

FINAL ENGINEERING REPORT

Re: SUBSURFACE SOIL

**40 Marbledale Road
Tuckahoe, Westchester County, NY
NYSDEC Site #V00237-3**

Prepared for:

Weissman Holdings, LLC
Formerly Kings Electronics Co., Inc.

Prepared by:

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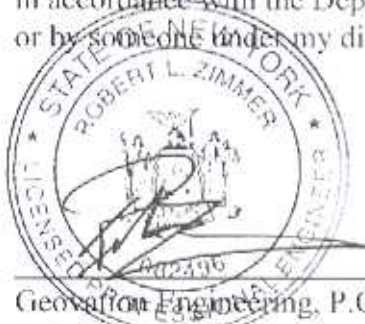
June 2009



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Final Engineering Report Certification

I, Robert Zimmer, residing at 33 Main Drive, Greenwood Lake, NY, certify that I am currently a certified Professional Engineer in compliance with Article 145 of the NYS Education Law and was the individual who had primary direct responsibility of the subject soil investigation activities during this Voluntary Cleanup and that all such activities were completed substantially in accordance with the Department approved Work Plans and were personally witnessed by me or by someone under my direct supervision.



Geoaffair Engineering, P.C.
Robert Zimmer, P.E.
Principal Engineer-Engineer of Record
NY PE License #082496

June 24, 2009



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EXHIBITS

- 1 SOIL REMOVAL SUMMARY REPORT, Cody Ehlers Group, July 1999
- 2 RESULTS OF ADDITIONAL SOIL SAMPLING ACTIVITIES, Geovation, March 2001
- 3 WELL INSTALLATION SOIL SAMPLING REPORT, Geovation, May 2001
- 4 ADDITIONAL SITE INVESTIGATION ACTIVITIES, Geovation, February 2002



- 5 ADDITIONAL SILT LAYER SAMPLING REPORT, Geovation, July 2002
- 6 ON-SITE SUB SLAB SOIL REPORT, Environmental Management LTD,
November 2004
- 7 SUB SLAB SOIL REPORT, Geovation, April, 2005
- 8 SUB SLAB SOIL REPORT, Geovation, May, 2005
- 9 SUB SLAB SOIL REPORT, Geovation, August 2005
- 10 NYSDEC LETTER, August 24, 2005



**Final Engineering Report
Weissman Holdings, LLC
former Kings Electronics Co., Inc.
40 Marbledale Road, Tuckahoe, NY
NYSDEC Site #V00237-3**

1.0 INTRODUCTION

On May 9, 2000, Kings Electronics Co., Inc, now Weissman Holding LLC (Kings), entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) under NYSDEC's Voluntary Cleanup Program (VCP). Pursuant to the VCA, Kings agreed to remediate contamination resulting from former degreasing operations conducted at 40 Marbledale Road, Tuckahoe, Westchester County (the Site). Site investigation done prior to the VCA revealed that groundwater within the shallow, unconfined water table aquifer in the vicinity of Kings' former manufacturing building had been impacted by chlorinated volatile organic compounds (CVOCs), primarily trichloroethene (TCE). The source of this groundwater contamination, subsurface soil impacted by former degreasing operations, was excavated and removed from the Site in April of 1999. While the removal of this impacted soil occurred prior to Kings' acceptance into the VCP, as discussed in Section 3.0 below, additional soil activities occurred after the VCA was executed.

Geovation Engineering, P.C. (Geovation) submits this Final Engineering Report (FER) which covers the post-VCA subsurface soil investigations, identification of remaining on-site residual soil contamination and recommended implementation of institutional and engineering controls to manage potential future soil exposure. Groundwater investigation and remedial activities are covered in a separate Final Engineering Report prepared and certified by ARCADIS of New York, Inc. Similarly, soil gas activities are covered in a separate Final Engineering Report prepared and certified by Geovation.

2.0 SOIL COMPOSITION AND COVER

2.1 Soil Composition

Overburden at this site ranges in thickness from 5 feet to 55 feet. The overburden is composed of fill material overlying a native unconsolidated sand and silt unit, fining downward. The fill material ranges in thickness from zero to twelve feet (Cody Ehlers, 1999) and consists of sand, silt, gravel, bricks, marble fragments and boulders. A summary of the history of this facility is provided in Cody Ehlers Group's February 1999, *Summary of Environmental Conditions* report.

