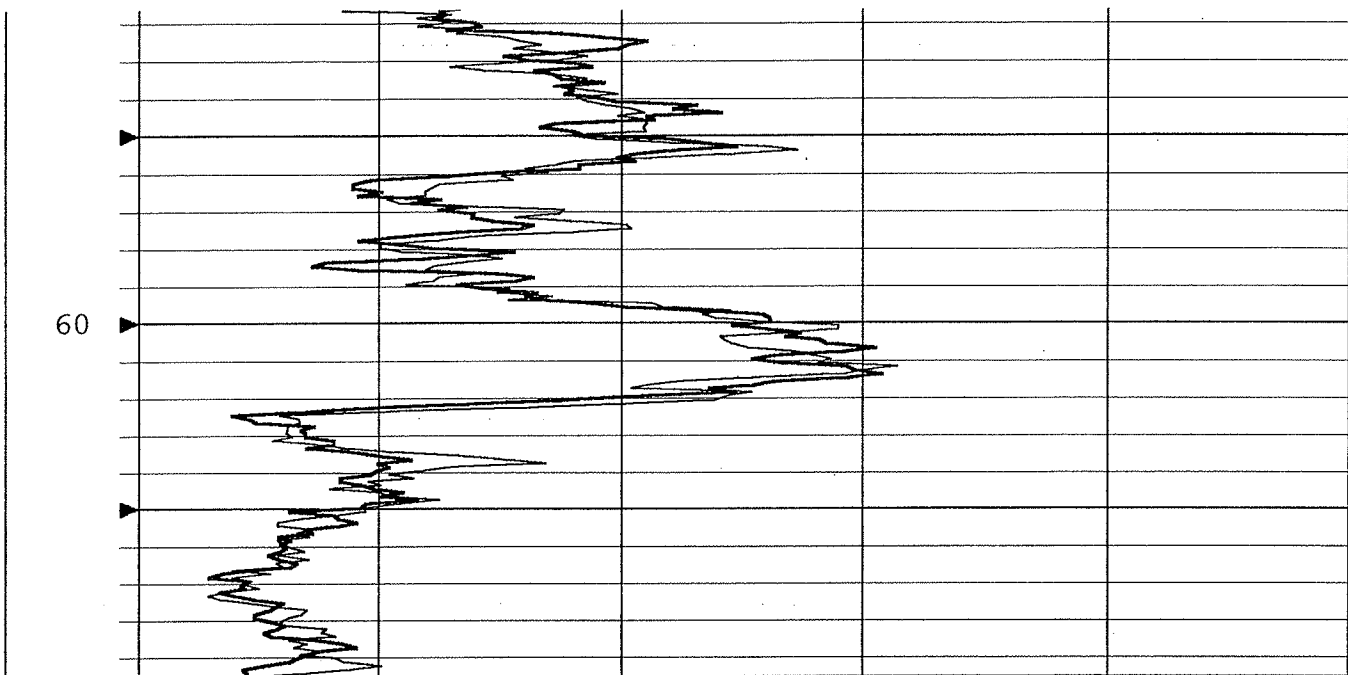
Natural Gamma Up Run

1:120

0

cps

100



Natural Gamma Down Run

0	cps	100
Depth	Natural Gamma Up Run	
1:120	0	cps
		100

ARCADIS

Appendix C

Sample Collection Logs

ARCADIS

Following implementation of the Site Characterization Workplan, the designations assigned to the Shallow and Deep Perched Water Monitoring Wells were revised.

The table below relates the Originally Assigned ID (used in the Workplan) with the Revised ID (used in the Site Characterization Report).

Originally Assigned ID	Revised ID (4/17/07)
MW-1	PW-1D
MW-2	PW-3D
MW-3	PW-2D
MW-4	PW-6D
MW-5	PW-5D
PW-2	PW-2S
PW-4	PW-4S
PW-5	PW-1S
PW-6	PW-5S
PW-7	PW-3S
PW-8	PW-6S

Low-Flow Groundwater Sampling Log

Project Number: NY001472.0005 Task: 00002 Well ID: MW-1
 Date: 8/10/06 Sampled By: G. Williams/D. Zuck
 Sampling Time: _____ Recorded By: D. Zuck
 Weather: P/C ≈ 80° Coded Replicate No.: Rep 8-10-06

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: PVC Purge Method: Reef flo/Low flow
 Casing Diameter: 2" Screen Interval (ft bmp): Top 85.32 Bottom 95.32
 Sounded Depth (ft bmp): 97.32 Pump Intake Depth (ft bmp): 92
 Depth to Water (ft bmp): 74.92 Purge time Start: 1255 Finish: 1340

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
1255		≈550		16.3	5.27	195.3	85	5.06		74.92	
1300				17.0	5.14	191.4	95	4.76			
1305				17.0	5.14	189.4	101	4.57		75.57	
1310				17.0	5.16	188.3	107	4.24			
1315				17.2	5.16	187.3	106	4.06		75.57	
1320				17.3	5.17	186.9	105	4.00			
1325				17.4	5.19	186.1	103	3.98		75.52	
1330				17.3	5.19	185.7	102	4.03			
1335				17.7	5.19	185.0	99	4.01		75.49	
				17.5	5.21	184.9	97	4.09	7.39		

Sample Condition Color: None Odor: None Appearance: clear

Sample Collection Parameter: See LOC Container: _____ No.: _____ Preservative: _____

PID Reading 0.0 @ well head

Comments _____

Low-Flow Groundwater Sampling Log

Project Number: NY0014220005 Task: 00002 Well ID: MW-2
 Date: 8/9/06 Sampled By: G. Willings / P. Zwick
 Sampling Time: 11:45 Recorded By: D. Zwick
 Weather: Sunny 78° Coded Replicate No.: N/A

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: PVC Purge Method: Rod Flow / Low Flow +
 Casing Diameter: 2" Screen Interval (ft bmp): Top 99 → 94 Bottom 94
 Sounded Depth (ft bmp): 99 Pump Intake Depth (ft bmp): 97
 Depth to Water (ft bmp): 73 Purge time Start: 1110 Finish: 1145

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
1110				17.1	11.66	446	-52	1.00		73.2	
1115				17.2	10.49	349	-94	1.14			
1120				14.6	9.89	346	-173	1.43		74.10	
1125				15.0	7.26	293	-202	1.20			
1130				14.4	6.60	279	-150	2.54		75.45	
1135				14.1	6.28	267	-114	3.44			
1140				13.9	6.17	263	-100	3.79			
1145				14.0	6.11	198.6	-90	4.10	8.15	75.5	

Sample Condition Color: Clear Odor: None Appearance: Clear

Sample Collection Parameter: Soeloc Container: _____ No. _____ Preservative: _____

PID Reading 0.0

Comments _____

Low-Flow Groundwater Sampling Log

Project Number: NY001422.0005 Task: 00003 Well ID: MW-2
 Date: 10/10/06 Sampled By: G. W. Nichols
 Sampling Time: 9:55 Recorded By: D. Zuck
 Weather: Sunny Coded Replicate No.: N/A

Instrument Identification
 Water Quality Meter(s): _____ Serial #: _____

Purging Information
 Casing Material: PVC Purge Method: Lowflow / 3WV @ 5GAL/WV
 Casing Diameter: 2" Screen Interval (ft bmp): Top 89 Bottom 99
 Sounded Depth (ft bmp): _____ Pump Intake Depth (ft bmp): 91
 Depth to Water (ft bmp): 70.64 Purge time Start: 9:25 Finish: 9:55

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
9:25		~1800		13.8	10.91	645	-99	1.12		70.64	
9:30			3	13.9	9.27	557	-106	1.41			
9:35				14.9	7.43	430	-119	2.18		75.01	
9:40			7	14.6	6.81	405	-126	3.42			
9:45				14.7	6.43	380	-136	3.98		75.08	
9:50			10	14.7	6.38	374	-143	4.12			
9:55				14.7	6.30	368	-147	4.18	17.1		

Sample Condition: Color: None Odor: None Appearance: clear
 Sample Collection Parameter: see log Container: _____ No. _____ Preservative: _____

PID Reading: _____
 Comments: _____

Low-Flow Groundwater Sampling Log

Project Number: N4001422-0006 Task: 00003 Well ID: MW-2
 Date: 2-16-07 Sampled By: GW OR
 Sampling Time: _____ Recorded By: GW
 Weather: SNOWY 30° Coded Replicate No.: _____

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: _____ Purge Method: LOW FLOW
 Casing Diameter: _____ Screen Interval (ft bmp): Top _____ Bottom _____
 Sounded Depth (ft bmp): _____ Pump Intake Depth (ft bmp): _____
 Depth to Water (ft bmp): 74.05 Purge time Start: _____ Finish: _____

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
11:40		30		7.2	10.92	—	-33	2.57		74.05	
11:45				6.6	11.13	501	-37	1.99			
11:50				6.4	11.14	496	-37	1.86			
11:55				7.2	10.84	488	-28	1.73		73.47	
12:00				6.2	9.73	472	0	1.63			
12:05				6.5	9.49	451	12	1.81			
12:10				4.8	7.95	324	55	3.38		74.66	INCREASED RATE
12:15				11.7	7.13	337	5	3.17			
12:20				13.5	7.07	311	69	3.57			
12:25				12.0	6.27	277	86	4.12			
12:30				12.2	6.24	265	90	4.30		74.44	
12:35				11.6	6.15	260	92	4.28	10		

Sample Condition Color: COLORLESS Odor: NONE Appearance: CLEAR
 Sample Collection Parameter: SPCC Container: _____ No. _____ Preservative: _____

PID Reading: _____
 Comments: INCREASED RATE DUE TO FREQUENT UP AND DOWN TURBIDITY

Low-Flow Groundwater Sampling Log

Project Number: M4001422 0006-0 Task: 00003 Well ID: MW-3
 Date: 3-16-07 Sampled By: GW DZ
 Sampling Time: _____ Recorded By: GW
 Weather: _____ Coded Replicate No.: _____