This summary indicates that prior to the development of the Site, the Marbledale Road area historically operated as a marble quarry. Following cessation of quarrying operations, the area was backfilled using non-native fill material, to the existing elevation. A silty clay layer,



between 0.25 and 8.5 feet thick, has also been encountered in the unconsolidated unit (Geovation 2002). The depth to the silty clay layer generally ranges between 7 and 10 feet below ground surface (bgs). The silty clay layer does not appear to be continuous beneath the Site, as it has not been encountered in all soil borings.

Based on this site history, the position of the silt layer above the water table, the reported presence of root structures in the silt layer by the Cody Ehler Group and examination of the silt lense in the waste water treatment room excavation, it is Geovation's opinion that the silt layer most likely represents the remains of a disturbed B-horizon of a paleo-soil. The B-soil horizon, the zone of enrichment, lies below the A-soil horizon, the zone of depletion. The A-soil horizon may have a thickness of up to 5 feet; however, the A-horizon appears to be absent at this location. The occurrence of fill above the B-soil horizon and the presence of rock-fragments pressed into the silt layer suggest that the A-horizon may have been excavated from this location. The apparent presence of iron and manganese precipitate minerals within the silt layer identify this layer as a zone of enrichment and the soil is probably a member of the Stockbridge catena.

2.2 Soil Cover

Approximately 86.5 percent of the Site is improved with either buildings or asphalt/concrete pavement. Almost all of the remaining property is steeply sloping exposed bedrock. Figure 1 shows the locations of current buildings, asphalt/concrete pavement, bedrock area and uncovered areas. Total Site area is 75,850 square feet. Soil is present at the ground surface within five small areas totaling approximately 800 square feet. This area represents approximately 1.2 percent of the Site (Figure 1). Along the eastern border is either an adjacent property owned by a third party or the steep bedrock outcrop (soil is not present in this exposed bedrock area). At the eastern edge of Buildings #4 and #5, asphalt/concrete pavement, connecting the bedrock outcrop to the building foundation, has historically served as a stormwater management measure for overland flow of surface water off the steep slope. A sliver of property along the eastern border (approximately 120 square feet between Building #6 and the property line) is comprised of exposed soil and stone. Accessibility to this small area is restricted by fence with locked gate and barbed wire. Except for three small areas on the western property line there is no easily accessible area of the Site that is not capped with either a building or asphalt/concrete.

There are nine connected buildings, seven of which are concrete slab on grade. The remaining buildings (Building #7 and #8) have a sub grade basement with a concrete floor. The asphalt/concrete cover includes access off Marbledale Road through three paved entrance/exits. The northern entrance/exit is paved from the building to the adjacent off-site buildings to the north, the sidewalk to the west and the bedrock to the east. Access to the southern end of the



property is paved from the building to the fence line to the south, east and west. A small area of unpaved soil is located at the southwest corner of the property (Figure 1). Access to the middle of the property is also mostly paved, except for two small “floating” decorative planting beds. Soil is exposed at the ground surface within these two small beds (Figure 1).

3.0 SUMMARY OF SOIL INVESTIGATION ACTIVITIES

As stated, Kings voluntarily excavated the former degreaser area prior to entering the VCP in order to remove a high percentage of contamination from the Site. Data indicated that this material was acting as a source of groundwater contamination. A *Soil Removal Summary Report* prepared by Cody Ehlers Group (CEG) (attached as Exhibit 1) documented this pre-VCA soil removal project. This report was submitted to NYSDEC on July 2, 1999 to supplement Kings’ VCP application. After acceptance into the VCP, the following soil investigation activities (the VCA Soil Investigation) were conducted by Geovation:

- In January 2001, soil samples were collected from a “Test Pit” just north of the degreaser soil removal site. Contaminant concentrations in the samples did not exceed the NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046 or current 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (Part 375 UUSCO) for TCE. See “Results of Additional Soil Sampling Activities”, Geovation, March 30, 2001, attached as Exhibit 2.
- In May 2001, additional soil samples were collected from boreholes during the installation of groundwater monitoring wells MW-10/11/12 south of the former degreaser location. Contaminant concentrations in these samples did not exceed TAGM 4046 or Part 375 UUSCO for TCE. At MW-10, the concentration of cis-1,2 dichloroethene (cis-1,2 DCE) exceeded the Part 375 UUSCO within the silt lens located approximately eleven feet below the building slab (bs). See May 9, 2001 Letter Report from Geovation, including soil sample results, attached as Exhibit 3.
- In November 2001, soil samples were collected from locations within the sidewalls of the excavation at the degreaser soil removal site. The contaminant concentrations in these samples did not exceed TAGM 4046 or Part 375 UUSCO for TCE. See “Additional Site Investigation Activities,” prepared by Geovation, February 2002, attached as Exhibit 4.
- In April 2002, samples of silt layer soil were collected from within the sidewalls of the excavation at the degreaser soil removal site. Contaminant concentration from two



samples exceeded the current Part 375 UUSCO for TCE, but not the TAGM value in effect at the time. See “Additional Silt Layer Sampling and Silt Layer Summary Report,” prepared by Geovation, July 2002, attached as Exhibit 5.