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: _____ Purge Method: Lowflow
 Casing Diameter: _____ Screen Interval (ft bmp): Top _____ Bottom _____
 Sounded Depth (ft bmp): _____ Pump Intake Depth (ft bmp): _____
 Depth to Water (ft bmp): _____ Purge time Start: _____ Finish: _____

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
2:15	—	—	—	—	—	—	—	—	—	—	
2:20		350		13.9	5.97	143.6	116	4.07		75.73	
2:25				14.1	5.50	144.2	117	3.79			
2:30				13.1	5.50	144.2	122	3.37		75.70	
2:35				13.3	5.52	146.7	123	3.61			
2:40				14.5	5.53	147.9	122	3.50		75.80	
2:45				14.8	5.53	148.2	122	3.51			
2:50				15.1	5.54	147.3	121	3.40			
2:55				15.2	5.56	143.3	121	3.28			
3:00				15.3	5.56	142.1	120	3.40	12	75.59	

Sample Condition Color: COLOURLESS Odor: NONE Appearance: CLEAR
 Sample Collection Parameter: _____ Container: _____ No. _____ Preservative: _____

PID Reading: _____
 Comments: _____

Low-Flow Groundwater Sampling Log

Project Number: NY0014 220 006 Task: 0002 Well ID: MW-4
 Date: 3/16/07 Sampled By: G-W
 Sampling Time: _____ Recorded By: DZ/GW
 Weather: Slight wind @ 29° Coded Replicate No.: N/A

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: PVC Purge Method: Redi Flo / Low flow
 Casing Diameter: 2" Screen Interval (ft bmp): Top 89 Bottom 99
 Sounded Depth (ft bmp): 101 Pump Intake Depth (ft bmp): 94
 Depth to Water (ft bmp): _____ Purge time Start: 12:55 Finish: _____

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp. (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
12:55	0	500	-	7.0	6.57	263	4	2.64	-	66.04	
1:00		71000		11.3	6.02	226	45	1.76			
1:05				11.4	5.97	184.7	44	2.17			
1:10	15			11.4	5.91	175.3	50	2.37		71.01	
1:15				11.6	5.91	173.0	52	2.38			
1:20		500		11.6	5.91	172.6	55	2.21			Rebalanced
1:25	30			9.5	5.95	174.4	56	2.28			Miscellaneous not water
1:30				7.5	5.96	178.8	52	2.37			
1:35				7.4	5.93	179.6	48	2.39			
1:40	45			7.6	5.94	181.2	42	2.46	19		

Sample Condition Color: None Odor: None Appearance: Clean
 Sample Collection Parameter: VOCs Container: 40 mL Vials No. 2 Preservative: HCl

PID Reading: N/A (leak/Rain)
 Comments: _____

Low-Flow Groundwater Sampling Log

Project Number: NY0014220005 Task: 00002 Well ID: PW-2
 Date: 8/9/00 Sampled By: G. Williams / D. Zuck
 Sampling Time: 4:15 Recorded By: D. Zuck
 Weather: Sunny 2950 Coded Replicate No.: N/A

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: PVC Purge Method: Rod/Flow / Low Flow
 Casing Diameter: 2" Screen Interval (ft bmp): Top 67 Bottom 77
 Sounded Depth (ft bmp): 79 Pump Intake Depth (ft bmp): 74
 Depth to Water (ft bmp): 70.28 Purge time Start: 3:25 Finish: 4:10

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
3:25		~500		16.0	5.82	384	95	6.18		70.28	
3:30				19.8	5.76	381	89	6.03			
3:35				21.6	5.78	394	81	5.53		70.3	
3:40				21.6	5.77	394	81	5.44			
3:45				21.5	5.48	398	82	5.47		70.42	
3:50				21.4	5.77	406	87	5.55			
3:55				21.0	5.76	409	90	5.59			
4:00				20.4	5.76	406	94	5.267		70.42	
4:05				20.6	5.75	408	96	5.58			
4:10				20.5	5.74	408	98	5.70	10.33	70.7	

Sample Condition Color: clear Odor: None Appearance: clear

Sample Collection Parameter: See Log Container: _____ No. _____ Preservative: _____

PID Reading Not Available

Comments _____

Low-Flow Groundwater Sampling Log

Project Number: NY001422.0005 Task: 00002 Well ID: PW-4
 Date: 9/9/00 Sampled By: G. Williams / D. Zude
 Sampling Time: 1455 Recorded By: D. Zude
 Weather: Sunny 28-85 Coded Replicate No.: N/A

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: PVC Purge Method: Radi flow / Low flow
 Casing Diameter: 2" Screen Interval (ft bmp): Top 68 Bottom 78
 Sounded Depth (ft bmp): 80 Pump Intake Depth (ft bmp): 75
 Depth to Water (ft bmp): 71.45 Purge time Start: 1410 Finish: _____

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
1410				15.4	5.27	21.7	58	7.15		71.45	
1415				16.2	5.66	178.7	58	6.12			
1420				18.9	5.66	175.6	63	5.97		71.62	
1425				20.4	5.41	172.5	63	5.62			
1430				21.0	5.62	172.6	61	5.30			
1435				21.2	5.61	173.4	58	5.29		71.59	
1440				21.4	5.61	174.1	57	5.24			
1445				21.5	5.60	174.4	56	5.21			
1450				21.8	5.60	173.9	52	5.30	47.5	71.	

Sample Condition Color: None Odor: None Appearance: clear

Sample Collection Parameter: DO Container: _____ No. _____ Preservative: _____

PID Reading _____

Comments _____

Low-Flow Groundwater Sampling Log

Project Number: NY001422.0005 Task: 00002 Well ID: PLW-5
 Date: 4/10/09 Sampled By: G. Williams/D. Zuck
 Sampling Time: 1122 Recorded By: D. Zuck
 Weather: Sunny ~ 80° Coded Replicate No.: MS/MSD

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: PVC Purge Method: Radi Flo/Low flow
 Casing Diameter: 2" Screen Interval (ft bmp): Top 69.65 Bottom 79.65
 Sounded Depth (ft bmp): 81.65 Pump Intake Depth (ft bmp): 77
 Depth to Water (ft bmp): 70.95 Purge time Start: 1035 Finish: 1120

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
1035		~150		15.7	5.94	292	74	4.50		70.95	
1040		~150		16.2	5.93	287	56	4.57			
1045				17.0	5.95	295	51	4.55		71.22	
1050				17.0	5.95	295	51	4.65			
1055				17.0	5.95	294	53	4.65		71.55	
1100				17.0	5.94	293	55	4.71			
1105				16.9	5.94	293	54	4.70		71.55	
1110				17.0	5.94	291	59	4.61			
1115				17.6	5.94	291	60	4.50		71.31	
1120				18.0	5.94	289	60	4.53	7.48		

Sample Condition Color: None Odor: No Appearance: clear

Sample Collection Parameter: See COE Container: _____ No. _____ Preservative: _____

PID Reading 0.0 @ Breathing zone (0.5 @ wellhead)

Comments _____

Low-Flow Groundwater Sampling Log

Project Number: Ny 001422.0006.00003 Task: _____ Well ID: PW-7
 Date: _____ Sampled By: _____
 Sampling Time: _____ Recorded By: _____
 Weather: _____ Coded Replicate No.: _____

Instrument Identification
 Water Quality Meter(s): _____ Serial #: _____

Purging Information
 Casing Material: _____ Purge Method: _____
 Casing Diameter: _____ Screen Interval (ft bmp): Top _____ Bottom _____
 Sounded Depth (ft bmp): _____ Pump Intake Depth (ft bmp): _____
 Depth to Water (ft bmp): _____ Purge time Start: _____ Finish: _____

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp. (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
11:35		16.2		11.9	5.75	250			72.50	70.70	
11:40				12.2	5.79	187.8			14.8		SURF 30
11:45				12.3	5.41	17.25			2.15		SURF 50
11:50				13.0	5.20	169.6			10.6		
11:55		2.6 PM		13.2	5.23	172.4			4.5	11	SURF 50
12:00				13.3	5.23	177.1			6.0		
12:05			55		5.26				12		
12:10				7.9	6.01	240	22	5.27			
12:15				7.5	6.00	227	84	4.95			
12:20				8.9	5.61	186.8	103	4.95			
12:25				9.4	5.42	173.	117	4.76			
12:30				9.4	5.58	176.5	125	4.80			
12:35				13.2	5.40	172.9	137	4.52			
12:40				12.5	5.32	172.5	148	4.53	24		

Sample Condition Color: _____ Odor: _____ Appearance: _____
 Sample Collection Parameter: _____ Container: _____ No. _____ Preservative: _____

PID Reading: _____
 Comments: _____

Low-Flow Groundwater Sampling Log

Project Number: NY001422.0006 Task: 00003 Well ID: PW-8
 Date: 2-16-07 Sampled By: REW MW
 Sampling Time: _____ Recorded By: GW
 Weather: _____ Coded Replicate No.: _____

Instrument Identification

Water Quality Meter(s): _____ Serial #: _____

Purging Information

Casing Material: _____ Purge Method: LOWFLOW
 Casing Diameter: _____ Screen Interval (ft bmp): Top _____ Bottom _____
 Sounded Depth (ft bmp): _____ Pump Intake Depth (ft bmp): 7' OFF BOTTOM
 Depth to Water (ft bmp): _____ Purge time Start: _____ Finish: _____

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Rate (mL/min)	Volume Purged	Temp (°C)	pH (SI Units)	Spec. Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)	Comments
2:40		400		10.8	6.30	191.7	-25	3.04	—	66.62	
2:45				10.6	6.52	189.4	-12	2.99		66.4	
2:50				9.7	6.87	181.0	40	3.20			
2:55				9.9	6.65	179.6	49	2.99			
3:00				15.1	6.65	144.6	35	3.64		66.58	
3:05				13.7	5.77	140.8	83	3.68	9.3		
3:10											

Sample Condition Color: COLORLESS Odor: NAHF Appearance: CLEAR
 Sample Collection Parameter: _____ Container: _____ No. _____ Preservative: _____

PID Reading _____

Comments _____

ARCADIS

Appendix D

Chain of Custody Forms

ARCADIS

Following implementation of the Site Characterization Workplan, the designations assigned to the Shallow and Deep Perched Water Monitoring Wells were revised.