- In August 2004, below slab soil samples were collected to identify future locations for possible soil vapor sampling. Contaminant concentration within six of these samples exceeded TAGM 4046 and Part 375 UUSCO for TCE. See “On-site Sub-Slab Soil Sampling and Analysis Investigation Report”, prepared by Environmental Management, Ltd. November 2004 attached as Exhibit 6.
- From March to July 2005 a series of soil investigations were conducted below and adjacent to the basement of the southern building (current Storage Deluxe Building # 7). Of the forty five samples collected, the contaminant concentrations of five samples exceeded the TAGM 4046 soil standards and ten exceed the Part 375 UUSCOs. The soil that exceeds the cleanup objectives is generally located in the NW corner of the basement (Building 7) and the adjacent area to the north of his building . See April, May and August 2005 Geovation Soil Sampling Reports, attached as Exhibits 7, 8, and 9.

4.0 IDENTIFICATION OF ON-SITE RESIDUAL SOIL CONTAMINATION

All residual soil contamination identified during the VCA Soil Investigation at concentrations above the 6 NYCRR Part 375 Unrestricted Use SCOs was located beneath either building foundation or asphalt. In addition, all residual soil contamination identified during the VCA Soil Investigation was reported at concentrations below the 6 NYCRR Part 375 Restricted Use Commercial Soil Cleanup Objective for the Protection of Public Health (Note: the use of this property is restricted to “commercial purposes, other than as a daycare, childcare or medical facility” without the written consent of NYSDEC).

Based on the results of the VCA Soil Investigation and the 1999 silt lens sampling investigation carried out by Cody Ehlers Group, two site figures have been prepared:

Figure 2 entitled “Location, Depth and Summary of VOC Soil Sampling Results” shows all sampling locations and corresponding results.

Figure 3 shows on-site soil sample locations and corresponding soil analytical data for residual contamination that exceeds the Part 375 UUSCO. For purposes of preparing Figure 3, Geovation has taken a conservative approach and included residual contamination that exceeds the Part 375 UUSCO as opposed to the Restricted Use Commercial Soil Cleanup Objectives for



the Protection of Public Health.

5.0 INSTITUTIONAL AND ENGINEERING CONTROLS

NYSDEC did not require removal of soil as part of the VCP cleanup due to the fact that the known areas of “elevated soil contamination are located beneath building foundations and/or asphalt cover.” See August 25, 2005 letter from Nicole L. Murry at NYSDEC to Bruce Munson at Kings (attached as Exhibit 10). Instead, NYSDEC agreed to allow Kings to address the impacted on-site soil as part of a Deed Restriction in accordance with the VCA.

Inclusion and implementation of the following provisions within the Site’s Operations, Monitoring and Maintenance (OM&M) Plan and Site Manual, coupled with a recorded deed restriction will adequately protect the public from exposure to impacted soil, as well as inhibit the recontamination of groundwater due to the low-level soil contaminants:

- The Site’s building foundations and asphalt/concrete cover should be maintained as a soil barrier or cap (Soil Cover), unless otherwise authorized by NYSDEC in accordance with the terms and conditions of such authorization.
- All subsurface soil disturbance activities should be subject a NYSDEC approved Site-specific or project-specific NYSDEC Soil Management Plan, which will address the proper handling and movement of Site soil, as well as an approved Site Health and Safety Plan (HASP). The approved SMP and HASP should be maintained at the Site in a readily accessible place in the Site’s OM&M Manual.