The table below relates the Originally Assigned ID (used in the Workplan) with the Revised ID (used in the Site Characterization Report).

Originally Assigned ID	Revised ID (4/17/07)
MW-1	PW-1D
MW-2	PW-3D
MW-3	PW-2D
MW-4	PW-6D
MW-5	PW-5D
PW-2	PW-2S
PW-4	PW-4S
PW-5	PW-1S
PW-6	PW-5S
PW-7	PW-3S
PW-8	PW-6S

Project Number/Name NY001422.0005.00002
 Project Location PEATH VIEW NY
 Laboratory SPURIN-TRANT SAMPLES
 Project Manager DOUG SMOLEWSKI
 Sampler(s)/Affiliation G.W. D.Z.

ANALYSIS / METHOD / SIZE
HOMI DATA
TCL VOC (HCL)
TCL AMBER 61-32
500ML (HCL)
BICRA METALS (HCL)

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	ANALYSIS / METHOD / SIZE					Remarks	Total
MW-2	L	8-9-06	2	2	1					5
PW-4	L		2	2	1					5
PW-2	L		2	2	1					5
FB 8-9-06	L		2	2	1					5
TB-8-9-06	L		2							2

Sample Matrix: L = Liquid; S = Solid; A = Air Total No. of Bottles/Containers 22

Relinquished by: <u>FW</u>	Organization: <u>ARCADIS</u>	Date: <u>8-9-06</u>	Time: <u>5:00</u>	Seal Intact?
Received by: _____	Organization: _____	Date: <u>1 1</u>	Time: _____	Yes No N/A
Relinquished by: _____	Organization: _____	Date: <u>1 1</u>	Time: _____	Seal Intact?
Received by: _____	Organization: _____	Date: <u>1 1</u>	Time: _____	Yes No N/A

Special Instructions/Remarks: REPORT TO ROB FORSCHER

Delivery Method: In Person Common Carrier FedEx Lab Courier Other _____

Project Number/Name NY 001422.0005.00002
 Project Location PLAINVILLE NY.
 Laboratory SEVERN-TRENT SHRETOJ
 Project Manager DOUG SMOLEWSKY
 Sampler(s)/Affiliation G.W.02

ANALYSIS / METHOD / SIZE		
ADMI USTAN (HCL)	1 L AMORPH GLASS	TCL SUCC (UNS)
TRINAC	500 MI PLASTER	8 PORT METALS (HNO3)

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID					Remarks	Total
PW-5	L	8-10-06		6*	6*	3			15
MW-1				2	2	1			5
REP-8-10-06				2	2	1			5
FB-8-10-06				2					2
TB-8-10-06				2					2

Sample Matrix: L = Liquid; S = Solid; A = Air Total No. of Bottles/Containers 29

Relinquished by: HW Organization: ARCADIS Date: 8/10/06 Time: _____ Seal Intact? _____
 Received by: _____ Organization: _____ Date: 1/1 Time: _____ Yes No N/A

Relinquished by: _____ Organization: _____ Date: 1/1 Time: _____ Seal Intact? _____
 Received by: _____ Organization: _____ Date: 1/1 Time: _____ Yes No N/A

Special Instructions/Remarks: * PLEASE USE THIS SAMPLE AS AN MS/MSD QA/QC SAMPLE REPORT TO ROB PORSCHE

Delivery Method: In Person Common Carrier FED-EX Lab Courier Other _____

Project Number/Name NY 001422 0000 00003
 Project Location PLAZA W/ 127 WY.
 Laboratory SEVERO-TRONT STELTO
 Project Manager DOUG SMOLEWSKY
 Sampler(s)/Affiliation G.W.DZ.

ANALYSIS / METHOD / SIZE			
40 ml EPA WOC 2000 ASP			

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	Remarks	Total
MW-2	L	10-10-06	2		2
TB 10-10-06	L	↓	2		2
FB 10-10-06	L	↓	2		2

Sample Matrix: L = Liquid; S = Solid; A = Air Total No. of Bottles/Containers 6

Relinquished by: [Signature] Organization: ARCADIS Date: 10/10/06 Time: 5:00 Seal Intact?
 Received by: _____ Organization: _____ Date: / / Time: _____ Yes No N/A

Relinquished by: _____ Organization: _____ Date: / / Time: _____ Seal Intact?
 Received by: _____ Organization: _____ Date: / / Time: _____ Yes No N/A

Special Instructions/Remarks: REPORT TO LAB PERSONNEL

Delivery Method: In Person Common Carrier FED EX Lab Courier Other _____

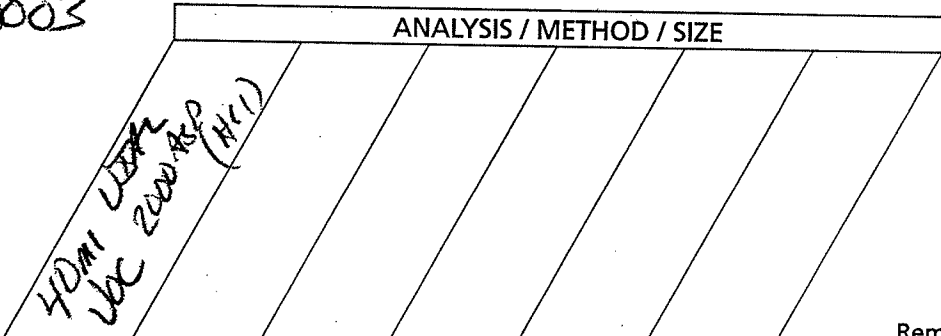


Laboratory Task Order No./P.O. No. _____

CHAIN-OF-CUSTODY RECORD

Page _____ of _____

Project Number/Name NY001422.0006.00003
 Project Location ALDENHURST NY
 Laboratory SEWER-TREAT STATION
 Project Manager DOUG SMOLEWSKY
 Sampler(s)/Affiliation G.W. MW.



Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	ANALYSIS / METHOD / SIZE					Remarks	Total
PW-7	L	2-16-07		2						2
PW-8	L			2						2
FB 2-16-07	L			2						2
TB 2-16-07	L			2						2

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 8

Relinquished by: <u>[Signature]</u>	Organization: <u>ARCADIS</u>	Date: <u>2/16/07</u>	Time: <u>3:30</u>	Seal Intact?
Received by: _____	Organization: _____	Date: <u>1/1</u>	Time: _____	Yes No N/A
Relinquished by: _____	Organization: _____	Date: <u>1/1</u>	Time: _____	Seal Intact?
Received by: _____	Organization: _____	Date: <u>1/1</u>	Time: _____	Yes No N/A

Special Instructions/Remarks: REPORT TO ROB PORSENT

Delivery Method: In Person Common Carrier Fed Ex Lab Courier Other _____

SPECIFY _____



Project Number/Name N4001422.0006.00003

Project Location PLAINJEW NY.

Laboratory SEVEN-TRENT SHELTON

Project Manager DOUG SMOLEWSKY

Sampler(s)/Affiliation G.W. AZ.

ANALYSIS / METHOD / SIZE			
<i>40MI JEW (HCL) VOC</i>			

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	Remarks	Total
MW-2	L	3-16-07	2		2
MW-3	L		2		2
MW-4	L		2		2
FB 3-16-07	L		2		2
TB 3-16-07	L		2		2

Sample Matrix: L = Liquid; S = Solid; A = Air Total No. of Bottles/Containers 10

Relinquished by: <u>SAW</u>	Organization: <u>ARCADIS</u>	Date: <u>3/16/07</u>	Time: <u>3:30</u>	Seal Intact?
Received by: _____	Organization: _____	Date: <u>1/1</u>	Time: _____	Yes No N/A
Relinquished by: _____	Organization: _____	Date: <u>1/1</u>	Time: _____	Seal Intact?
Received by: _____	Organization: _____	Date: <u>1/1</u>	Time: _____	Yes No N/A

Special Instructions/Remarks: Please Report Results to Rob Pasche

Delivery Method: In Person Common Carrier FedEx Lab Courier Other _____

ARCADIS

Appendix E

Data Validation Memoranda

ARCADIS

Following implementation of the Site Characterization Workplan, the designations assigned to the Shallow and Deep Perched Water Monitoring Wells were revised.

The table below relates the Originally Assigned ID (used in the Workplan) with the Revised ID (used in the Site Characterization Report).

Originally Assigned ID	Revised ID (4/17/07)
MW-1	PW-1D
MW-2	PW-3D
MW-3	PW-2D
MW-4	PW-6D
MW-5	PW-5D
PW-2	PW-2S
PW-4	PW-4S
PW-5	PW-1S
PW-6	PW-5S
PW-7	PW-3S
PW-8	PW-6S

DATA VALIDATION CHECKLIST

Project Name: Spiegel
 Project Number: NY001422.0004.00002
 Sample Date(s): February 15, 2007
 Sample Team: GW & DZ
 Matrix/Number of Samples: Water/ 7
 Duplicates/ 0
 Trip Blanks/ 1
 Field Blanks/ 1
 Analyzing Laboratory: Severn Trent Laboratories, Inc., Shelton, CT
 Analyses: Volatile Organic Compounds (VOCs) by USEPA SW846 8260B
 Laboratory Report No: Job #:220-829-1 Dated: 02/27/2007

ARCADIS of New York, Inc.
 Two Huntington Quadrangle
 Suite 1S10
 Melville, NY 11747
 Tel 631 249-7600
 Fax 631 249-7610

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample preparation/extraction date		X		X	
7. Sample analysis date		X		X	
8. Copy of chain-of-custody form signed by lab sample custodian		X		X	
9. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

An ARCADIS Level II validation was conducted following the quality assurance/quality control (QA/QC) criteria set forth in the method, and "USEPA CLP National Functional Guidelines for Organic Data Review", October 1999; and, ARCADIS professional judgment. Field data, field notes, and sampling logs were not reviewed.