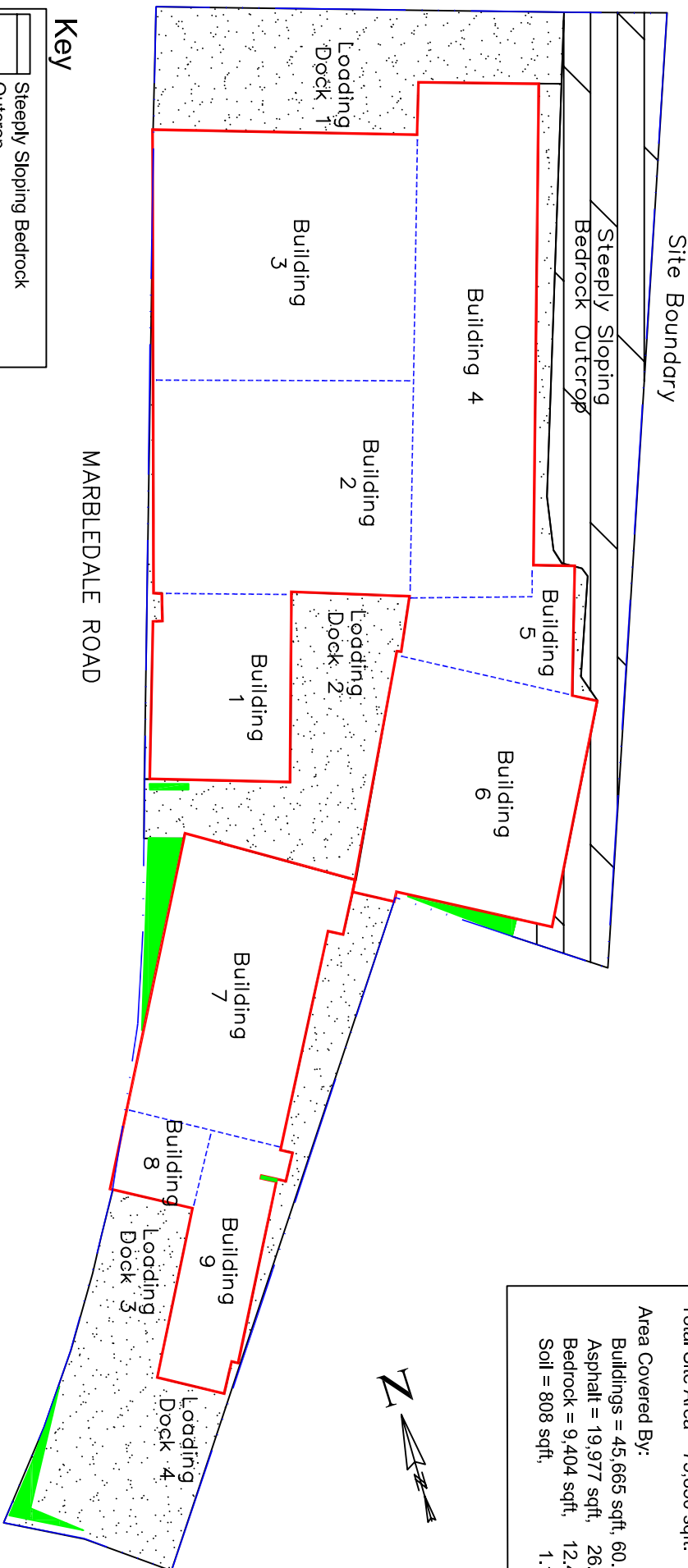


Area Calculations

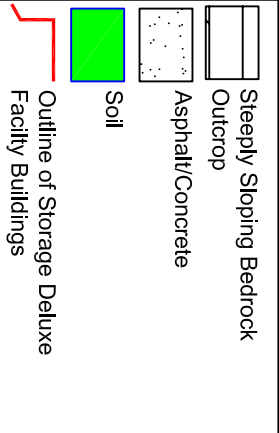
Total Site Area = 75,850 sqft.

Area Covered By:

Buildings = 45,665 sqft,	60.2%
Asphalt = 19,977 sqft,	26.3%
Bedrock = 9,404 sqft,	12.4%
Soil = 808 sqft,	1.1%



Key



Location of site boundary line and site features approximate

Figure based on: 9/17/08 Survey Map Prepared by Arcadis reliant upon 9/21/2000 Survey of Lot 2 as shown on subdivision map prepared for Kings Electronics, Co., Inc., by Gabriel E. Senor, P.C., Drawing No. S-1,

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Surface Area Showing Buildings, Asphalt/Concrete, Bedrock Outcrops and

Soil. (Building Numbers also shown on Figure)

Storage Deluxe Facility/Former Kings Electronics Co., Inc.