ORGANIC ANALYSES
VOCs

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Holding times		X		X	
2. Blanks					
A. Method blanks	X			X	
B. Field blanks		X	X		
C. Trip blanks		X	X		
3. Surrogate spike recoveries		X		X	
4. Laboratory control sample (LCS)	X			X	
5. Case Narrative		X		X	
6. Field duplicate comparison	X				X

Comments:

Performance was acceptable with the following exception:

- 2A. The method blanks were reported in job 220-841-1. No compounds were detected in the method blanks.
- 2B&C. Acetone and methylene chloride was detected in the field and trip blanks. Acetone was qualified as non-detect (U) in MW-4 and MW-3.
- 4. The LCSs were reported in job 220-841-1. All percent recoveries were within QC limits.

**DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES**

Job Numbers: 220-829-1

Sample ID	Analyte(s)	Qualifier	Reason(s)
<u>VOC</u> MW-4 and MW-3.	Acetone	U	detected in the field and trip blanks

VALIDATION PERFORMED BY and DATE:

Donna M. Brown 3/22/07

VALIDATION PERFORMED BY
SIGNATURE:

DATA VALIDATION CHECKLIST

Project Name: Spiegel
 Project Number: NY001422.0004.00002
 Sample Date(s): February 16, 2007
 Sample Team: GW & DZ
 Matrix/Number of Samples: Water/ 2
 Duplicates/ 0
 Trip Blanks/ 1
 Field Blanks/ 1
 Analyzing Laboratory: Severn Trent Laboratories, Inc., Shelton, CT
 Analyses: Volatile Organic Compounds (VOCs) by USEPA SW846 8260B
 Laboratory Report No: Job #:220-841-1 Dated: 02/26/2007

ARCADIS of New York, Inc.
 Two Huntington Quadrangle
 Suite 1S10
 Melville, NY 11747
 Tel 631 249-7600
 Fax 631 249-7610

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample preparation/extraction date		X		X	
7. Sample analysis date		X		X	
8. Copy of chain-of-custody form signed by lab sample custodian		X		X	
9. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

An ARCADIS Level II validation was conducted following the quality assurance/quality control (QA/QC) criteria set forth in the method, and "USEPA CLP National Functional Guidelines for Organic Data Review", October 1999; and, ARCADIS professional judgment. Field data, field notes, and sampling logs were not reviewed.

**ORGANIC ANALYSES
VOCs**

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X	X		
C. Trip blanks		X	X		
3. Surrogate spike recoveries		X		X	
4. Laboratory control sample (LCS)		X		X	
5. Case Narrative		X		X	
6. Field duplicate comparison	X				X

Comments:

Performance was acceptable with the following exception:

2B&C. Acetone and methylene chloride was detected in the field and trip blanks. No qualification of the data was necessary.

**DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES**

Job Numbers: 220-841-1

Sample ID	Analyte(s)	Qualifier	Reason(s)
<u>VOC</u>			
None			

VALIDATION PERFORMED BY and DATE:

Donna M. Brown 3/22/07

VALIDATION PERFORMED BY
SIGNATURE:

DATA VALIDATION CHECKLIST

Project Name: Sunnyside Blvd.
 Project Number: NY001422.0005.00002
 Sample Date(s): August 9-10, 2006
 Sample Team: GW/DZ - ARCADIS
 Matrix/Number of Samples: Water/ 6
 Soil/ 0
 Duplicates/ 1
 Trip Blanks / 1
 Field Blanks/ 1
 Analyzing Laboratory: Severn Trent Laboratories, Inc., Shelton, New Jersey.
 Analyses: Volatile Organic Compounds (VOCs) by 8260B
 Semi Volatile Organic Compounds (SVOCs) by 8270C
 Metals by Method 6010B, and mercury by Method 7471A

ARCADIS G & M, Inc.
 Two Huntington Quadrangle
 Suite 1S10
 Melville, New York
 11747
 Tel: 631-249-7600
 Fax: 631-249-7810

Laboratory Report No: Job Number: 213458 Dated: August 25, 2006

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results					
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	
QA - quality assurance					

Comments:

An ARCADIS Level III review was conducted on the data package and any qualification of the data was determined using the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" dated October 1999; the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment. No raw data calculations were performed as part of the review.

**ORGANIC ANALYSES
VOCS**

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Holding times		X			
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks		X	X		
C. Field blanks		X	X		
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory control samples %R and RPD		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X	X		
11. Continuing calibration RRF's and %D's		X	X		
12. Field duplicates RPD		X		X	

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
 %R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:

Performance was acceptable with the following exceptions and notes:

The extracts for PW-5, MW-1, and REP081006 were brought to a final volume of 0.5 ml.