40 Marbledale Rd., Tuckahoe, NY

FIGURE

1

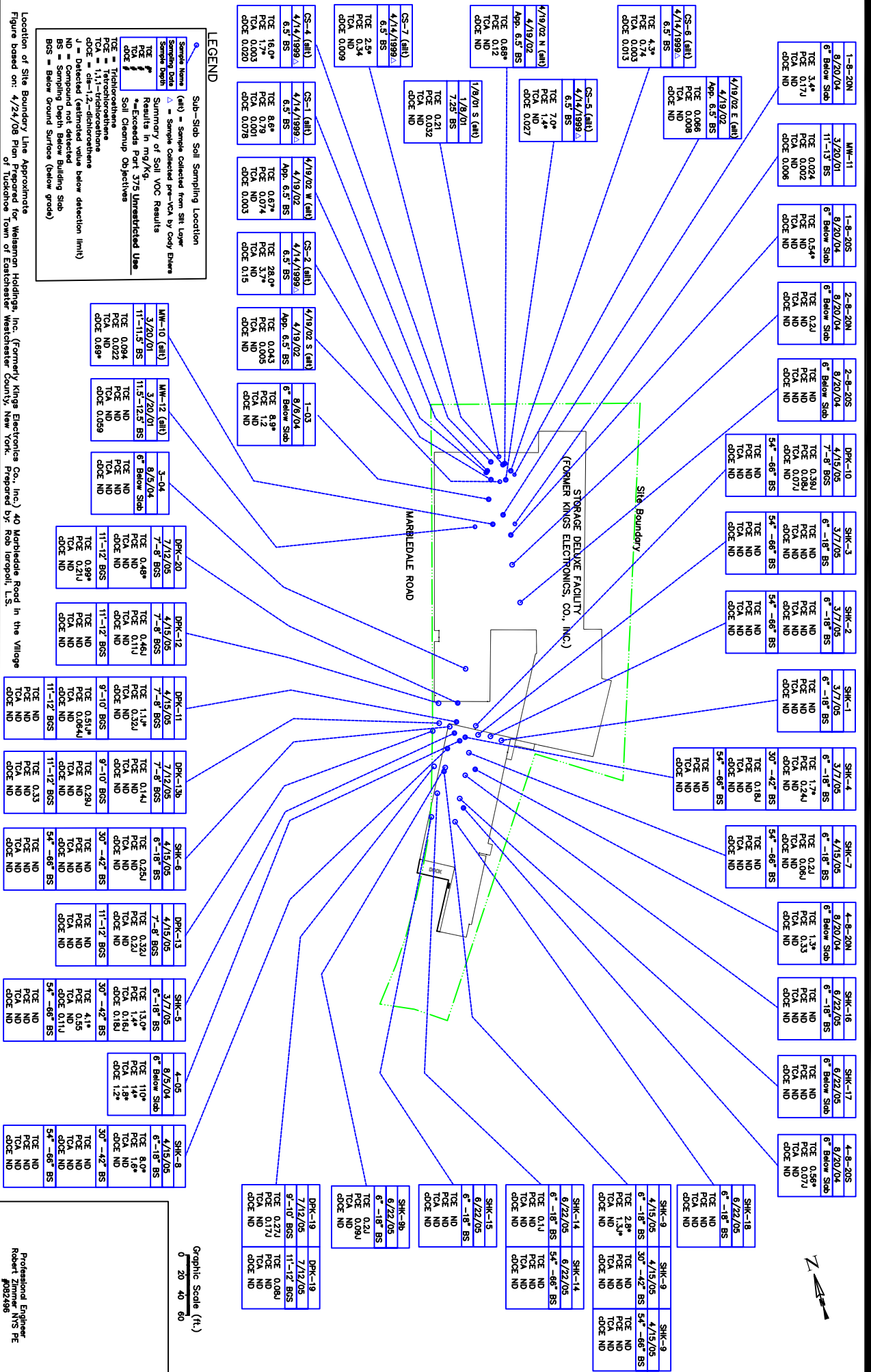
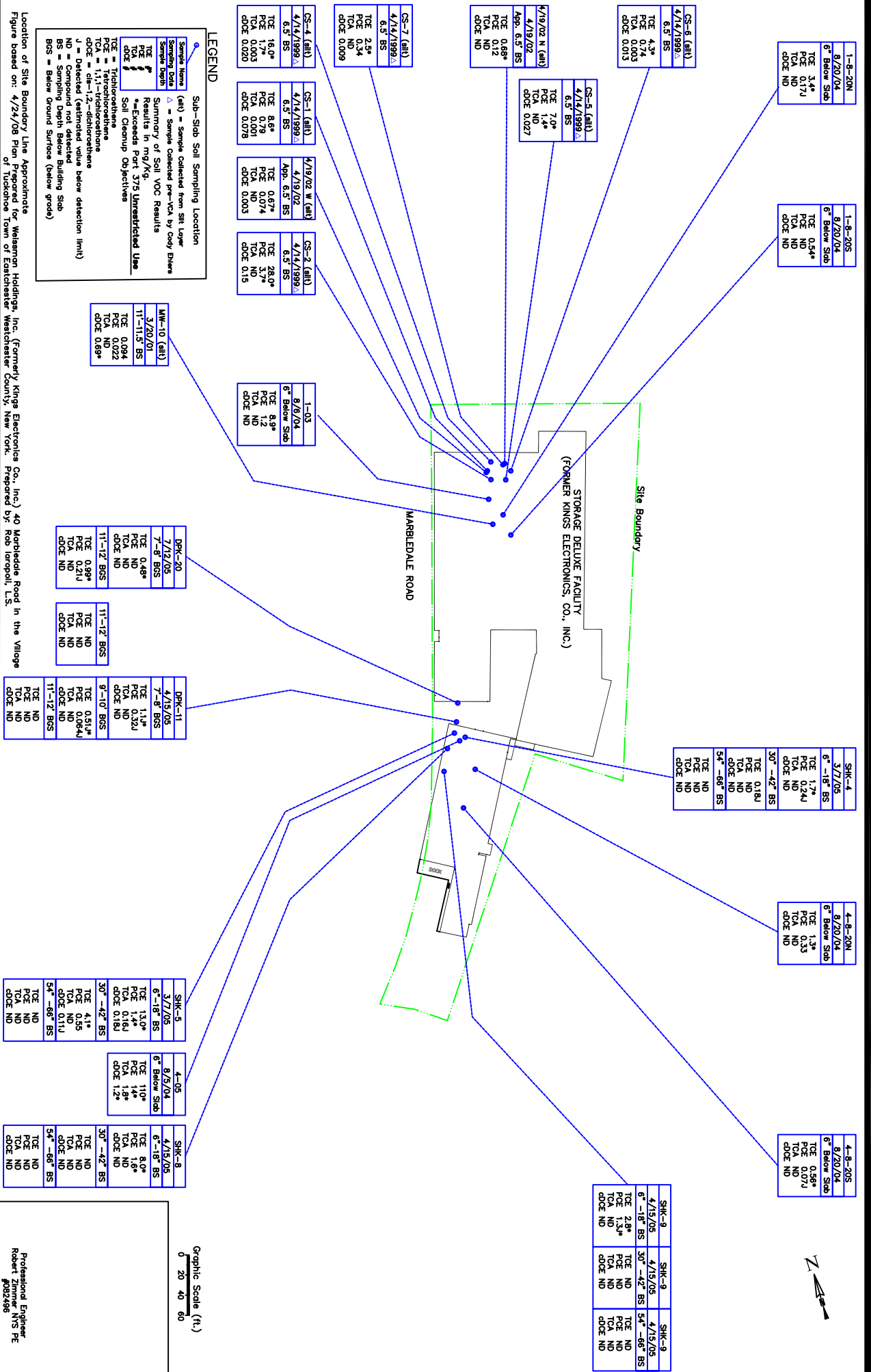


FIGURE 2
 Location, Depth and Summary of VOC Soil Sampling Results
 Conducted Pursuant to Voluntary Cleanup Agreement
 Storage Deluxe Facility – Former Kings Electronics Co., Inc.
 40 Marbledale Rd. Tuckahoe, NY



Location of Site Boundary Line Approximate
 Figure based on: 4/24/08 Plan Prepared for Williams Holdings, Inc. (Formerly Kings Electronics Co., Inc.) 40 Marbledale Road in the Village of Tuckahoe Town of Eastchester Westchester County, New York. Prepared by Rob Ieropolli, L.S.

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 Robert J. #082498

Graphic Scale (ft.)
 0 20 40 80



Location, Depth and Summary of VOC Soil Sampling Results Conducted Pursuant to Voluntary Cleanup Agreement and which Exceed 6NYCRR Part 375 Unrestricted Use SCOs.
 Storage Deluxe Facility – Former Kings Electronics Co., Inc.
 40 Marbledale Rd. Tuckahoe, NY

FIGURE 3