MW-2 was analyzed at a 2x dilution due to elevated concentrations of target analytes. Therefore, elevated reporting limits are reported for non-detect compounds (the sample was not run at a 1X dilution).

2B. Acetone and methylene chloride were detected in TB080906 and TB081006. The associated field samples are qualified as non-detect (U) if the sample concentration is less than ten times the blank value.

2C. Methylene chloride was detected in FB080906. The associated field samples are qualified as non-detect (U) if the sample concentration is less than ten times the blank value.

Based on the blank data methylene chloride and acetone in sample MW-2 was qualified as non-detect (U).

3-5. PW-5 was utilized as the MS/MSD. The recoveries and RPDs were acceptable.

6. The recovery of acetone was above the control limit in the LCS for batch 70252. The associated field samples were either non-detect (U) or qualified as non-detect (U) due to blank contamination for acetone. No qualification is necessary.
10. Acetone and 2-butanone did not meet %RSD criteria in the initial calibration. The associated field samples were either non-detect (U) or qualified as non-detect (U) due to blank contamination for acetone. No qualification is necessary. 2-Butanone was only detected in MW-2. MW-2 is qualified as estimated (J) for 2-butanone.
11. Bromomethane, acetone, and 2-butanone did not meet %D criteria in the continuing calibration analyzed on 08/14/06 (Time 0823). The associated field samples MW-2, PW-4, PW-2, PW-5, MW-4 and TB081006 were qualified as estimated (J) for bromomethane, acetone, and 2-butanone.
12. REP081006 was collected as a field duplicate of MW-1. The RPDs were acceptable.

**SEMI ORGANIC ANALYSES
SVOCS**

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory control samples %R and RPD		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Field duplicates RPD		X		X	

VOCs - volatile organic compounds
%R - percent recovery

%D - percent difference
%RSD - percent relative standard deviation

RRF - relative response factor
RPD - relative percent difference

Comments:

Performance was acceptable.

- 3-5. PW-5 was utilized as a site-specific MS/MSD. The recovery of phenol was above the control limit in the MS. The associated field samples were non-detect (U) for phenol. No qualification is necessary.
- 6. The recoveries of bis(2-chloroethyl)ether, benzyl alcohol, 2-methyl phenol, bis(2-chloroethoxy)methane, and 2,4-dinitrophenol were above the control limit in the LCS for batch 70242. The associated field samples were non-detect (U) for these compounds. No qualification is necessary.
- 12. REP081006 was collected as a field duplicate of MW-1. The RPDs were acceptable at non-detect

**INORGANIC ANALYSES
METALS**

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Holding times		X		X	
2. Initial calibration verification %R		X		X	
3. Continuing calibration verification %R		X		X	
4. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks		X	X		
5. Interference check sample %R (ICP only)		X		X	
6. Laboratory control sample (LCS) %R		X		X	
7. Laboratory duplicate RPD		X		X	
8. Spike results %R		X	X		
9. Serial dilution check %D (ICP only)		X		X	
10. Total verse dissolved results	X				X
11. Field duplicate comparison		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference
ICP - inductively coupled plasma atomic emission spectroscopy

Comments:

Performance was acceptable.

4A. Arsenic was detected in the CCB for batch 70131. Silver was detected in the ICB for batch 70131. Arsenic and barium were detected in the MB for batch 70131. The associated field samples are qualified as non-detect (U) if the sample concentration is less than ten times the blank value.

4B. Barium and chromium were detected in FB080906. The associated field samples are qualified as non-detect (U) if the sample concentration is less than ten times the blank value.

Based on the blank data arsenic and chromium in sample MW-2, were qualified as non-detect (U).

7. PW-5 was utilized as the laboratory duplicate for metals and mercury. The RPDs were acceptable.

8. PW-5 was utilized as the matrix spike for metals and mercury. The recoveries were acceptable.

Batch QC was utilized as the matrix spike for mercury for batch 69868. The recovery of mercury was below the control limit. The associated field samples analyzed in this batch are qualified as estimated (J) for mercury.

9. A serial dilution was performed on PW-5 for metals. The RPDs were acceptable.

11. REP081006 was collected as a field duplicate of MW-1. The RPDs were acceptable.

**DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES**

Job #: 213458

Sample ID	Analyte(s)	Qualifier	Reason(s)
<u>VOC</u>			
MW-2	acetone methylene chloride	U	Blank contamination
MW-2	2-butanone	J	Did not meet %RSD in the initial calibration
MW-2, PW4, PW-2, PW-5, MW-1 and TB081006	bromomethane acetone 2-butanone	J	Did not meet %D in the continuing calibration
<u>SVOCs</u>			
No qualifications			
<u>METALS</u>			
MW-2	arsenic chromium	U	Blank Contamination
MW-2, PW-4, PW-2 and FB080906	mercury	J	Did not meet MS %R Criteria
PW-4	arsenic	U	Blank Contamination
PW-2, PW-5, MW-1 and REP081006	chromium	U	Blank Contamination

VALIDATION PERFORMED BY & DATE: Rachelle Borne 09/08/06

VALIDATION PERFORMED BY
SIGNATURE:

