REPORT

Remedial Action Report

Universal Instruments Corporation

Kirkwood, Broome County, New York

March 2004

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BLASLAND, BOUCK & LEE, INC.
engineers & scientists

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Certification Statement

I hereby certify that the completed Remedial Action at the Dover Electronics site (NYSDEC Site Number 7-04-026), unless noted, was performed in conformance with the approved Remedial Design. Deviations from the approved Remedial Design consisted of modifications to the Active Slab Depressurization (ASD), which were based on data from field tests performed during construction and approved by NYSDEC; and additional inaccessible soils encountered during soil removal activities.

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1. Introduction

This Remedial Action Report has been prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of Universal Instruments Corporation (Universal) for the former Dover Electronics (Dover) Site in Kirkwood, Broome County, New York (Site Number 7-04-026). This document provides a summary description of soil remedial action that was conducted at the site between June 16 and July 11, 2003 and the post-remediation indoor air monitoring data collected to date. The remedial action was performed as specified in the *Remedial Design (RD) Package* that was submitted to the New York State Department of Environmental Conservation (NYSDEC) on June 3, 2003 in accordance with the executed Order on Consent between Universal and the NYSDEC, dated January 19, 2001.

1.1 Purpose

This document summarizes the site remediation activities and provides detailed descriptions of the remedial action performed at the site in June and July 2003. As described in the *RD Package*, the remedial action consisted of the removal of accessible tetrachloroethene (PCE) affected soils from "hotspots, extension of the Northwest Catch Basin stormwater outfall, installation and operation of an active slab depressurization (ASD) system, and abandonment and replacement of the roof drain leaders from the original Kirkwood North facility building.

The report is organized into the following sections:

- Section 1 – Introduction;
- Section 2 – Remedial Action Activities; and
- Section 3 – Post-Remediation Indoor Air Monitoring.

Section 2 provides a description of the remedial actions performed in accordance with the technical specifications for the excavation of the accessible soils from seven separate excavation areas, extension of the stormwater outfall, installation of the ASD system, and the abandonment and replacement of roof drain leaders.

Section 3 provides a summary of ASD system operational data and the results of three post-remediation indoor air sampling events.

1.2 Location, Background, and Description of Work

The former Dover facility is located at 29 Industrial Park Drive, Kirkwood, Broome County, New York. The facility is located on a site approximately 9.58 acres in size. A site location map is shown on Figure 1 and Figure 2 is the site plan.

The property is situated in an industrial setting. Major plants in the area include Truckstops of America Landfill (0.5 mile southeast), Frito Lay Plant (0.5 mile south), Universal Instruments (147 Industrial Park Drive, 0.5 mile east), Kason Industries (eastern property boundary), Consolidated Freightways (northern property boundary), and the newly developed Pilot Truck Stop to the south. Industrial properties surround the property to the north, east, and west. The site presently serves as one of Universal's service facilities with the site's uses including product training, research and development, and Odd Form Assembly (OFA), which involves the engineering and assembly of non-standard/specialty circuit boards.

The facility was first constructed in 1973, with subsequent additions built in 1978, 1982, and 1984. It has been occupied by Universal and Dover. In 1993, Dover was renamed Dovatron, Inc. (Dovatron). In 1995, Dovatron transferred its title to the facility to Universal Instruments. In 1996, Dovatron changed its name to the DII Group. Later the DII Group sold to Flextronics International, Inc. and Universal became a wholly-owned subsidiary to Dover Corporation. The site currently serves as a service facility for Universal. The facility has reportedly been used for electronic circuit board manufacturing since 1973.

Previous circuit board manufacturing processes used PCE as a cleaning solvent. Originally, the virgin PCE was stored in 55-gallon drums at an outside drum storage area. During the initial facility expansion, a ramp to the east-side overhead door served as the entry point for PCE drums. As production increased and the facility was again expanded, virgin PCE was stored in a 3,000-gallon aboveground storage tank that has since been removed. An aboveground 5,000-gallon waste PCE flux storage tank was also located on the site. In March 1992, a 10,000-gallon fuel oil tank was reportedly removed from the site, and in March 1993, the aboveground PCE system was dismantled. Two 480-gallon PCE tanks were reportedly dismantled and removed from the building interior at that time. Historical handling and use of PCE has resulted in its documented presence in the soil, stormwater, and groundwater at this site.

2. Remedial Action Activities

The field activities conducted at the site during June and July 2003 implemented the NYSDEC- approved scope of work presented in the *June 2003 RD Package*. The work performed entailed remedial action for PCE-affected soils in the unsaturated zone beneath and adjacent to the facility building at the site. The remedial action work included:

- abandonment and replacement of the roof leader from the roof drain system that handles stormwater runoff from the front part of the roof for the original building section of the facility;
- removal of specified soil from seven separate excavations (see Table 1);
- offsite transportation and disposal of non-hazardous and possible hazardous soil excavated;
- extension of the stormwater outfall from the southwest catch basin (CB-1547);
- restoration of excavated areas using compacted certified clean fill;
- installation of an ASD system; and
- implementation of a deed notice for soils beneath the 1978, 1982, and 1984 building additions at Universal's Kirkwood North facility.

2.1 Mobilization

During the site preparation, temporary decontamination areas were constructed for use throughout the duration of the excavation and restoration phases of the project. These areas were used to contain contaminated material to the designated work area. The decontamination areas were located to the front and rear of the facility as shown on Figure 3.

Underground and overhead utility lines were identified in the excavation areas and were avoided to the extent practical. Underground utilities and structures ran through three excavation areas (Excavations A, B, and D). The utilities and structures were not removed or replaced, except for the roof drain line in Excavation B, which was cut and capped.

Site security was maintained throughout the duration of the project. Personnel and equipment entering and leaving the work zone was controlled. Measures to prevent access to the excavation/work areas until the completion of the work were implemented.

2.2 Dust Control

The project site was maintained so as to minimize the creation and dispersion of fugitive dust. The program for suppressing fugitive dust and monitoring particulate matter followed the NYSDEC's *Technical And Administrative Guidance Memorandum #4031: Fugitive Dust Suppression and Particulate Monitoring Program At Inactive Hazardous Waste Sites.* (TAGM #4031).

Dust emissions were visually monitored throughout the period of work. Particulate monitoring for fugitive dust was performed using real-time particulate monitors that had automatic alarms and could detect particulate matter less than 10 microns in diameter. Fugitive dust was not an issue during the excavation work and soil loading; therefore, controls were not needed.

2.3 Soil Excavation

An approximate total of 487 cubic yards was excavated from seven areas of the facility (see Figure 3). Excavation A was a 6-foot-wide by 50-foot-long area located below the discharge point of the southwest catch basin (CB-1547) outfall and the juncture with the drainage swale along the east side of Colesville Road. This excavation area was a uniform 4 feet in depth. Excavation A-1 was an approximate 8-foot by 6-foot area, 4 feet in depth. Excavation A-1 was located at the former Trench 1 area outside the front employee entrance to the facility. Excavation B was a 12- to 15-foot-wide by 33-foot-long area located along the southeast side of the 1984 building addition at the rear of the facility. Excavations C and D were located to the northwest and east of Excavation B, respectively, near former test trench areas 8 and 18. Excavation C had dimensions of 10 feet wide by 31 feet long by 5 to 8 feet deep. Excavation D had an approximate area 11 feet wide by 17 feet long and 8 feet deep. Excavation E was located at the former drum storage shed area and had approximate dimensions of 12 to 18 feet wide by 47 feet long by 4 to 5 feet deep. Excavation F was located adjacent to catch basin CB-2044 and covered an area of approximately 158 square feet and was 4 feet deep.

Table 1 (below) shows the depths, areas, and volumes of the excavation areas. The locations and outlines of the excavations are shown on Figure 3 and individually on Figures 4 through 10. Photographic documentation of the soil excavation work is presented in Appendix A.

Table 1. Proposed Depths, Areas, and Volumes at Excavation Areas

Excavation ID	*Location ID*	*Excavation Depth*	*Approximate Areal Extent*	*Approximate Excavation Perimeter*	*Approximate Volume*
A	CB-1547 Outfall Area	4 ft	300 ft^2	112 ft	46 yd^3
A-1	Trench 1	4 ft	40 ft^2	29 ft	6 yd^3
B	Trench 11	9-12 ft	400 ft^2	130 ft	146 yd^3
C	Trench 18	5-8 ft	310 ft^2	94 ft	66 yd^3
D	Trench 8	8 ft	190 ft^2	108 ft	55 yd^3
E	Drum Storage	4-5 ft	590 ft^2	168 ft	125 yd^3
F	CB-2044	4 ft	158 ft^2	67 ft	41 yd^3
Total Excavation Volume					**485 yd^3**

In excavation areas where COCs had not been discharged to the ground surface, but rather had been discharged along subsurface utility paths, it was known that COC-affected soil would not be encountered until the depth of the utility was reached. In these areas (Excavations B, D, and F), surface and near surface soils, although checked by field screening, were assumed to be acceptable for re-use onsite.

The initial field marked area for Excavation E was mis-located several feet too far to the south; resulting in the removal of clean soil.

Excavated soils were field screened with a photoionization detector (PID) equipped with a 10.6 eV lamp. The upper parts of Excavation B (top 4 to 5 feet of soil) and Excavation D (top 6 feet of soil) were field screened and judged to be clean and suitable for re-use as backfill. Soils excavated from parts of Excavations E and F were also field screened and judged to be suitable for re-use as backfill. This soil was stockpiled separately from soils excavated from below this depth. Soils assumed to be affected by COCs based on field screening results were segregated and stockpiled separately from other excavated soil in non-hazardous and hazardous designated locations (Figure 3).

Most of the soil removal work performed in each of the planned excavation areas was similar to the work proposed in the *RD Package,* with the exception of Excavations E and F. Excavation E (former drum storage shed area) turned out to be much larger than anticipated. The work at Excavation F encountered difficulties at a depth of 3 to 4 feet around catch basin CB-2044 (North Catch Basin) where thick concrete prevented one of the two target zones of the planned excavation from being reached. This inaccessible area has been added to the proposed deed notice areas (see Section 2.10 and Figure 17).

2.3.1 Soil Removal Methods

All soil was removed by either excavator machinery or hand dug. Hand digging was required near footings and to avoid damaging underground utilities where they were found at shallow depths. All excavated material was initially handled as potentially contaminated material. All excavated material was staged onto plastic sheeting and covered by plastic (see Section 2.3.2).

Two phases of excavation were required in most areas (Excavations A, A-1, B, C, D, and E) to address residual PCE-affected soils indicated by the first round of post-excavation sampling. All excavations were backfilled after post-excavation samples were collected. When possible, excavations were not left open overnight.

To preserve the integrity of County Route 181 and avoid damage to the 12-inch water main running beneath the road along the west side, the east wall of Excavation C was kept at least 3 feet from the edge of the road pavement.

2.3.2 Stockpiling

Separate stockpiles of excavated soils were maintained for the clean overburden soils and the deeper COC-affected soils. COC-affected soils were stockpiled as either non-hazardous or potentially hazardous. The stockpile areas were diked and lined with two layers of 10-mil polyethylene sheeting. Stockpiled soils were covered with two layers of 6-mil thick plastic to mitigate volatile organic compound (VOC) vapor emissions and wind or rainfall erosion. Figure 3 shows the soil stockpile locations.

2.3.3 Waste Classification Sampling

The stockpiles were characterized for waste classification to satisfy the NYSDEC's requirements for determining hazardous waste. The waste classification samples were analyzed for the NYSDEC Analytical Services Protocol (ASP) VOCs and Resource Conservation and Recovery Act (RCRA) metals using the toxicity characteristics leaching procedure (TCLP) analysis method. The sampling results were also used to satisfy the selected TSD facility requirements. Waste classification sample results are presented in Table 2. The laboratory analytical reports are found in Appendix B.

Soil stockpile samples were collected from both presumed non-hazardous and hazardous stockpiles per TSD facility requirements. Four grab samples were collected from the presumed non-hazardous stockpiles and four grab samples were collected from the presumed hazardous stockpiles.

The soil samples collected from the presumed hazardous stockpiles failed the toxic characteristic analysis (TCLP for VOCs) so these soils were classified as hazardous. The other stockpile soil samples passed toxic characteristic analyses, but some first round post-excavation samples exceeded the NYSDEC soil cleanup objectives and levels (TAGM # 4046, *Determination of Soil Cleanup Objectives and Cleanup Levels*, Tables 1 and 2) for PCE so these soils were classified as non-hazardous.

2.3.4 Post-Excavation Sampling

Field personnel assessed the excavation limits through field screening. Post-excavation soil samples were collected using the frequency and location guidance found in the NYSDEC's *Draft DER-10, Technical Guidance for Site Investigation and Remediation* (Section 5.4 Remedial Action Performance Compliance, (a)2, dated December 2002) as a minimum[1]. All post-excavation soil samples were collected as grab samples. Sidewall samples were collected from the excavation sidewalls at a depth interval coincident with 0 to 6 inches above the excavation base at the time of collection. Bottom post-excavation samples were collected along the central long-axis of each excavation. The post-excavation sample locations were biased based on field judgement, towards sidewall and bottom areas that are suspected to most likely contain residual contamination.

Verification post-excavation samples were collected as undisturbed grab samples and were analyzed offsite by a New York State-certified laboratory (Columbia Analytical Services, Rochester, New York) for VOC SSPL analysis using United States Environmental Protection Agency (USEPA) Method 8260 to assess compliance with New York State groundwater protection requirements (NYSDEC, *TAGM #4046*, 1994).

Because some of the analytical results from the first set of post-excavation samples exceeded the NYSDEC criterion for PCE, additional excavation work was performed and a second round or verification samples were collected and analyzed for SSPL VOCs. During the first round of post-excavation sampling, results for 23 of 52 samples exceeded the NYSDEC soil criterion for PCE of 1,400 micrograms per kilogram (μg/kg). During the second round of post-excavation sampling, results for 5 of 26 samples exceeded the criterion for PCE.

The PCE exceedances in soil were detected in Excavation A-1, Excavation C, Excavation D, and Excavation E, and the unsatisfactory verification results in the final post-excavation samples are summarized below.

- The PCE soil concentration in the unsatisfactory verification sample collected in Excavation A-1 (PXA1-5) was 18,000 μg/kg. This sample was collected against the base of the stairway leading to the employee entrance.
- The PCE soil concentration in the high verification samples collected in Excavation C were 4,700 μg/kg (PXC-7) and 1,600 μg/kg (PXC-11). Sample PXC-7 was collected at the upper end of Excavation "C" where the entrance to the southeast parking area and loading dock is located. This post-excavation sample was collected from between the highway drainage swale culvert pipe that runs beneath the driveway and the stormwater outfall pipe from Catch Basin CB-1845 (an 18- inch distance between the

[1] Section 5.4 (a)2 states that for subsurface releases and excavations 20 to 300 feet in perimeter; the post-excavation sampling frequency shall be one sidewall sample from each wall for every 30 linear feet of sidewall and one bottom sample for every 900 square feet of excavation. This section further states that sidewall samples shall be collected from the base of the sidewall.

two pipes). Sample PXC-11 was collected from the base of the excavation at the downslope end of the excavation.

- The PCE soil concentration in the high verification samples collected in Excavation D were 3,500 µg/kg (PXC-6) and 86,000 µg/kg (PXD-14). Sample PXD-6 was collected from the west end of Excavation D where the excavation terminated against the cedar tree hedge and the transformer pad. Sample PX-14 was collected in the most downslope corner of Excavation D where a minor amount of free-phase PCE was observed before removal.

- The PCE soil concentrations in the two high verification sample collected in Excavation E (PXE-11 and PXE-12) were 14,000 µg/kg and 2,000 µg/kg, respectively. These samples were collected from the downslope end of the excavation.

Additional areas were added to the proposed deed notice to address the PCE soil exceedances associated with Excavation E (see Figure 17). The PCE soil exceedance detected at Excavation A-1 was already addressed by existing proposed deed notice areas. The PCE soil exceedance detected at Excavation C is minor and does not warrant further action. Although the PCE soil exceedance detected in sample PXD-14 is elevated, the location next to the county road and the presence of a large water main preclude further soil excavation at this location. At the time of sample collection, the visual evidence from observation of the excavation sidewall and bottom showed that all free-phase PCE had been removed.

The analytical results of both rounds of post-excavation sampling are presented in Table 3. The locations of the 78 post-excavation samples are shown on Figures 4 through 10. The laboratory analytical reports are found in Appendix C.

2.4 Disposition of Generated Material

Soils classified as non-hazardous and hazardous waste was loaded and transported offsite for disposal. Excavated soil that was classified as clean was retained onsite for re-use as backfill material. All trucks transporting non-hazardous or hazardous soil were lined with plastic and covered with tarps. All loading was performed in a manner to avoid incidental spillage of soil during movement outside the work area. Soil loading into trucks was conducted over asphalt-paved surfaces.

Non-hazardous soil (333.51 tons) was transported to the Ontario County Landfill (Stanley, New York) and disposed after approval from the Ontario County Department of Solid Waste. The bills of lading for transport to and disposal at the Ontario County Landfill are found in Appendix D.

Hazardous soil (67.89 tons) was transported to the Chemical Waste Management Landfill (Model City, New York) and disposed after approval from the facility. The hazardous waste manifests for transport and disposal at the Model City site are found in Appendix E.

Two drums of water, one generated from Excavation B and one generated from equipment decontamination activities, were disposed of hazardous waste at CycleChem in Elizabeth, New Jersey. The hazardous waste manifests are found in Appendix E.

2.5 Earthwork and Site Restoration

The excavation areas were filled in with clean, imported fill and re-usable soils from the excavation areas. The excavation areas were re-graded to pre-excavation conditions. Prior to backfilling, Excavation A had a 6- mil polyethylene liner placed along the length of the excavation base to just past the outfall extension to prevent oxygen-rich surface water from infiltrating to groundwater at this location.

Relatively low permeability soil was used to replace the soil removed from the excavation base to the approximate surface from which clean native soil was used. Clean soil, removed from the surface of the excavations that had clean surface soils, was reused to complete the backfilling process. The volumes of the re-used surface soil and clean low permeability replacement fill materials used are summarized in Table 4.

Table 4. Quantities of Native and Replacement Fill Material

Excavation ID	*Approximate Volume of Fill Material*	
	Re-Used Surface soil	*Clean, Imported Fill*
A	---	46 yd^3
A-1	---	6 yd^3
B	100 yd^3	46 yd^3
C	---	66 yd^3
D	45 yd^3	10 yd^3
E	40 yd^3	85 yd^3
F	35 yd^3	6 yd^3
Total:	**220 yd^3**	**265 yd^3**

The material used for fill, either native material from onsite or clean fill from offsite, did not contain brush, roots, sod, organic matter, and other unsuitable materials. All unsuitable items within the fill encountered during dumping or spreading were removed. Soil fill was spread in horizontal uniform lifts with each lift uniformly compacted. Loose lift thicknesses did not exceed 8 inches. Successive fill layers were not placed until the layer under construction has been properly compacted.

The fill was maintained and protected in a satisfactory condition at all times until final completion and acceptance of the work.

Excavated areas that were unpaved were restored with landscaping consistent with pre-existing conditions. Excavated areas that had been paved had the paved surface restored. Work staging areas on paved surfaces were swept and washed.

A final cleaning was performed to remove incidental construction debris, surplus materials, rubbish, and construction facilities from the work area.

2.6 Stormwater Outfall Extension

The stormwater outfalls from the southwest catch basin (CB-1547) and catch basin CB-1537 were extended to a point where the outfalls junction with the drainage swale along the east side of Colesville Road. These extensions are made of polyvinyl chloride (PVC) pipe. The locations of the outfall extensions are shown on Figure 11.

The extension from the CB-1547 outfall is approximately 20 feet in length. This extension is made of 12- inch-diameter PVC pipe, which was connected to the existing 12- inch diameter PVC pipe. This extension has a 45-degree elbow joint so that the length of the extension could be shortened.

The pipe extension from the CB-1537 outfall is approximately 15 feet in length and is made of 24- inch diameter PVC pipe. This pipe extension is joined to the existing 20-inch-diameter corrugated steel pipeline with a Fernco-type fitting.

As-built drawings of the stormwater outfall extensions are shown on Figures 11 and 12.

2.7 Roof Drain Leader Abandonment and Replacement

The roof drain leader associated with the removal of stormwater from the south side of the original facility building was abandoned and replaced at Universal's Kirkwood North facility (Figures 13 and 14). The southern roof drain system leader tied into a larger trunk line that connects to Catch Basin CB-1534 (Figure 14). The roof drain leader, as well as the trunk line, was abandoned by grouting and capping. The trunk line was made of 15-inch-diameter CSP pipe and the roof leader was made from 8-inch-diameter PVC pipe.

Stormwater runoff was re-routed to CB-1547 through a new connection. The new trunk line was installed running overhead within the building until the exterior wall is reached. At that point, the drain line descends down the interior of the exterior wall and exits the building at the base of the wall. The new trunk line is made of 8-inch cast iron pipe. The drain line discharges to a concrete spillway that drains to catch basin CB-1547. Figures 13 and 14 show the location and as-built details for this work.

2.8 Active Slab Depressurization System

Pilot studies have shown that a soil vapor extraction system will not be effective in removing VOC contamination from the very tight soils beneath the building. At the request of the NYSDEC, an ASD system was installed within the 1978 and 1984 additions to see if it could be helpful in reducing indoor air concentrations within the building. The ASD system is not intended to serve as a soil remedy for areas beneath the facility building that have subsurface soils affected by PCE contamination.

The ASD system installation was performed as a field fabrication. The ASD system fabrication used typical design criteria, specifications, and technology common to the radon control industry (see ASTM International Standard Practice E 212-01, March 2001). USEPA documents *Radon Prevention in the Design and Construction of Schools and Other Large Buildings* (USEPA Document No. EPA/625/R-92/016), *Radon Reduction Techniques for Existing Detached Houses* (USEPA Document No. EPA/625/R-93/011), and *Radon Mitigation Standards* (USEPA Document No. EPA 402-R-93-078 were be consulted for technical design guidance.

A field test was performed to assess the materials underneath the floor slab and assess the potential for vacuum propagation and airflow beneath the slab. The test was performed because a minimum 4-inch-thick gravel bed is considered necessary for an ASD system to be able to promote sufficient air flow for proper slab depressurization (see page 12 of the USEPA Document No. EPA/625/R-92/016). If gravel bed less than 4 inches in thickness is encountered, a qualitative test for negative pressure field extension was performed as described in *Radon Mitigation Standards* (USEPA Document No. EPA 402-R-93-078, revised 4/94 and ASTM International Standard Practice E 212-01, March 2001).

The test was performed on June 17, 2003. Representatives of the NYSDEC (James Moras) and the New York State Department of Health (NYSDOH) (Daniel Sharron) were present. During the test, a vacuum consistent with design criteria (30 inches of water from a ShopVac) was applied to each proposed suction pit location. Small diameter (less than 0.5 inch) holes were drilled 5, 10, and 20 feet away and were monitored for negative pressure using a magnehelic gauge.

Examination of the suction test holes showed that the concrete floor slab is approximately 6 inches thick. Below the slab is a thin layer (no more than 1.5 inches to 2 inches) consisting of a mixture of crushed rock (0.5 to 1 inch nominal diameter) and silt. Below the crushed rock layer is reworked native silty clay and clayey silt that has been compacted. No continuous gravel layer was encountered at any of the four extraction points.

Testing on the first ASD test hole, which later became air extraction point ASD-1, showed that smoke could be pulled down into the slab at the 5-foot monitoring point, but not beyond. A pressure reading taken with a magnehelic showed that a vacuum of 0.45 inch of water was present. Readings taken at the 10- and 20- foot locations showed respective vacuum reading of 0.25 and 0.02 inch of water. This pattern of readings was similar at the other three locations.

Because the testing was performed during the summer, the minimum acceptable negative pressure reading for assuming adequate air flow is 0.025 to 0.035 inch of water (USEPA, 1993).

PID readings taken at the suction test holes showed VOC concentrations of 148 ppmv in the center of the 1984 addition (known "hot" soil spot), 5 ppmv at the electrical panel, 4.7 ppmv in the 1978 addition along the wall adjoining the office space (by the old loading dock), and 4.5 ppmv by the HVAC unit. PID readings taken on the monitoring holes showed similar or lesser readings with the following exceptions: the 20- foot monitoring hole at the electrical panel had a PID reading of 2,000 ppmv and the 20- foot monitoring point in the old loading dock area had a PID reading of 80 ppmv.

Based on the test results and after discussion with the NYSDEC and the NYSDOH, some modifications were made to the system. Two of the four extraction point locations were moved to spots where higher PID readings were observed; the fan specification was changed to the Radonaway High Suction Series fan (maximum draw rating of 35 inches of water); and the suction pits were installed through the slab using a nominal 5-inch-diameter corehole. The holes were filled with 4-inch pipe fitted into a slip-couple or flange fitting with a 5-inch-diameter. Gaps were sealed with non-shrinking urethane epoxy sealant.

Data collected from the ASD test is presented in Table 5.

2.8.1 ASD System Construction

Construction of the ASD system was performed between June 24 and June 30, 2003.

Four extraction points, ASD-1 through ASD-4, were installed at the approximate locations shown on Figure 14. Suction pits for each extraction point were prepared by coring a 4.25-inch- diameter hole through the slab and then clearing gravel and soil from beneath the slab to create a hemispherical pit. The suction pits are approximately 12 inches in diameter and have a nominal volume of at least one cubic foot. The extraction point riser pipe was constructed of Schedule 40 PVC with a 4-inch-diameter. The slab penetration for the depressurization points were cleaned, prepared, and sealed in an air-tight manner with a compatible sealant that will not shrink or crack (see Figure 15 for details).

One ventilation fan was installed and is used to operate the ASD system. This fan operates the four sub-slab depressurization points through a manifold setup. The fan is an exterior mount (Radonwaway brand HS series

HS5000 fan). The fan is Underwriter's Laboratory (UL)-approved for outdoor use (UL standard 507) and mets all electrical code requirements.

The performance range of this fan is: electrical usage 180-320 watts, 50 inches of water maximum pressure, 53 standard cubic feet per minute (scfm) at 0.1 inch of water to 24 scfm at 35 inches of water. Fan installation followed the manufacturer's instructions.

All ASD system electrical components are UL listed or of equivalent specifications. All plastic vent pipes and fittings are made of Schedule 40 PVC.

The ASD system includes mechanisms to monitor system performance and warn of system failure (shut off). The electrical monitor is installed on non-switched circuits and is designed to reset automatically after a power supply interruption. Manometer-type pressure gauges are clearly marked to indicate the pressure readings that existed prior to system start. The circuit breakers controlling the circuits on which the vent fan and electrical system monitor operate are "ASD System."

ASD system construction details are shown on Figures 14 and 15.

2.8.2 ASD System Performance Monitoring

Because typical radon-venting systems operate without monitoring or maintenance for 8 to 11 years (timeframe for fans to wear out), this ASD system is not anticipated to require much operational oversight.

The system has been checked daily to verify operation since operation began on July 1, 2003. The system has had weekly pressure readings taken at each extraction point through October to verify that anticipated air flow is occurring at the depressurization points and negative pressure is detectable. Monitoring will be continued on a monthly basis for 6 months, after which this monitoring will no longer be performed.

During this start-up phase, VOC emissions from the system were periodically monitored using a PID calibrated to detect VOC concentrations in parts per billion by volume. Air emissions at the beginning of operation were approximately 2.5 ppmv and are presently 1.4 ppmv.

ASD operational data show that initial vacuum at the suction pits was approximately 0.82 inches of water. After 4 months of operation, the vacuum at the suction pits average 0.57 inch of water. This translates into an air flow rate of 39.4 standard cubic feet per minute (scfm). Vacuum readings observed at each extraction point have steadily declined since system operation began and, relative to each other, the vacuum readings have been consistently similar. ASD operational and monitoring data are presented in Table 5.

Indoor air samples were collected from five locations inside the facility three times after ASD system startup. The indoor air sampling locations are shown on Figure 16. Indoor air sampling results are discussed in Section 3 of this report.

At this time, the ASD system is operational and the data indicate that air flow has been achieved beneath the slab.

2.9 Deed Notice Areas

A deed notice with environmental restrictions will be filed with the Broome County Clerk's Office to provide an institutional control for inaccessible soils that remain below facility floor slabs. The deed notice is for the areas beneath the footprints of the 1978 and 1984 building additions, areas beneath parts of the original building (1973) and the 1982 addition, and for seven additional areas where complete removal of soil to below the NYSDEC criterion for PCE was not achieved. A copy of the draft deed notice is provided in Appendix F.

The deed notice will be filed after remedial construction is complete and shortly after submission of the final Remediation Certification Report. A copy of the deed notice to be filed is attached to this final Remediation Certification Report (Appendix F).

The areas that will have environmental restrictions on the deed notice are shown on Figure 17.

3. Indoor Air Monitoring Program

Indoor air quality samples have been collected in the building at four locations since November 1998. Indoor air quality is presently being monitored during the initial operation of the ASD system through the collection of 8-hour time-weighted averaged (TWA) samples. The samples have been be collected following the protocols presently in place and as described in BBL's *Indoor Air Sampling Plan* dated January 21, 2002. Two additional sampling locations were added to the four locations previously tested. The new locations were placed in the front of the original building and in the kitchen area of the original building. All indoor air sampling locations are shown on Figure 16.

The first set of indoor air samples that followed the ASD installation were collected on August 5, 2003, 35 days after the start up of the ASD system. The second post-ASD operation indoor air sampling event took place on September 18, 2003, 78 days after ASD start up. These two sample events represent the proposed 30-day and 90-day post-ASD start up indoor air monitoring events described in the *RD Package.*

The third indoor air sampling event was scheduled to be 180 days after ASD system startup and was performed in early January 2004. Subsequent to the third indoor air sampling event, routine indoor air sampling will be performed semi-annually in March/April and September until it has been determined that indoor air monitoring is no longer necessary.

The results of the three indoor air sampling events are summarized in Tables 6, 7, and 8. A summary of historical indoor air sampling results is provided in Table 9. Copies of the laboratory analytical reports for the August, September, and January indoor air sampling events are found in Appendix G.

A review of the historical indoor air sampling data indicates that the indoor air concentrations of PCE have declined in a steady manner within the rear building additions since the first indoor air samples were collected in November 1998.

The indoor air concentrations of PCE were detected at less than 100 micrograms per cubic meter ($\mu g/M^3$) during both the August and September 2003 sampling events at all sampling locations. Within the office space (sample designations Office #1, Office #2, and Cafeteria), the indoor air concentrations of PCE ranged between 17 $\mu g/M^3$ and 28 $\mu g/M^3$ during the August event and 23 $\mu g/M^3$ and 52 $\mu g/M^3$ during the September event. In January 2004, indoor air concentrations were 110 $\mu g/M^3$ in Office #1 (Rear) and the Cafeteria, 87 $\mu g/M^3$ in Office #2 (Front), 85 $\mu g/M^3$ in the AC Area, and 75 $\mu g/M^3$ in the Electrical Area. There is no explanation as to why two areas which previously were below 100, should have gone to 110, especially because the source areas had PCE concentrations that were 100 $\mu g/M^3$.

The rate of decline in indoor air PCE concentrations from late 1998 through January 2004 (accounting for fluctuations in the data set) does not change after the ASD system began operation in July 2003. For this reason, it is unclear at this time if operation of the ASD system has affected migration of PCE vapors.

The relatively uniform vacuum readings at each extraction point indicate that subsurface conditions beneath the building slab are similar at each location. Because the crushed rock/gravel slab base has a silty matrix further reductions or changes in ASD system vacuum readings are not anticipated. Operation of the ASD system has probably achieved equilibrium conditions beneath the slab, and therefore, further performance gains are unlikely.

Operation of the ASD system will continue along with periodic indoor air sampling events. Some fluctuations in indoor air PCE concentrations are anticipated to occur.

4. References

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TABLE 2

DOVER CORPORATION/UNIVERSAL INSTRUMENTS
KIRKWOOD, NEW YORK

SOIL PILE ANALYTICAL RESULTS - TCLP AND PCBS
Former Dover Electronics Site
Kirkwood, New York

Blasland, Bouck & Lee, Inc.	Sample ID Laboratory ID Date Sampled Units	Stock Pile #1 649467 6/16/2003 mg/l	Stock Pile #1 649468 6/16/2003 mg/l	Stockpile #2 649824 6/17/2003 mg/l	Stockpile #2 649826 6/17/2003 mg/l	Stockpile #3 649825 6/17/2003 mg/l	Stockpile #3 649827 6/17/2003 mg/kg	Stockpile #4 650210 6/18/2003 mg/l	Stockpile #4 650211 6/18/2003 mg/kg
TCLP Volatile Compounds	Regulatory Level (mg/L)						Total VOCs		Total VOCs
VinylChloride	0.2	<0.05		<0.05		<0.05	<1.4	<0.05	<30
1,1-Dichloroethene	0.7	<0.05		<0.05		<0.05	<1.4	<0.05	<30
2-Butanone	200	<0.1		<0.1		<0.1	<1.4	<0.1	<30
Chloroform	6	<0.05		<0.05		<0.05	<1.4	<0.05	<30
1,2-Dichloroethane	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
CarbonTetrachloride	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
Trichloroethene	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
Benzene	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
Tetrachloroethene	0.7	<0.05		0.37		**1.9**	28	**26**	800
Chlorobenzene	100	<0.05		<0.05		<0.05	<1.4	<0.05	<30
TCLP Semi-Volatile Compounds									
2-Methylphenol	200	<0.1		<0.1		<0.1		<0.1	
3-Methylphenol	200	<0.1		<0.1		<0.1		<0.1	
2,4,6-Trichlorophenol	2	<0.1		<0.1		<0.1		<0.1	
2,4,5-Trichlorophenol	400	<0.1		<0.1		<0.1		<0.1	
Pentachlorophenol	100	<0.5		<0.5		<0.5		<0.5	
1,4-Dichlorobenzene	7.5	<0.1		<0.1		<0.1		<0.1	
Hexachloroethane	3	<0.1		<0.1		<0.1		<0.1	
Nitrobenzene	2	<0.1		<0.1		<0.1		<0.1	
Hexachlorobutadiene	0.5	<0.1		<0.1		<0.1		<0.1	
4-Methylphenol	200	<0.1		<0.1		<0.1		<0.1	
Hexachlorobenzene	0.1	<0.1		<0.1		<0.1		<0.1	
2, 4-Dinitrotoluene	0.1	<0.1		<0.1		<0.1		<0.1	
Pyridine	5	<0.5		<0.5		<0.5		<0.5	
TCLP Herbicides									
2,4-D	10	<0.05		<0.05		<0.05		<0.05	
2,4,5-TP(Silvex)	1	<0.05		<0.05		<0.05		<0.05	
TCLP Pesticides									
gamma-BHC(Lindane)	0.4	<0.005		<0.005		<0.005		<0.005	
Chlordane	0.03	<0.02		<0.02		<0.02		<0.02	
Endrin	0.02	<0.005		<0.005		<0.005		<0.005	
Heptachlor	0.008	<0.005		<0.005		<0.005		<0.005	
Heptachlorepoxide	0.008	<0.005		<0.005		<0.005		<0.005	
Methoxychlor	10	<0.02		<0.02		<0.02		<0.02	
Toxaphene	0.5	<0.005		<0.005		<0.005		<0.005	
TCLP Metals									
Arsenic	5	<0.5		<0.5		<0.5		<0.5	
Barium	100	<1		<1		<1		<1	
Cadmium	1	<0.1		<0.1		<0.1		<0.1	
Chromium	5	<0.1		<0.1		<0.1		<0.1	
Lead	5	<0.1		<0.1		<0.1		<0.1	
Mercury	0.2	<0.003		<0.003		<0.003		<0.003	
Selenium	1	<0.5		<0.5		<0.5		<0.5	
Silver	5	<0.1		<0.1		<0.1		<0.1	
Polychlorinated Biphenyls (PCBs) [mg/kg]									
Aroclor-1016			<0.04		<0.036		<0.037		<0.039
Aroclor-1221			<0.04		<0.036		<0.037		<0.039
Aroclor-1232			<0.04		<0.036		<0.037		<0.039
Aroclor-1242			<0.04		<0.036		<0.037		<0.039
Aroclor-1248			<0.04		<0.036		<0.037		<0.039
Aroclor-1254			<0.04		<0.036		<0.037		<0.039
Aroclor-1260			<0.04		<0.036		<0.037		<0.039
RCRA Characteristics									
Cyanide Reactivity		<5		<5		<5		<5	
Sulfide Reactivity		>100 °C		>100 °C		>100 °C		>100 °C	
Flash Point		<50		<50		<50		<50	
pH		7.22		7.83		8		9.68	

Notes:
Stockpile #1 = Non-hazardous soil from Excavations "A" and "A-1"
Stockpile #2 = Non-hazardous soil from Excavations "B", "C", "D", "E", and "F"
Stockpile #3 = Hazardous soil from Excavation "E"
Stockpile #4 = Hazardous soil from Excavations "B" and "D"

TABLE 3

DOVER CORPORATION/UNIVERSAL INSTRUMENTS
KIRKWOOD, NEW YORK

POST EXCAVATION SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Former Dover Electronics Site
Kirkwood, New York

Blasland, Bouck & Lee, Inc.	Sample I.D.	PX-A-1	PX-A-2	PX-A-3	PX-A-4	PX-A-5	PX-A-6	PX-A-7	PX-A-8	**PX-A-9**	
	Laboratory I.D.	649458	649459	649460	649461	649462	649463	649464	649465	**651556**	
	Date Collected	6/17/2003	6/17/2003	6/17/2003	6/17/2003	6/17/2003	6/17/2003	6/17/2003	6/17/2003	**6/242003**	
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	
1,1-Dichloroethane	200	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	
1,1-Dichloroethene	400	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	
trans-1,2-Dichloroethene	100	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	
cis-1,2-Dichloroethene	300	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	
Tetrachloroethene	1,400	< 550	< 560	160 J	<510	<660	**1,700**	<590	<530	<450	
Trichloroethene	700	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	
Vinyl Chloride	120	< 550	< 560	<710	<510	<660	<520	<590	<530	<450	

Blasland, Bouck & Lee, Inc.	Sample I.D.	PX-B-1	PX-B-2	PX-B-3	PX-B-4	PX-B-5	PX-B-6	PX-B-7	PX-B-8	PX-B-9	PX-B-10
	Laboratory I.D.	650174	650175	650176	650177	650178	650179	650180	650181	650182	650183
	Date Collected	6/18/2003	6/18/2003	6/18/2003	6/18/2003	6/18/2003	6/18/2003	6/18/2003	6/18/2003	6/18/2003	6/18/2003
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<440	<460	<910	<890	<440	<460	<460	300 J	<430	<450
1,1-Dichloroethane	200	<440	<460	<910	<890	<440	<460	<460	<490	<430	<450
1,1-Dichloroethene	400	<440	<460	<910	<890	<440	<460	<460	**1,400**	<430	<450
trans-1,2-Dichloroethene	100	<440	<460	<910	<890	<440	<460	<460	<490	<430	<450
cis-1,2-Dichloroethene	300	150 J	<460	<910	<890	250 J	<460	<460	<490	<430	<450
Tetrachloroethene	1,400	**6,900**	**17,000**	**5,700**	**30,000**	**5,700**	**120,000 D**	**13,000**	**5,000**	**52,000 D**	**7,700**
Trichloroethene	700	<440	<460	<910	<890	<440	<460	<460	<490	<430	<450
Vinyl Chloride	120	<440	<460	<910	<890	<440	<460	<460	<490	<430	<450

Blasland, Bouck & Lee, Inc.	Sample I.D.	**PX-B-11**	**PX-B-12**	**PX-B-13**	**PX-B-4**	**PX-B-15**	**PX-B-16**	**PX-B-17**	**PX-B-18**		
	Laboratory I.D.	**652000**	**652001**	**652002**	**652003**	**652004**	**652005**	**652006**	**652007**		
	Date Collected	**6/25/2003**	**6/25/2003**	**6/25/2003**	**6/25/2003**	**6/25/2003**	**6/25/2003**	**6/25/2003**	**6/25/2003**		
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<440	<460	<440	<430	<420	<500	<390	<470		
1,1-Dichloroethane	200	<440	<460	<440	<430	<420	<500	<390	<470		
1,1-Dichloroethene	400	<440	<460	<440	<430	<420	<500	<390	<470		
trans-1,2-Dichloroethene	100	<440	<460	<440	<430	<420	<500	<390	<470		
cis-1,2-Dichloroethene	300	<440	<460	<440	<430	<420	<500	<390	<470		
Tetrachloroethene	1,400	650	<460	580	320 J	280 J	<500	<390	330 J		
Trichloroethene	700	<440	<460	<440	<430	<420	<500	<390	<470		
Vinyl Chloride	120	<440	<460	<440	<430	<420	<500	<390	<470		

NOTES:

J - Estimated result less than reporting limit

[shaded] denotes second round of post excavation sampling

TABLE 3 (continued)

DOVER CORPORATION/UNIVERSAL INSTRUMENTS
KIRKWOOD, NEW YORK

POST EXCAVATION SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
Former Dover Electronics Site
Kirkwood, New York

Blasland, Bouck & Lee, Inc.	Sample I.D. Laboratory I.D. Date Collected	PX-C-1 650559 6/19/2003	PX-C-2 650560 6/19/2003	PX-C-3 650561 6/19/2003	PX-C-4 650562 6/19/2003	PX-C-5 650563 6/19/2003	PX-C-6 650564 6/19/2003	PX-C-7 650565 6/19/2003	PX-C-8 650566 6/19/2003	PX-C-9 650567 6/19/2003	PX-C-10 650568.00 6/19/2003
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460
1,1-Dichloroethane	200	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460
1,1-Dichloroethene	400	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460
trans-1,2-Dichloroethene	100	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460
cis-1,2-Dichloroethene	300	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460
Tetrachloroethene	1,400	270 J	620	130 J	380 J	240 J	1,300	**4,700**	**1,900**	890	930
Trichloroethene	700	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460
Vinyl Chloride	120	<480	<620	<600	<480	<430	<480	<560	<440	<490	<460

Blasland, Bouck & Lee, Inc.	Sample I.D. Laboratory I.D. Date Collected	PX-C-11 652398 6/26/2003	PX-C-12 652399 6/26/2003	PX-C-13 652400 6/26/2003	PX-C-14 652401 6/26/2003	PX-C-15 650563 6/26/2003	PX-D-1 651153 6/23/2003	PX-D-2 651154 6/23/2003	PX-D-3 651155 6/23/2003	PX-D-4 651156 6/23/2003	PX-D-5 651157 6/23/2003
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	390 J	380 J	350 J	<460	<430	<530	<610	<430	<420	<480
1,1-Dichloroethane	200	<490	<530	<400	<460	<430	<530	<610	<430	<420	<480
1,1-Dichloroethene	400	<490	<530	<400	<460	<430	<530	<610	<430	<420	<480
trans-1,2-Dichloroethene	100	<490	<530	<400	<460	<430	<530	<610	<430	<420	<480
cis-1,2-Dichloroethene	300	<490	<530	<400	<460	<430	<530	<610	<430	<420	<480
Tetrachloroethene	1,400	**1,600**	850	510	1,100	<430	<530	**4,600**	**17,000**	**2,800**	**1,300**
Trichloroethene	700	<490	<530	<400	<460	<430	<530	<610	<430	<420	<480
Vinyl Chloride	120	<490	<530	<400	<460	<430	<530	<610	<430	<420	<480

Blasland, Bouck & Lee, Inc.	Sample I.D. Laboratory I.D. Date Collected	PX-D-6 651158 6/23/2003	PX-D-7 651159 6/23/2003	PX-D-8 651160 6/23/2003	PX-D-9 652403 6/26/2003	PX-D-10 652504 6/26/2003	PX-D-11 652405 6/26/2003	PX-D-12 652406 6/26/2003	PX-D-13 652407 6/26/2003	PX-D-14 652408 6/26/2003	
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<490	<420	<430	<420	<390	<400	<400	<450	<410	
1,1-Dichloroethane	200	<490	<420	<430	<420	<390	<400	<400	<450	<410	
1,1-Dichloroethene	400	<490	<420	<430	<420	<390	<400	<400	<450	<410	
trans-1,2-Dichloroethene	100	<490	<420	<430	<420	<390	<400	<400	<450	<410	
cis-1,2-Dichloroethene	300	<490	<420	<430	<420	<390	<400	<400	<450	<410	
Tetrachloroethene	1,400	**3,500**	**5,300**	980	<420	<390	<400	1,100	630	**86,000**	
Trichloroethene	700	<490	<420	<430	<420	<390	<400	<400	<450	<410	
Vinyl Chloride	120	<490	<420	<430	<420	<390	<400	<400	<450	<410	

NOTES:

J - Estimated result less than reporting limit

(shaded) denotes second round of post excavation sampling

TABLE 3 (continued)

DOVER CORPORATION/UNIVERSAL INSTRUMENTS
KIRKWOOD, NEW YORK

POST EXCAVATION SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS

Former Dover Electronics Site
Kirkwood, New York

Blasland, Bouck & Lee, Inc.	Sample I.D. Laboratory I.D. Date Collected	PX-E-1 649727 6/17/2003	PX-E-2 649730 6/17/2003	PX-E-3 649731 6/17/2003	PX-E-4 649733 6/17/2003	PX-E-5 649734 6/17/2003	PX-E-6 649736 6/17/2003	PX-E-7 649738 6/17/2003	PX-E-8 649739 6/17/2003	**PX-E-9 653665 7/1/2003**	**PX-E-10 653666 7/1/2003**
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510
1,1-Dichloroethane	200	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510
1,1-Dichloroethene	400	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510
trans-1,2-Dichloroethene	100	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510
cis-1,2-Dichloroethene	300	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510
Tetrachloroethene	1,400	**5,400**	**4,900**	**6,400**	<470	<430	<420	170 J	**2,700**	<460	<510
Trichloroethene	700	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510
Vinyl Chloride	120	<430	<450	<430	<470	<430	<420	<410	<430	<460	<510

Blasland, Bouck & Lee, Inc.	Sample I.D. Laboratory I.D. Date Collected	**PX-E-11 653667 7/1/2003**	**PX-E-12 653668 7/1/2003**	PX-F-1 651161 6/23/2003	PX-F-2 651162 6/23/2003	PX-F-3 651163 6/23/2003	PX-F-4 651164 6/23/2003	PX-F-5 651165 6/23/2003			
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<440	<440	<430	<430	<420	<430	<440			
1,1-Dichloroethane	200	<440	<440	<430	<430	<420	<430	<440			
1,1-Dichloroethene	400	<440	<440	<430	<430	<420	<430	<440			
trans-1,2-Dichloroethene	100	<440	<440	<430	<430	<420	<430	<440			
cis-1,2-Dichloroethene	300	<440	<440	<430	<430	<420	<430	<440			
Tetrachloroethene	1,400	**14,000**	**2,000**	<430	<430	<420	<430	<440			
Trichloroethene	700	<440	<440	<430	<430	<420	<430	<440			
Vinyl Chloride	120	<440	<440	<430	<430	<420	<430	<440			

Blasland, Bouck & Lee, Inc.	Sample I.D. Laboratory I.D. Date Collected	PX-A1-1 649744 6/17/2003	PX-A1-2 649746 6/17/2003	PX-A1-3 649748 6/17/2003	**PX-A1-4 651554 6/24/2003**	**PX-A1-5 651555 6/24/2003**					
Volatile Organic Compounds	Regulatory Limit (ug/kg)										
1,1,1-Trichloroethane	760	<460	<480	<500	<470	<480					
1,1-Dichloroethane	200	<460	<480	<500	<470	<480					
1,1-Dichloroethene	400	<460	<480	<500	<470	<480					
trans-1,2-Dichloroethene	100	<460	<480	<500	<470	<480					
cis-1,2-Dichloroethene	300	<460	<480	<500	<470	<480					
Tetrachloroethene	1,400	340 J	900	**5,300**	1,200	**18,000**					
Trichloroethene	700	<460	<480	<500	<470	<480					
Vinyl Chloride	120	<460	<480	<500	<470	<480					

NOTES:

J - Estimated result less than reporting limit

(shaded) denotes second round of post excavation sampling

TABLE 5

DOVER CORPORATION/UNIVERSAL INSTRUMENTS
KIRKWOOD, NEW YORK

ASD SYSTEM TEST AND OPERATIONAL DATA
Former Dover Electronics Site
Kirkwood, New York

	ASD-1 Area	ASD-2 Area	ASD-3 Area	ASD-4 Area		
ASD TEST						
A - Vacuum ("of Water)					Vacuum applied to "A" test holes at 36" of water	
A - PID Reading (ppmv)	148*	5	4.7	4.5*		
B - Vacuum (" of Water)	0.45	0.4	0.3	0.6	B,C, & D test holes at radii of 5, 10, & 20 feet from "A"	
B - PID Reading (ppmbv)	14	7	2	1		
C - Vacuum (" of Water)	0.25	0.2	0.1	0.1	* Locations chosen for ASD extraction points	
C - PID Reading (ppmv)	0.5	35	9	12		
D - Vacuum ("of Water)	0.02	0.01	0	0		
D - PID Reading (ppmv)	0	2,165*	80*	0		
ASD OPERATION	ASD-1	ASD-2	ASD-3	ASD-4	Discharge (cfm)	VOC Effluent (ppbv)
	(Pressure Readings [Inches of Water])					
Start Up: 7-01-03						
9:10	0.82	0.8	0.82	0.82		
9:20	0.82	0.8	0.82	0.82		
9:35	0.82	0.8	0.83	0.82		
10:05	0.82	0.8	0.83	0.82		
11:05	0.84	0.8	0.84	0.84		
7/2/2003	0.84	0.8	0.84	0.84	36	2,275
7/11/2003	0.78	0.78	0.8	0.78	39.4	2,500
7/15/2003	0.78	0.74	0.78	0.78		
7/22/2003	0.78	0.74	0.78	0.78		
7/28/2003	0.76	0.76	0.76	0.76		
8/5/2003	0.74	0.7	0.74	0.74		
8/14/2003	0.72	0.7	0.72	0.72		
8/20/2003	0.72	0.68	0.72	0.72		
8/28/2003	0.7	0.66	0.7	0.7		
9/3/2003	0.68	0.66	0.68	0.68		
9/12/2003	0.68	0.64	0.68	0.68		
9/18/2003					39.4	1,432
9/19/2003	0.68	0.64	0.68	0.68		
9/24/2003	0.66	0.62	0.66	0.66		
9/30/2003	0.64	0.6	0.64	0.64		
10/10/2003	0.62	0.58	0.62	0..62		
10/20/2003	0.58	0.54	0.58	0.58		

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

TABLE 6

INDOOR AIR SAMPLE RESULTS FOR TO-15 VOCS (August 5, 2003) FORMER DOVER ELECTRONICS SITE KIRKWOOD, NEW YORK

	Outside (Backrground) Sample			A/C Area Sample		Electrical Area Sample		Office Area Sample #1		Office Area Sample #2		Cafeteria		Occupational* Exposure Limits
Volatile Organic Compound	Result PPBV	*Conversion Factor*	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	ACGIH TLV or OSHA PEL ug/M³
2-Butanone (MEK)	0.92	*3.00*	2.7	1.6	4.7	1.1	3.3	2.6	7.6	1.3	3.9	0.93	2.7	1,770,000
1,2,4-Trimethylbenzene		*5.00*												123,000
1,3,5-Trimethylbenzene		*5.00*												123,000
cis-1,2-Dichloroethene		***4.03***		**0.36**	**1.4**									**790,000**
Carbon Disulfide	0.41	*3.16*	1.3											60,000
Acetone	10	*2.42*	24	16	38	11	27	14	34	11	26	8.6	21	2,400,000
Benzene		*3.25*												3,250
Vinyl Acetate	1.6	*3.58*	5.6	2.0	6.9	1.1	3.8	1.8	6.2	1.7	5.9	1.0	3.6	15,000
Chlorobenzene		*4.68*												350,000
Chloromethane		*2.10*												210,000
Dichlorodifluoromethane		*5.03*												4,950,000
Ethylbenzene		*4.41*												434,000
Freon 113		*7.79*		0.31	2.4	0.24	1.8							7,670,000
n-Hexane		*3.58*												1,800,000
Total Xylenes		*4.41*		0.56	2.4	0.51	2.2	0.31	1.4					434,000
Styrene		*4.33*												215,000
Tetrachloroethene (PCE)		***6.89***		**14**	**94**	**9.4**	**64**	**2.9**	**20**	**4.1**	**28**	**2.5**	**17**	**170,000**
Toluene	1.2	*3.83*	4.5	1.7	6.2	2.6	9.6	2.5	9.5	2.6	10	1.5	5.7	188,000
Trichloroethene (TCE)		***5.46***												**269,000**
Trichlorfluoromethane	0.27	*5.71*	1.5	4.8	27	3.7	21	0.98	5.5	1.1	6.1	1.2	6.7	5,600,000
Vinyl Chloride		*2.60*												2,600

NOTES: PPBV = Parts per billion by volume, ug/M³ = micrograms per cubic meter,
ACGIH = American Conference of Governmental Industrial Hygienists, TLV = Threshold Limit Value
OSHA = Occupational Safety and Health Administration, PEL = Permissible Exposure Limit
* Lower of TLV or PEL is listed in column (from ACGIH, *Guide to Occupational Exposure Values*, 2001)
Bold = Compounds of Concern

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

TABLE 7

INDOOR AIR SAMPLE RESULTS FOR TO-15 VOCS (September 18, 2003)
FORMER DOVER ELECTRONICS SITE
KIRKWOOD, NEW YORK

	Outside (Backrground) Sample			A/C Area Sample		Electrical Area Sample		Office Area Sample #1		Office Area Sample #2		Cafeteria		Occupational* Exposure Limits
Volatile Organic Compound	Result PPBV	*Conversion Factor*	Result ug/M^3	Result PPBV	Result ug/M^3	Result PPBV	Result ug/M^3	Result PPBV	Result ug/M^3	Result PPBV	Result ug/M^3	Result PPBV	Result ug/M^3	ACGIH TLV or OSHA PEL ug/M^3
2-Butanone (MEK)	0.53	*3.00*	1.6	0.87	2.6	1.1	3.4	0.49	1.4	1.3	3.9	0.43	1.3	1,770,000
1,2,4-Trimethylbenzene		*5.00*												123,000
1,3,5-Trimethylbenzene		*5.00*												123,000
cis-1,2-Dichloroethene		***4.03***		**0.38**	**1.5**									**790,000**
Carbon Disulfide	0.41	*3.16*	1.3											60,000
Acetone	4.9	*2.42*	12	4.9	12	5.5	13	6	14	4.2	9.9	4.2	10	2,400,000
Benzene		*3.25*						0.40	1.3					3,250
Vinyl Acetate	1.6	*3.58*	5.6	0.61	2.1	1.1	3.8	0.72	2.5	1.7	5.9			15,000
Chlorobenzene		*4.68*												350,000
Chloromethane		*2.10*												210,000
Dichlorodifluoromethane		*5.03*												4,950,000
Ethylbenzene		*4.41*												434,000
Freon 113		*7.79*		0.27	2.0	0.22	1.7							7,670,000
n-Hexane		*3.58*												1,800,000
Total Xylenes	0.43	*4.41*	1.8	0.46	2.0	0.50	2.2	0.50	2.2	0.37	1.6	0.41	1.8	434,000
Styrene	0.51	*4.33*	2.2	0.38	1.6	0.39	1.7	0.64	2.7	0.34	1.5	0.41	1.7	215,000
Tetrachloroethene (PCE)	**0.32**	***6.89***	**2.20**	**13**	**88**	**9.1**	**62**	**7.7**	**52**	**3.6**	**24**	**3.4**	**23**	**170,000**
Toluene	1.2	*3.83*	4.5	1.3	4.7	1.5	5.5	1.0	3.9	1.3	5	2.4	8.9	188,000
Trichloroethene (TCE)		***5.46***												**269,000**
Trichlorfluoromethane	0.26	*5.71*	1.5	1.7	9.7	2.2	12	0.61	3.4	0.78	4.4	0.85	4.8	5,600,000
Vinyl Chloride		*2.60*												2,600

NOTES: PPBV = Parts per billion by volume, ug/M^3 = micrograms per cubic meter,
ACGIH = American Conference of Governmental Industrial Hygienists, TLV = Threshold Limit Value
OSHA = Occupational Safety and Health Administration, PEL = Permissible Exposure Limit
* Lower of TLV or PEL is listed in column (from ACGIH, *Guide to Occupational Exposure Values*, 2001)
Bold = Compounds of Concern

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

TABLE 8

INDOOR AIR SAMPLE RESULTS FOR TO-15 VOCS (January 6, 2004)
FORMER DOVER ELECTRONICS SITE
KIRKWOOD, NEW YORK

	Outside (Backrground) Sample			A/C Area Sample		Electrical Area Sample		Office Area Sample #1 (Rear)		Office Area Sample #2 (Front)		Cafeteria		Occupational* Exposure Limits
Volatile Organic Compound	Result PPBV	*Conversion Factor*	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	Result PPBV	Result ug/M³	ACGIH TLV or OSHA PEL ug/M³
2-Butanone (MEK)		*3.00*		0.62	1.8					0.79	2.3	0.60	1.8	1,770,000
1,2,4-Trimethylbenzene		*5.00*												123,000
1,3,5-Trimethylbenzene		*5.00*												123,000
cis-1,2-Dichloroethene		***4.03***		**0.91**	**3.6**			**0.32**	**1.3**			**0.89**	**3.5**	**790,000**
Carbon Disulfide		*3.16*								1.2	3.6			60,000
Acetone		*2.42*		4.0	10	3.3	7.8	4.5	11	5.2	12.0	4.2	10	2,400,000
Benzene		*3.25*												3,250
Vinyl Acetate		*3.58*								0.39	1.4			15,000
Chlorobenzene		*4.68*												350,000
Chloromethane		*2.10*												210,000
Dichlorodifluoromethane		*5.03*												4,950,000
Ethylbenzene		*4.41*												434,000
Freon 113		*7.79*		0.43	3.3	0.42	3.2	0.54	4.2	0.46	3.6	0.86	6.6	7,670,000
n-Hexane		*3.58*												1,800,000
Total Xylenes		*4.41*												434,000
Styrene		*4.33*												215,000
Tetrachloroethene (PCE)		***6.89***		**12**	**85**	**11**	**75**	**16**	**110**	**13**	**87**	**16**	**110**	**170,000**
Toluene		*3.83*		0.7	2.6	0.65	2.4	0.7	2.6	0.68	3	0.79	3.0	188,000
Trichloroethene (TCE)		***5.46***		**0.31**	**1.7**							**0.31**	**1.70**	**269,000**
Trichlorfluoromethane	0.26	*5.71*	1.5	0.81	4.5	1.2	6.5	0.64	3.6	0.64	3.6	0.67	3.7	5,600,000
Vinyl Chloride		*2.60*												2,600

NOTES: PPBV = Parts per billion by volume, ug/M³ = micrograms per cubic meter,
ACGIH = American Conference of Governmental Industrial Hygienists, TLV = Threshold Limit Value
OSHA = Occupational Safety and Health Administration, PEL = Permissible Exposure Limit
* Lower of TLV or PEL is listed in column (from ACGIH, *Guide to Occupational Exposure Values*, 2001)
Bold = Compounds of Concern

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

TABLE 9

HISTORICAL INDOOR AIR VOC SAMPLE RESULTS
FORMER DOVER ELECTRONICS SITE

	PCE µg/m3	TCE µg/m3	Cis-1,2-DCE µg/m3	Vinyl Chloride µg/m3	
OFFICE #1					
Nov-98	61	-	-	-	
Dec-98	35	-	-	-	
Mar-99	58	-	-	-	
Feb-02	36	-	-	-	
Apr-02	68	-	-	-	
May-02	27	-	-	-	
Sep-02	60	1.3	-	-	
Aug-03	20	-	-	-	
Sep-03	52	-	-	-	
Jan-04	110	1.3	-	-	
OFFICE #2					
Aug-03	28	-	-	-	
Sep-03	24	-	-	-	
Jan-04	87	-	-	-	
CAFETERIA					
Aug-03	17	-	-	-	
Sep-03	23	-	-	-	
Jan-04	110	1.7	3.5	-	
ELECTRICAL AREA					
Nov-98	1,017	-	17.8	-	
Dec-98	678	-	9.5	-	
Mar-99	387	-	6.3	-	
Feb-02	186	4.4	6.1	-	
Apr-02	406	8.2	14.1	1.6	
May-02	165	1.9	4.8	-	
Sep-02	124	2.6	3.7	-	
Aug-03	64	-	-	-	
Sep-03	62	-	-	-	
Jan-04	75	-	-	-	
A/C AREA					
Nov-98	482	6.5	15.9	-	
Dec-98	244	3.6	7.5	-	
Mar-99	183	-	5.6	-	
Feb-02	165	4.9	8.1	-	
Apr-02	248	4.9	10.5	-	
May-02	138	2.1	5.2	-	
Sep-02	110	2.6	3.6	-	
Aug-03	94	-	1.4	-	
Sep-03	88	-	-	-	
Jan-04	85	1.7	3.6	-	
BACKGROUND					
Nov-98	-	-	-	-	
Dec-98	-	-	-	-	
Mar-99	-	-	-	-	
Feb-02	-	-	-	-	
Apr-02	13	4	-	-	
May-02	-	-	-	-	
Sep-02	-	-	-	-	
Aug-03	-	-	-	-	
Sep-03	2.2	-	-	-	
Jan-04	-	-	-	-	

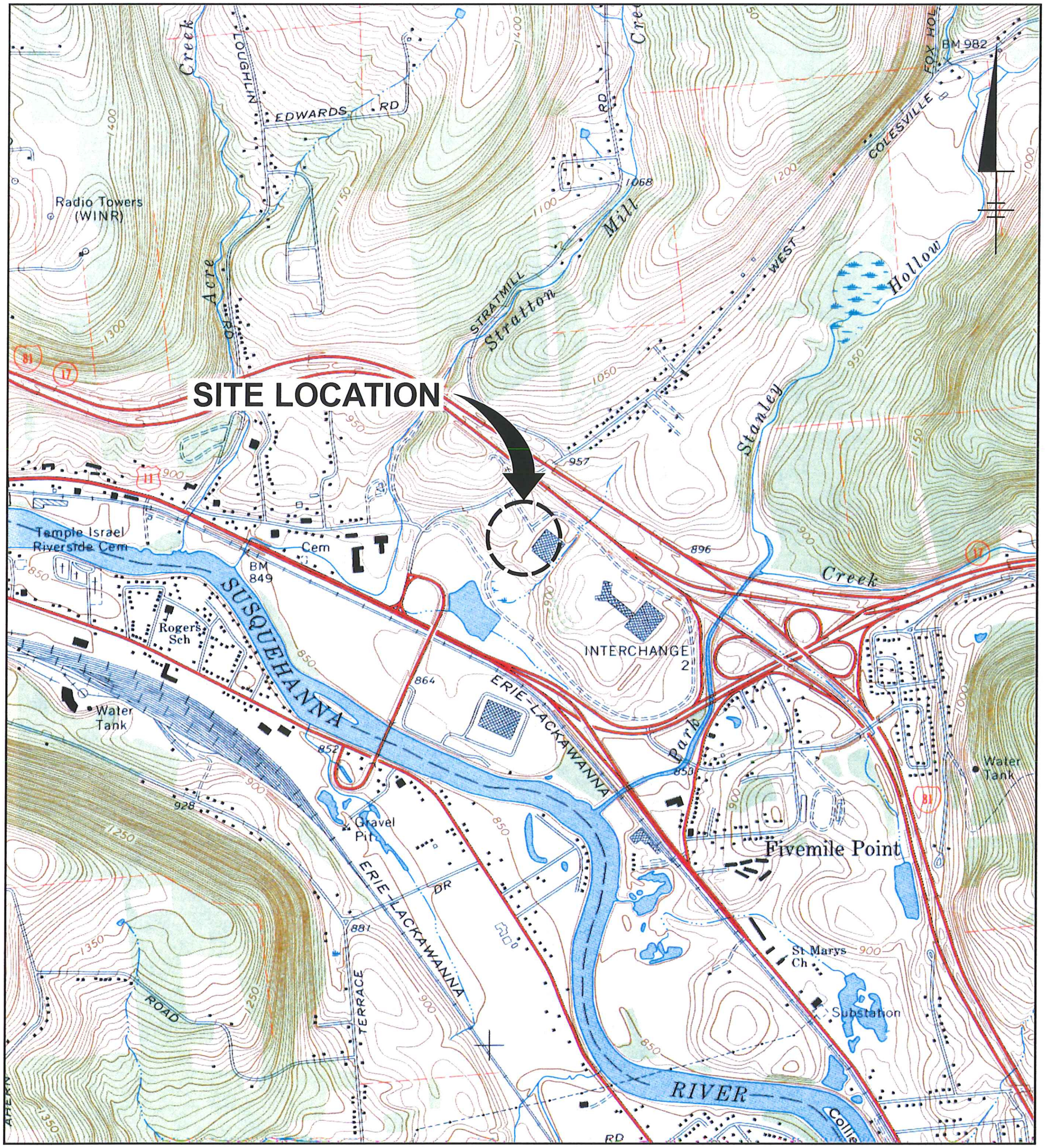
TABLE 2

DOVER CORPORATION/UNIVERSAL INSTRUMENTS
KIRKWOOD, NEW YORK

SOIL PILE ANALYTICAL RESULTS - TCLP AND PCBS
Former Dover Electronics Site
Kirkwood, New York

Blasland, Bouck & Lee, Inc.	Sample ID Laboratory ID Date Sampled Units	Stock Pile #1 649467 6/16/2003 mg/l	Stock Pile #1 649468 6/16/2003 mg/l	Stockpile #2 649824 6/17/2003 mg/l	Stockpile #2 649826 6/17/2003 mg/l	Stockpile #3 649825 6/17/2003 mg/l	Stockpile #3 649827 6/17/2003 mg/kg	Stockpile #4 650210 6/18/2003 mg/l	Stockpile #4 650211 6/18/2003 mg/kg
TCLP Volatile Compounds	Regulatory Level (mg/L)						Total VOCs		Total VOCs
VinylChloride	0.2	<0.05		<0.05		<0.05	<1.4	<0.05	<30
1,1-Dichloroethene	0.7	<0.05		<0.05		<0.05	<1.4	<0.05	<30
2-Butanone	200	<0.1		<0.1		<0.1	<1.4	<0.1	<30
Chloroform	6	<0.05		<0.05		<0.05	<1.4	<0.05	<30
1,2-Dichloroethane	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
CarbonTetrachloride	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
Trichloroethene	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
Benzene	0.5	<0.05		<0.05		<0.05	<1.4	<0.05	<30
Tetrachloroethene	0.7	<0.05		0.37		**1.9**	28	**26**	800
Chlorobenzene	100	<0.05		<0.05		<0.05	<1.4	<0.05	<30
TCLP Semi-Volatile Compounds									
2-Methylphenol	200	<0.1		<0.1		<0.1		<0.1	
3-Methylphenol	200	<0.1		<0.1		<0.1		<0.1	
2,4,6-Trichlorophenol	2	<0.1		<0.1		<0.1		<0.1	
2,4,5-Trichlorophenol	400	<0.1		<0.1		<0.1		<0.1	
Pentachlorophenol	100	<0.5		<0.5		<0.5		<0.5	
1,4-Dichlorobenzene	7.5	<0.1		<0.1		<0.1		<0.1	
Hexachloroethane	3	<0.1		<0.1		<0.1		<0.1	
Nitrobenzene	2	<0.1		<0.1		<0.1		<0.1	
Hexachlorobutadiene	0.5	<0.1		<0.1		<0.1		<0.1	
4-Methylphenol	200	<0.1		<0.1		<0.1		<0.1	
Hexachlorobenzene	0.1	<0.1		<0.1		<0.1		<0.1	
2, 4-Dinitrotoluene	0.1	<0.1		<0.1		<0.1		<0.1	
Pyridine	5	<0.5		<0.5		<0.5		<0.5	
TCLP Herbicides									
2,4-D	10	<0.05		<0.05		<0.05		<0.05	
2,4,5-TP(Silvex)	1	<0.05		<0.05		<0.05		<0.05	
TCLP Pesticides									
gamma-BHC(Lindane)	0.4	<0.005		<0.005		<0.005		<0.005	
Chlordane	0.03	<0.02		<0.02		<0.02		<0.02	
Endrin	0.02	<0.005		<0.005		<0.005		<0.005	
Heptachlor	0.008	<0.005		<0.005		<0.005		<0.005	
Heptachlorepoxide	0.008	<0.005		<0.005		<0.005		<0.005	
Methoxychlor	10	<0.02		<0.02		<0.02		<0.02	
Toxaphene	0.5	<0.005		<0.005		<0.005		<0.005	
TCLP Metals									
Arsenic	5	<0.5		<0.5		<0.5		<0.5	
Barium	100	<1		<1		<1		<1	
Cadmium	1	<0.1		<0.1		<0.1		<0.1	
Chromium	5	<0.1		<0.1		<0.1		<0.1	
Lead	5	<0.1		<0.1		<0.1		<0.1	
Mercury	0.2	<0.003		<0.003		<0.003		<0.003	
Selenium	1	<0.5		<0.5		<0.5		<0.5	
Silver	5	<0.1		<0.1		<0.1		<0.1	
Polychlorinated Biphenyls (PCBs) [mg/kg]									
Aroclor-1016			<0.04		<0.036		<0.037		<0.039
Aroclor-1221			<0.04		<0.036		<0.037		<0.039
Aroclor-1232			<0.04		<0.036		<0.037		<0.039
Aroclor-1242			<0.04		<0.036		<0.037		<0.039
Aroclor-1248			<0.04		<0.036		<0.037		<0.039
Aroclor-1254			<0.04		<0.036		<0.037		<0.039
Aroclor-1260			<0.04		<0.036		<0.037		<0.039
RCRA Characteristics									
Cyanide Reactivity		<5		<5		<5		<5	
Sulfide Reactivity		>100 °C		>100 °C		>100 °C		>100 °C	
Flash Point		<50		<50		<50		<50	
pH		7.22		7.83		8		9.68	

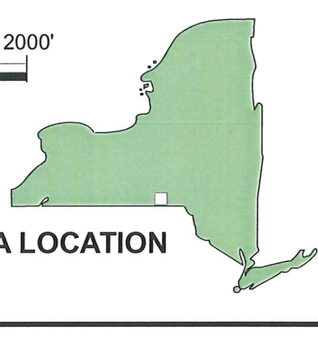
Notes:
Stockpile #1 = Non-hazardous soil from Excavations "A" and "A-1"
Stockpile #2 = Non-hazardous soil from Excavations "B", "C", "D", "E", and "F"
Stockpile #3 = Hazardous soil from Excavation "E"
Stockpile #4 = Hazardous soil from Excavations "B" and "D"



REFERENCE: Base Map Source USGS 7.5 Minute Quad. Series Binghamton East, New York, 1968, Photorevised 1976.

2000' 0 2000'

Approximate Scale: 1" = 2000'



AREA LOCATION

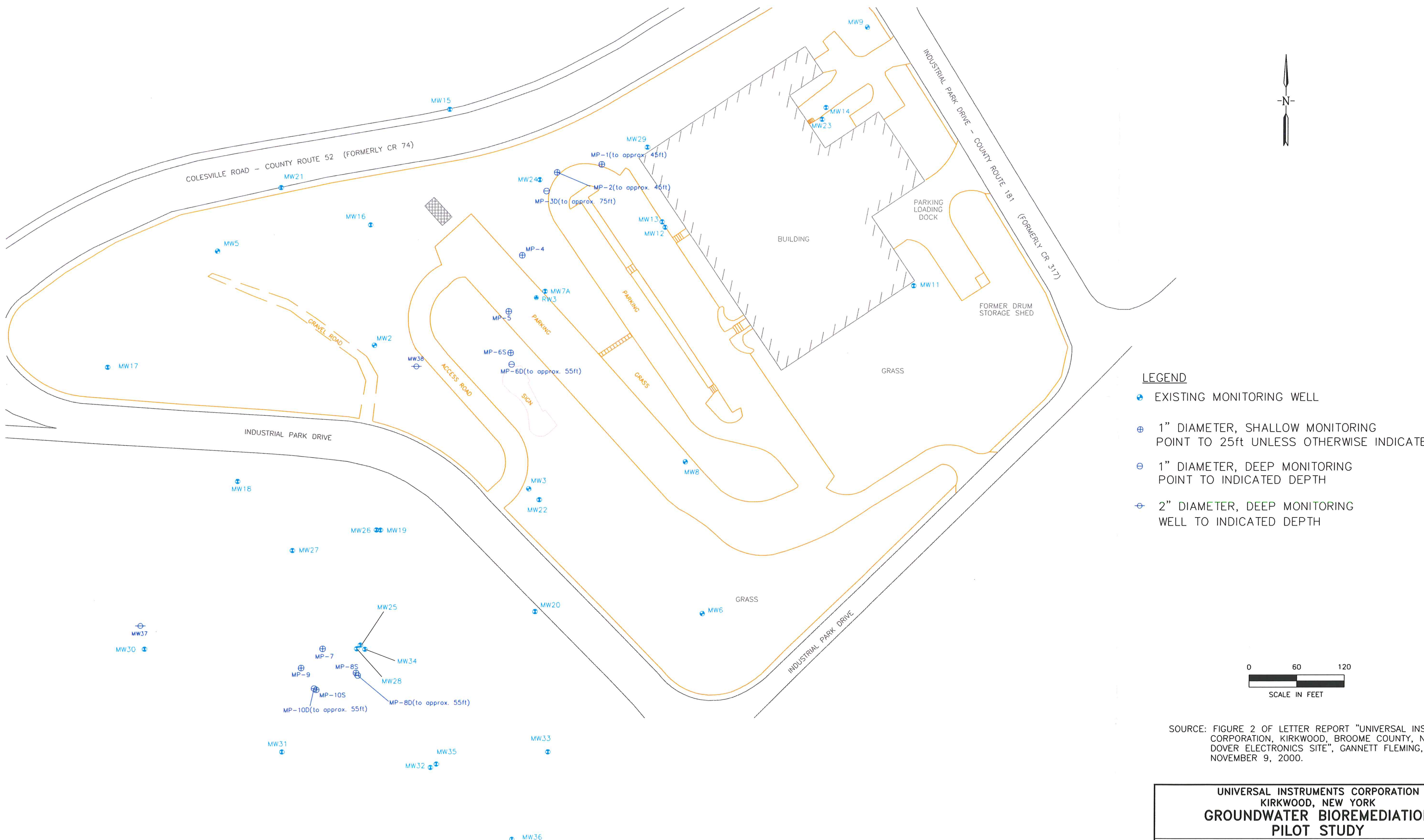
UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 1

07/18/01 CRA-54-IY
05203003/05203n01.cdr



SOURCE: FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

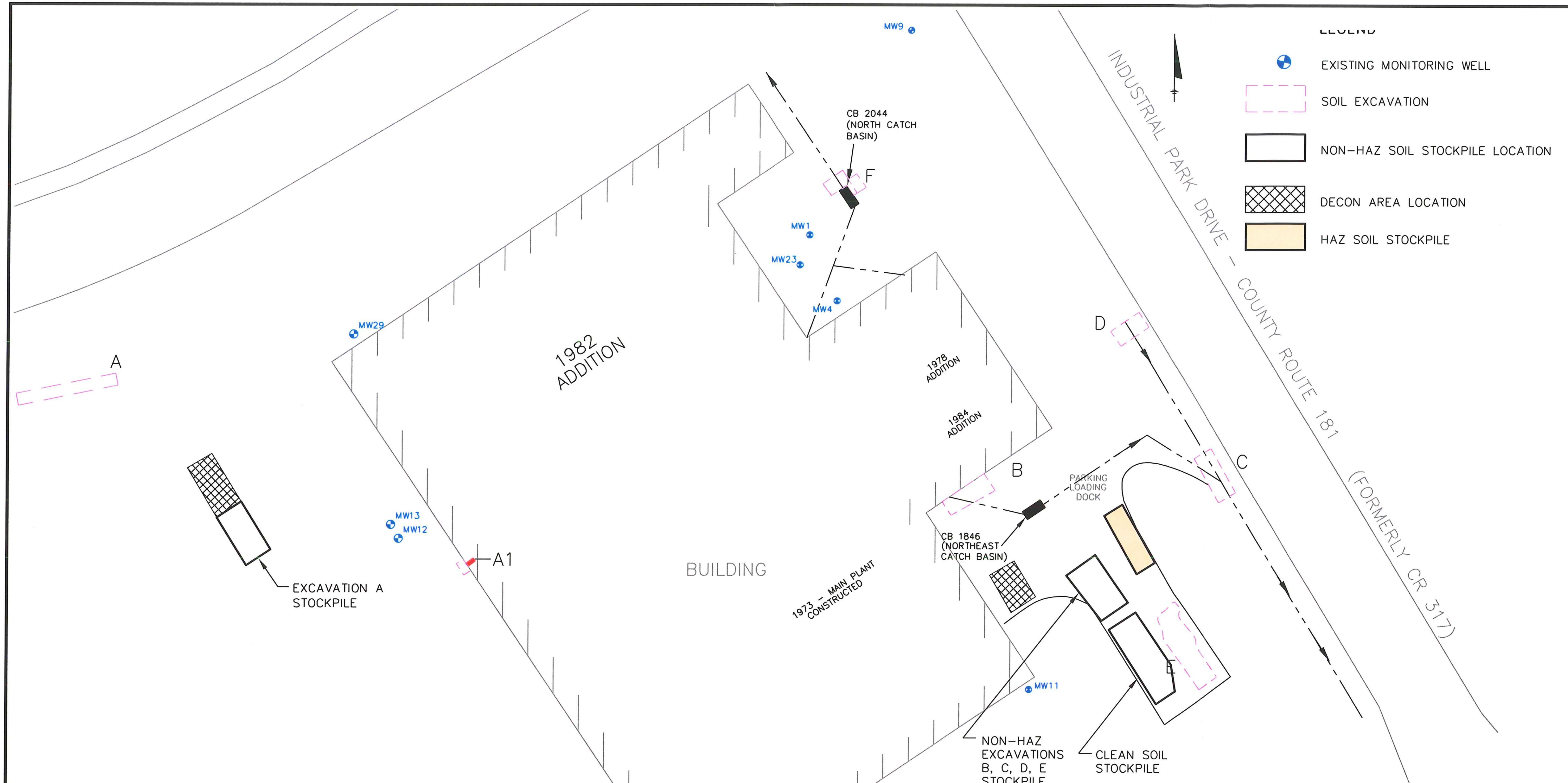
GROUNDWATER BIOREMEDIATION PILOT STUDY

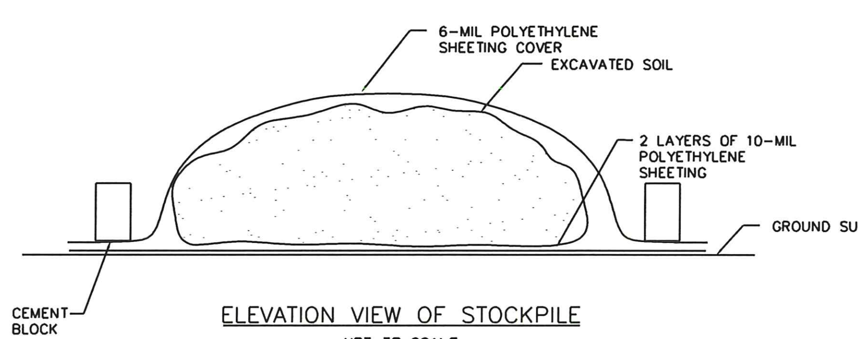
SITE MAP AND MONITORING WELL LOCATIONS

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 2

X:
L: OFF=REF
P: PAGESET/PLT-DL
8/26/02 CRA-54-IY, TLF
05203004/05203C02.DWG





ELEVATION VIEW OF STOCKPILE

NOT TO SCALE

SOURCE:
FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

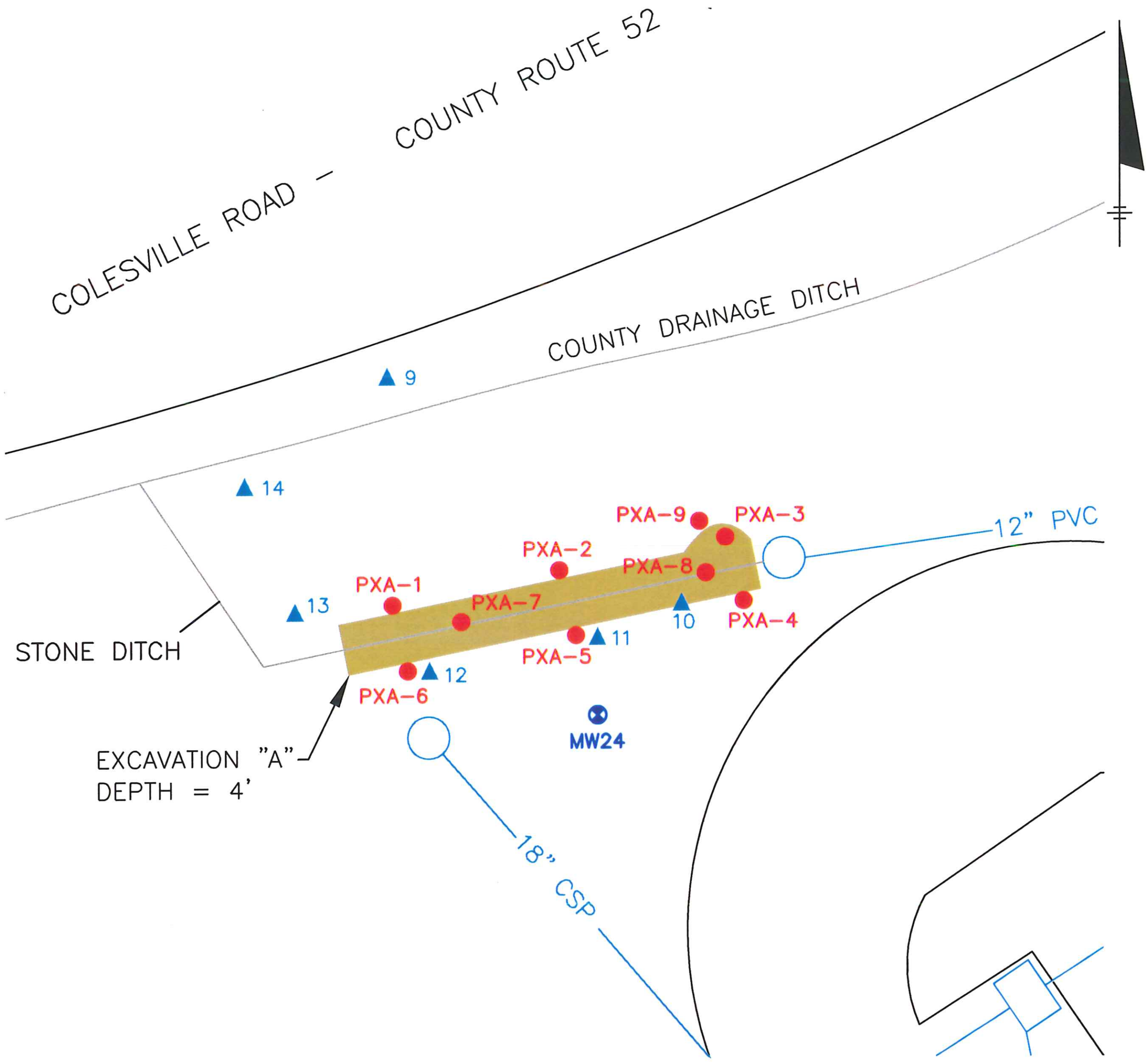
UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

REMEDIAL ACTION LOCATIONS

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
3

X: 05203X02.DWG
L: OFF=REF,SS,PHASE 1
P: PAGESET/PLT-BL
11/06/03 CRA-85-IY, TLF
05203008/05203G05.DWG



LEGEND

- MONITORING WELL
- SOIL BORING LOCATION
- CATCH BASIN
- OUTFALL
- POST-EXCAVATION SOIL SAMPLING LOCATION

SOURCE:

ADAPTED FROM FIGURES FROM REMEDIAL INVESTIGATION REPORT, SHIELD ENVIRONMENTAL ASSOCIATES, INC., JULY 2000.

0 20' 40'

GRAPHIC SCALE

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "A"

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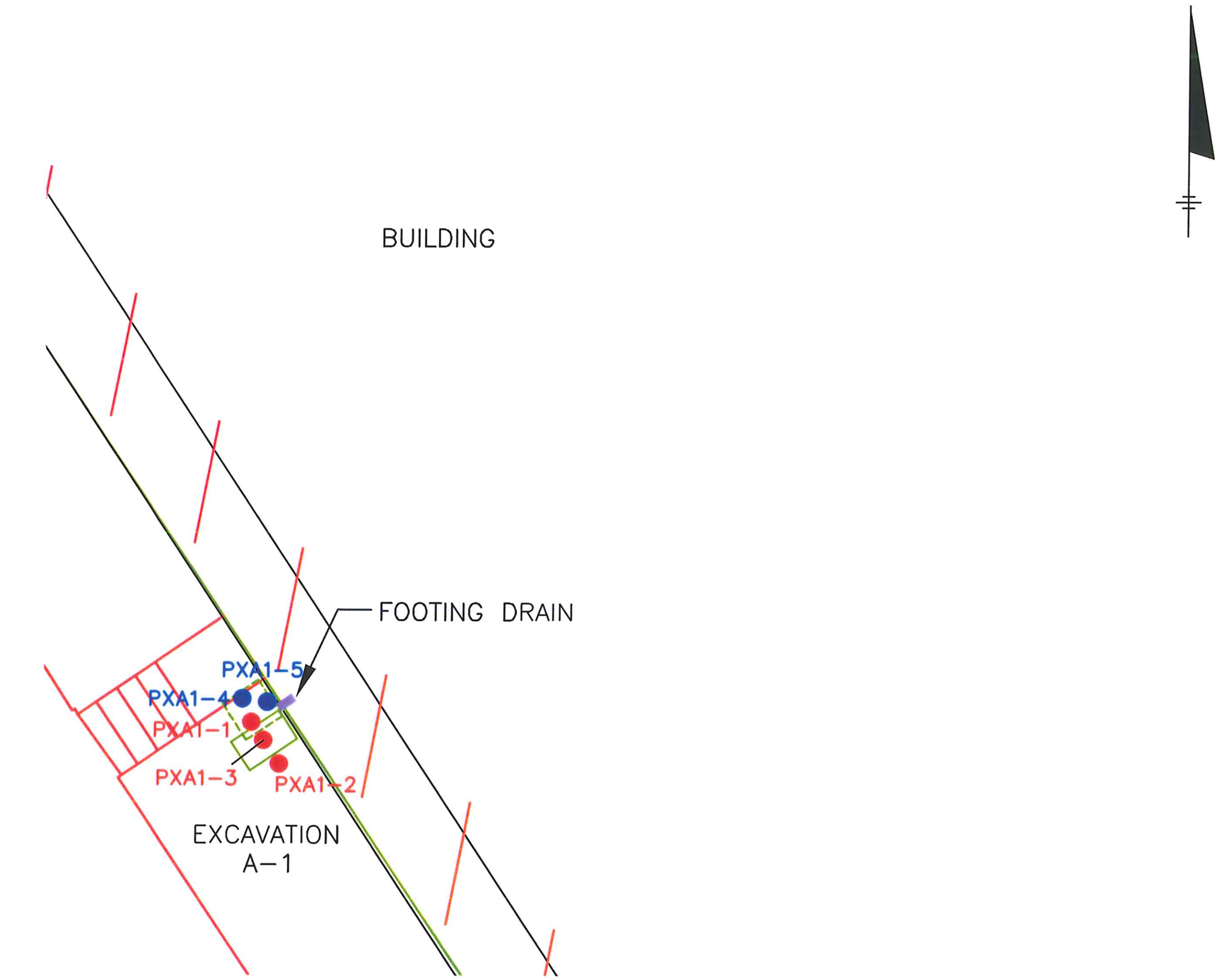
engineers, scientists, economists

FIGURE 4

X:
L: OFF = REF*
P: PAGESET/PLT-AP
10/29/03 CRA-85-TLF
05203008/05203G02.DWG



LEGEND

- STAIRS
- PHASE 1
- PHASE 2
- POST-EXCAVATION SOIL SAMPLING LOCATION

SOURCE:

ADAPTED FROM FIGURES FROM REMEDIAL INVESTIGATION REPORT, SHIELD ENVIRONMENTAL ASSOCIATES, INC., JULY 2000.

0 20' 40'

GRAPHIC SCALE

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "A-1"

BBL
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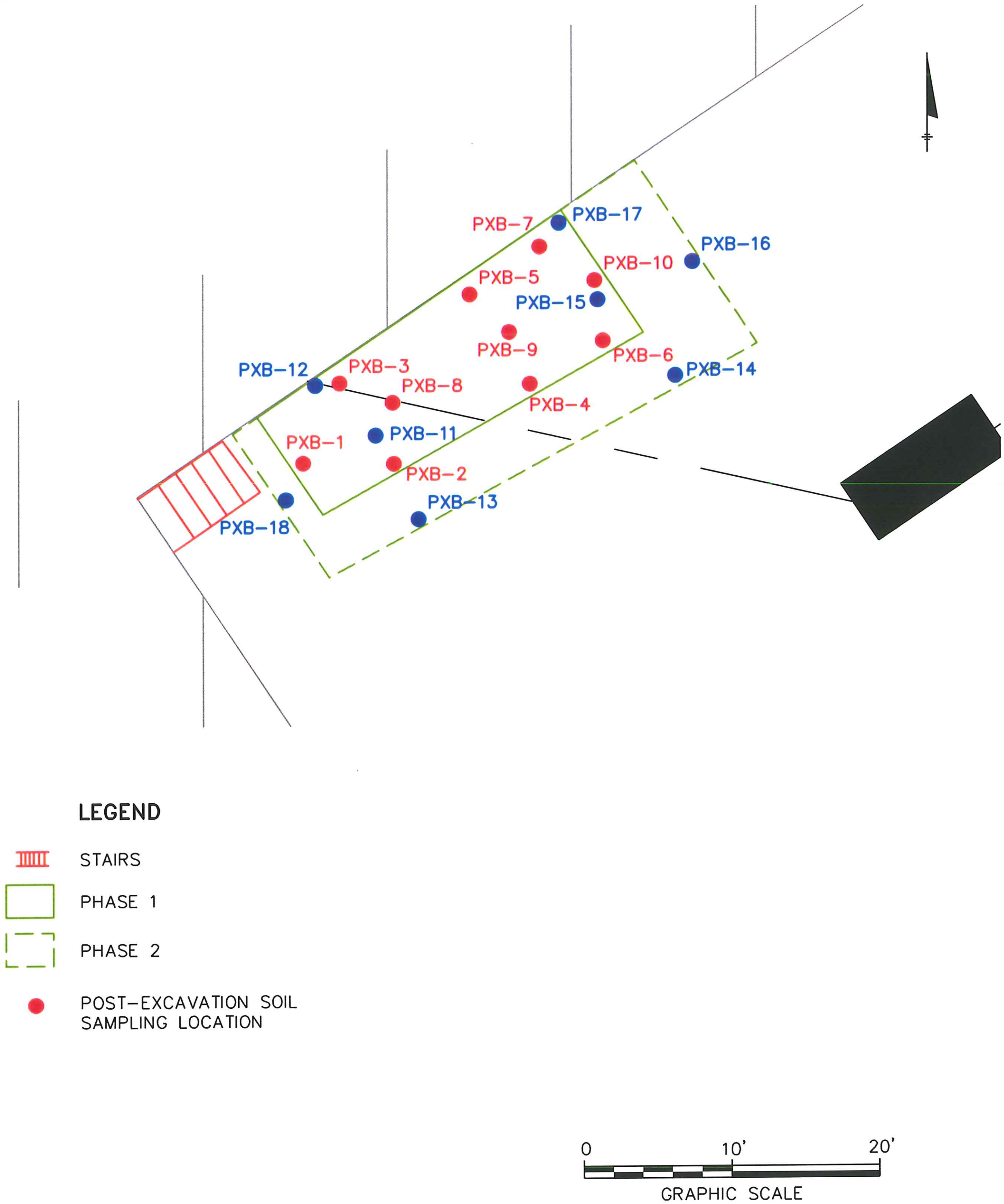
engineers, scientists, economists

FIGURE 5

X:
L: OFF = REF*
P: PAGESET/PLT-AP
10/29/03 CRA-85-TLF
05203008/05203G03.DWG



SOURCE:
FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

X: 05203X02.DWG
L: REF*,SS
P: PAGESET/PLT-AP
10/29/03 CRA-85-TLF
05203008/05203N01.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "B"

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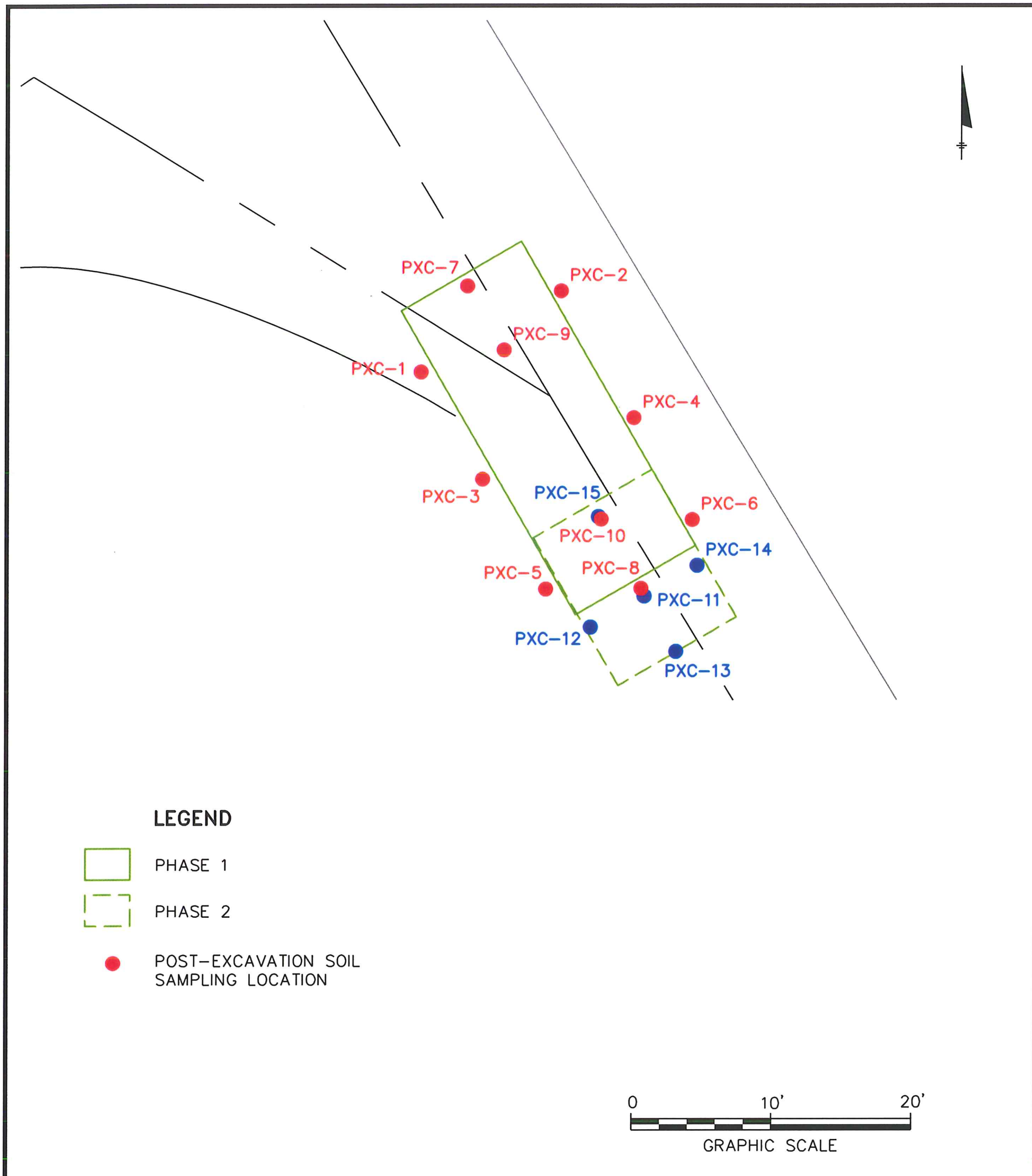
engineers, scientists, economists

FIGURE
6



SOURCE:
FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

X: 05203X02.DWG
L: REF*,SS
P: PAGESET/PLT-AP
10/29/03 CRA-85-TLF
05203008/05203N02.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "C"

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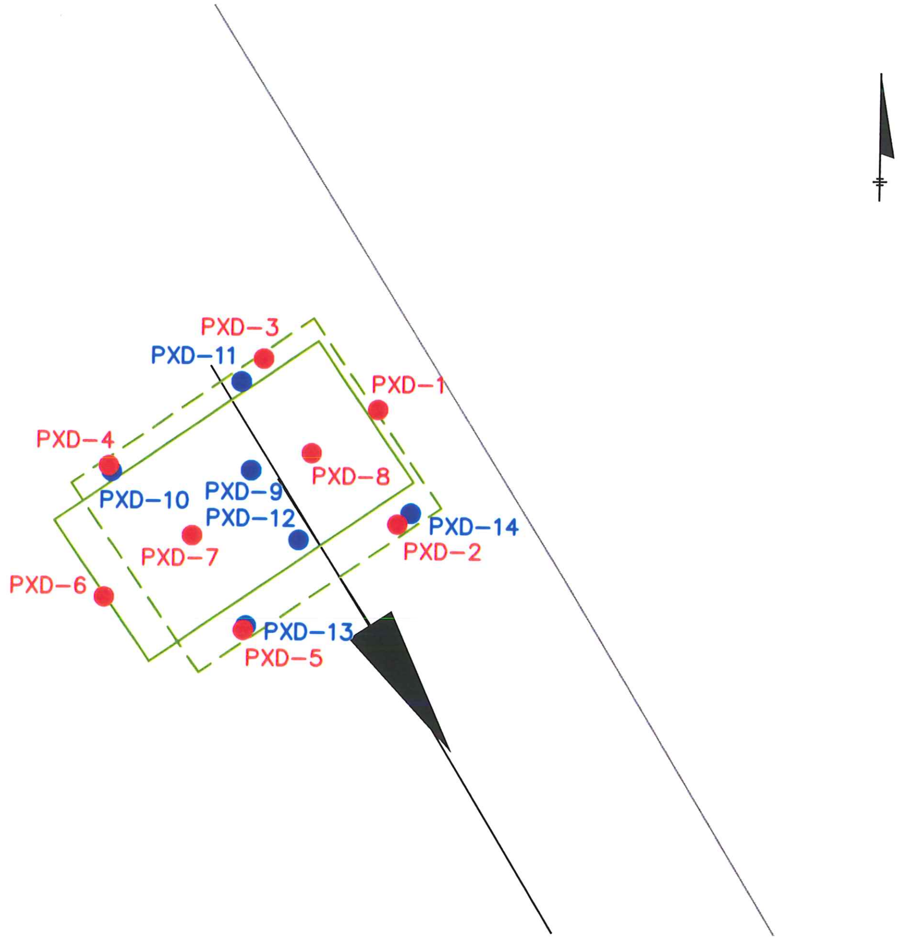
engineers, scientists, economists

FIGURE
7



LEGEND

- PHASE 1 (solid outline)
- PHASE 2 (dashed outline)
- ● POST-EXCAVATION SOIL SAMPLING LOCATION

0 10' 20'
GRAPHIC SCALE

SOURCE:
FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

X: 05203X02.DWG
L: REF*,SS
P: PAGESET/PLT-AP
10/29/03 CRA-85-TLF
05203008/05203N03.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "D"

BBL
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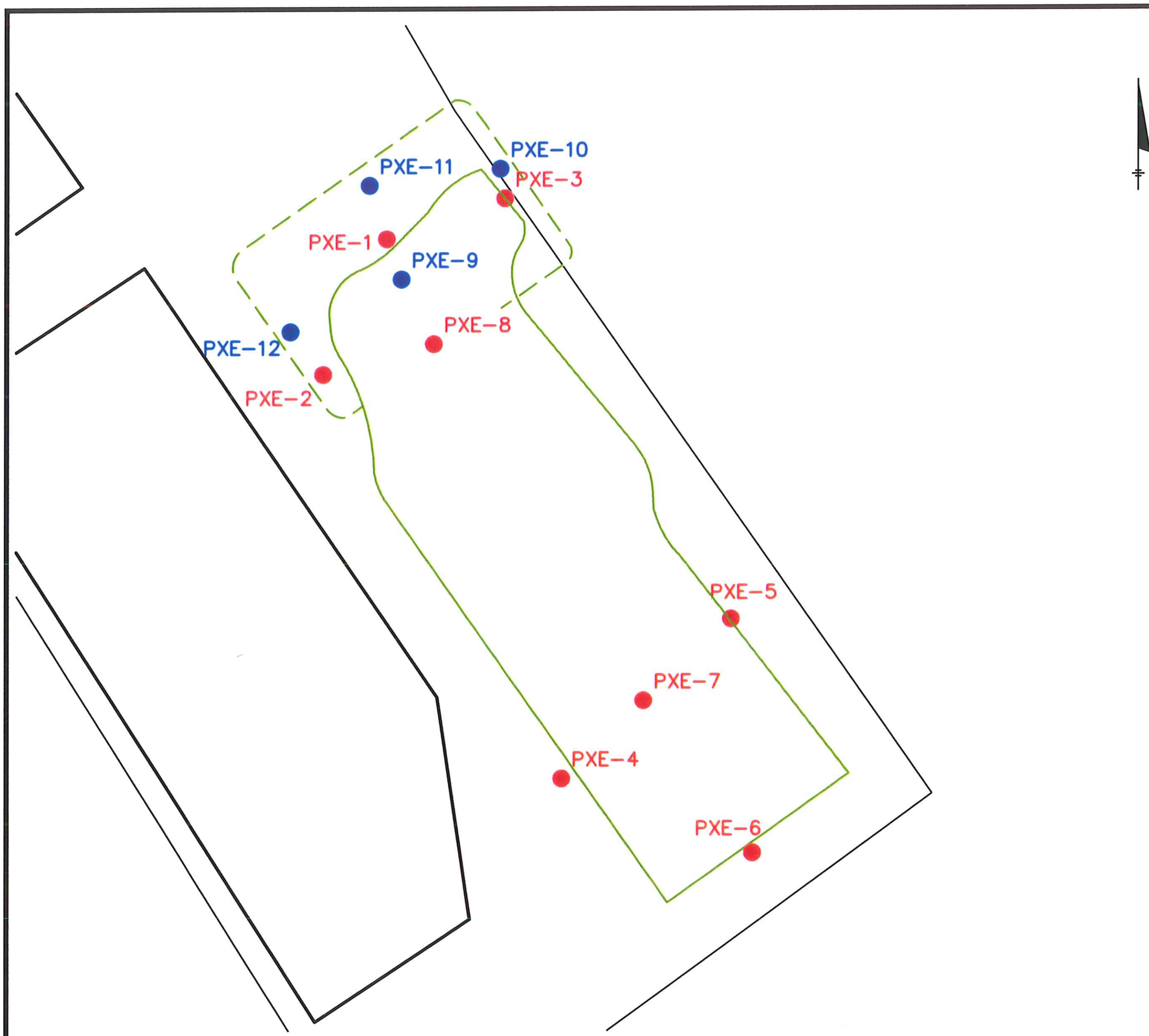
engineers, scientists, economists

FIGURE
8



LEGEND

- PHASE 1
- PHASE 2
- POST-EXCAVATION SOIL SAMPLING LOCATION

0 10' 20'
GRAPHIC SCALE

SOURCE:
FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

X: 05203X02.DWG
L: REF*.SS
P: PAGESET/PLT-AP
11/06/03 CRA-85-TLF
05203008/05203N04.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "E"

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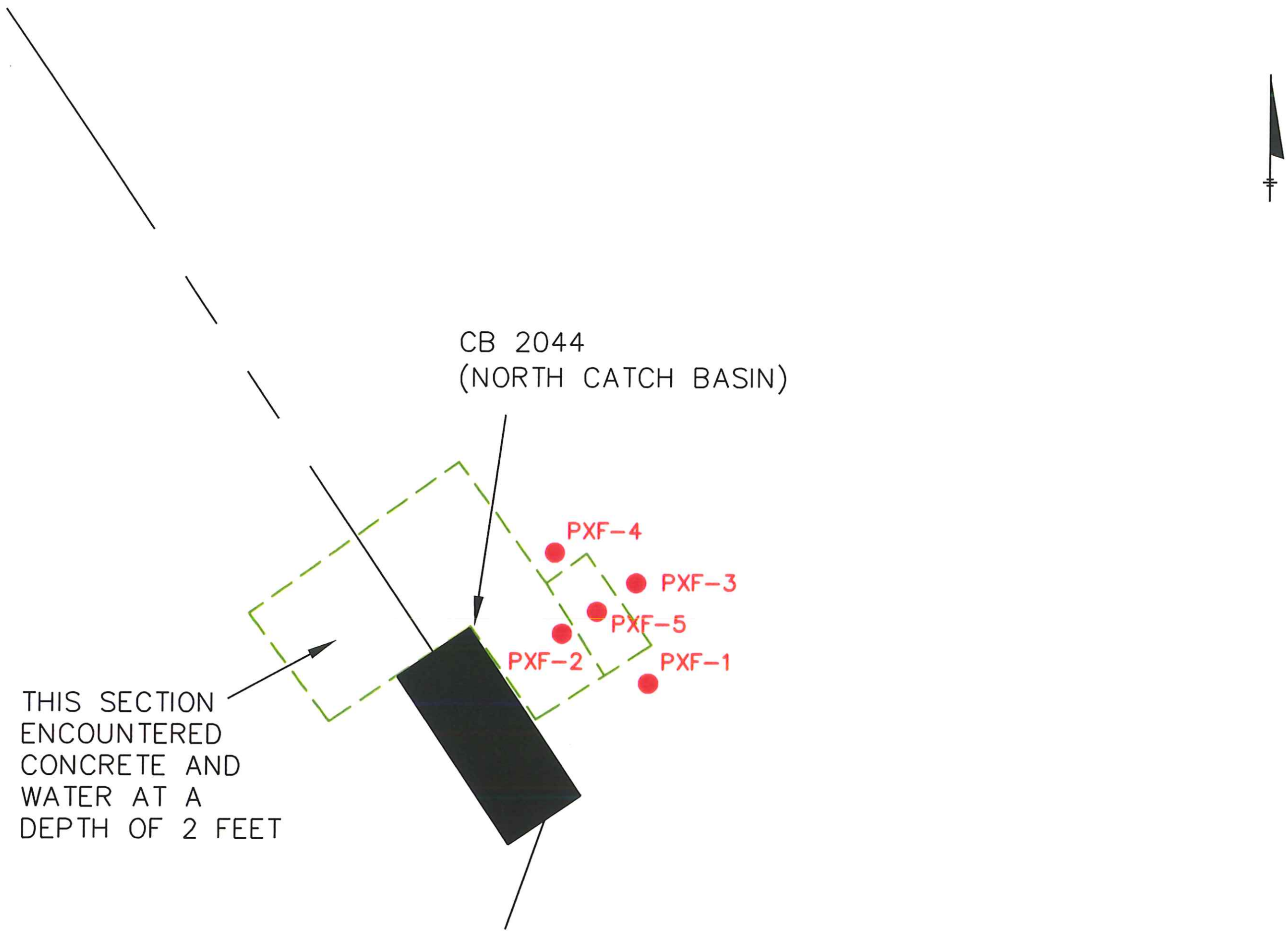
engineers, scientists, economists

FIGURE
9



LEGEND

- PHASE 1
- PHASE 2
- POST-EXCAVATION SOIL SAMPLING LOCATION

0 10' 20'

GRAPHIC SCALE

SOURCE:

FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

X: 05203X02.DWG
L: REF*,SS
P: PAGESET/PLT-AP
10/29/03 CRA-85-TLF
05203008/05203N05.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

SOIL EXCAVATION LOCATION "F"

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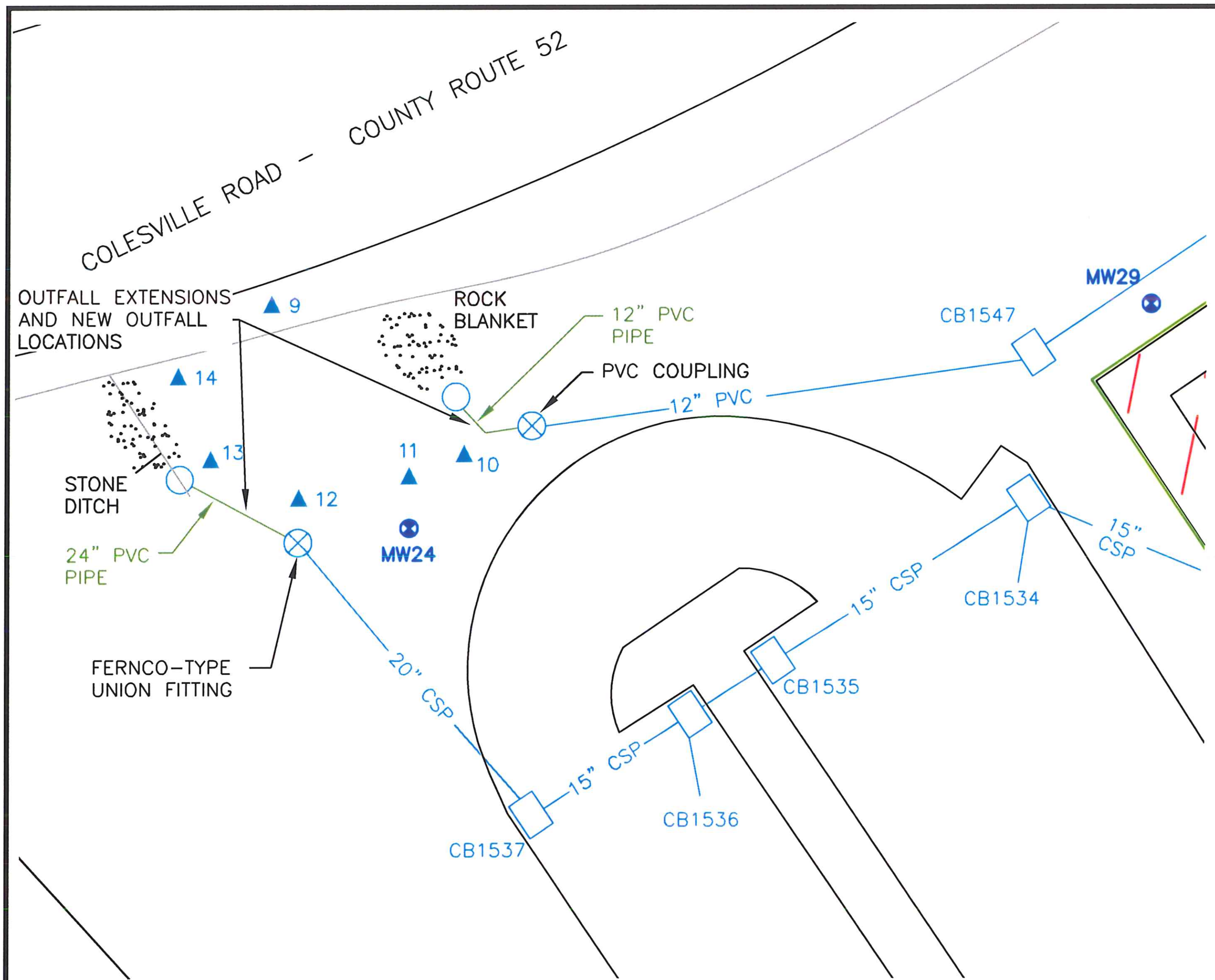
FIGURE
10



LEGEND

- MONITORING WELL
- SOIL BORING LOCATION
- CATCH BASIN
- OUTFALL

SOURCE:

ADAPTED FROM FIGURES FROM REMEDIAL INVESTIGATION REPORT, SHIELD ENVIRONMENTAL ASSOCIATES, INC., JULY 2000.

0 30' 60'

GRAPHIC SCALE

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

STORMWATER OUTFALL PIPE EXTENSION LOCATION

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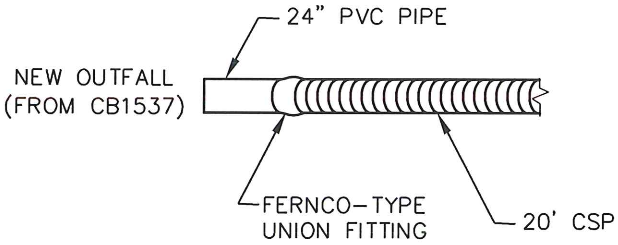
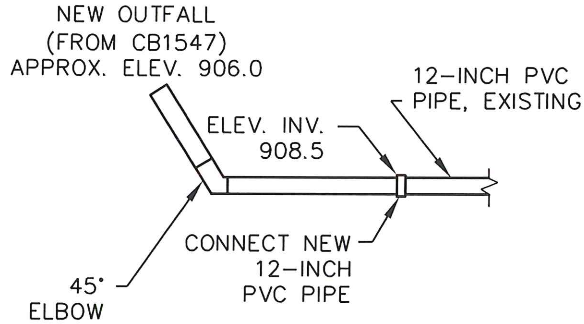
engineers, scientists, economists

FIGURE
11

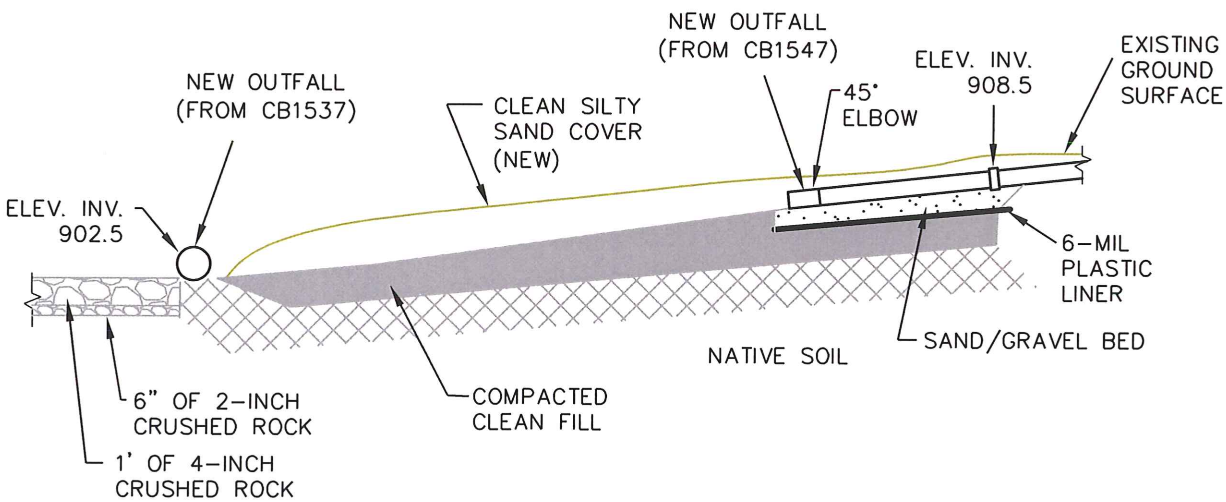
X:
L: OFF = REF*
P: PAGESET/PLT-AP
10/31/03 CRA-85-TLF
05203008/05203G04.DWG



PLAN VIEW



PLAN VIEW



CROSS-SECTION (LONG AXIS)

NOT TO SCALE

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

STORMATER OUTFALL EXTENSION DETAILS

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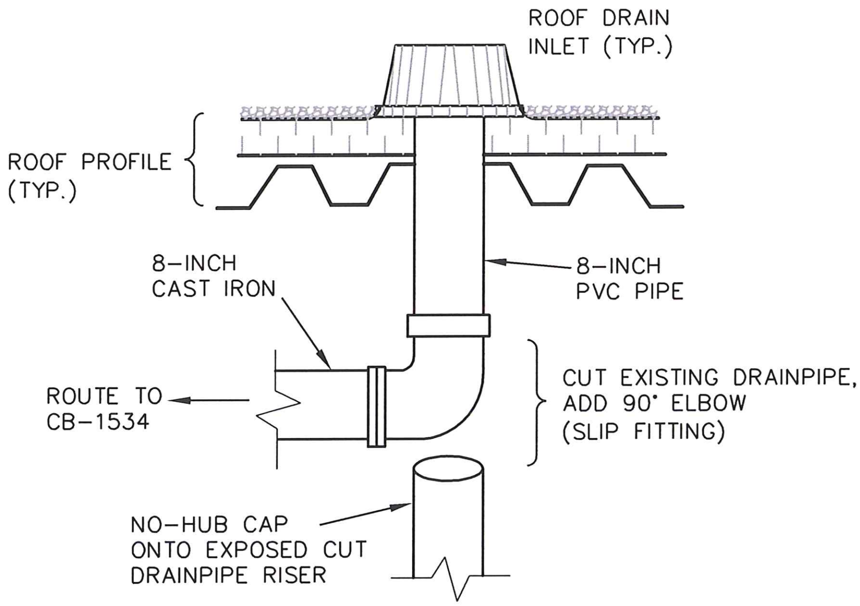
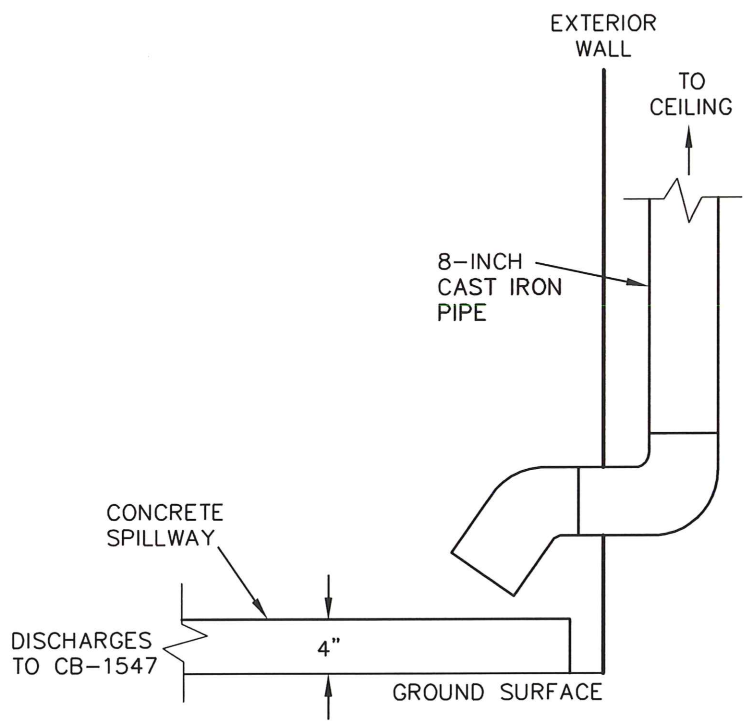
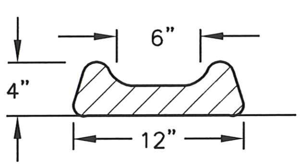
FIGURE
12

X:
L: OFF=REF*
P: PAGESET/PLT-AP
10/31/03 CRA-85-TLF
05203008/05203M02.DWG



ROOF DRAIN





SPILLWAY CROSS–SECTION

NOT TO SCALE

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

ROOF DRAIN LEADER ABANDONMENT AND DETAILS

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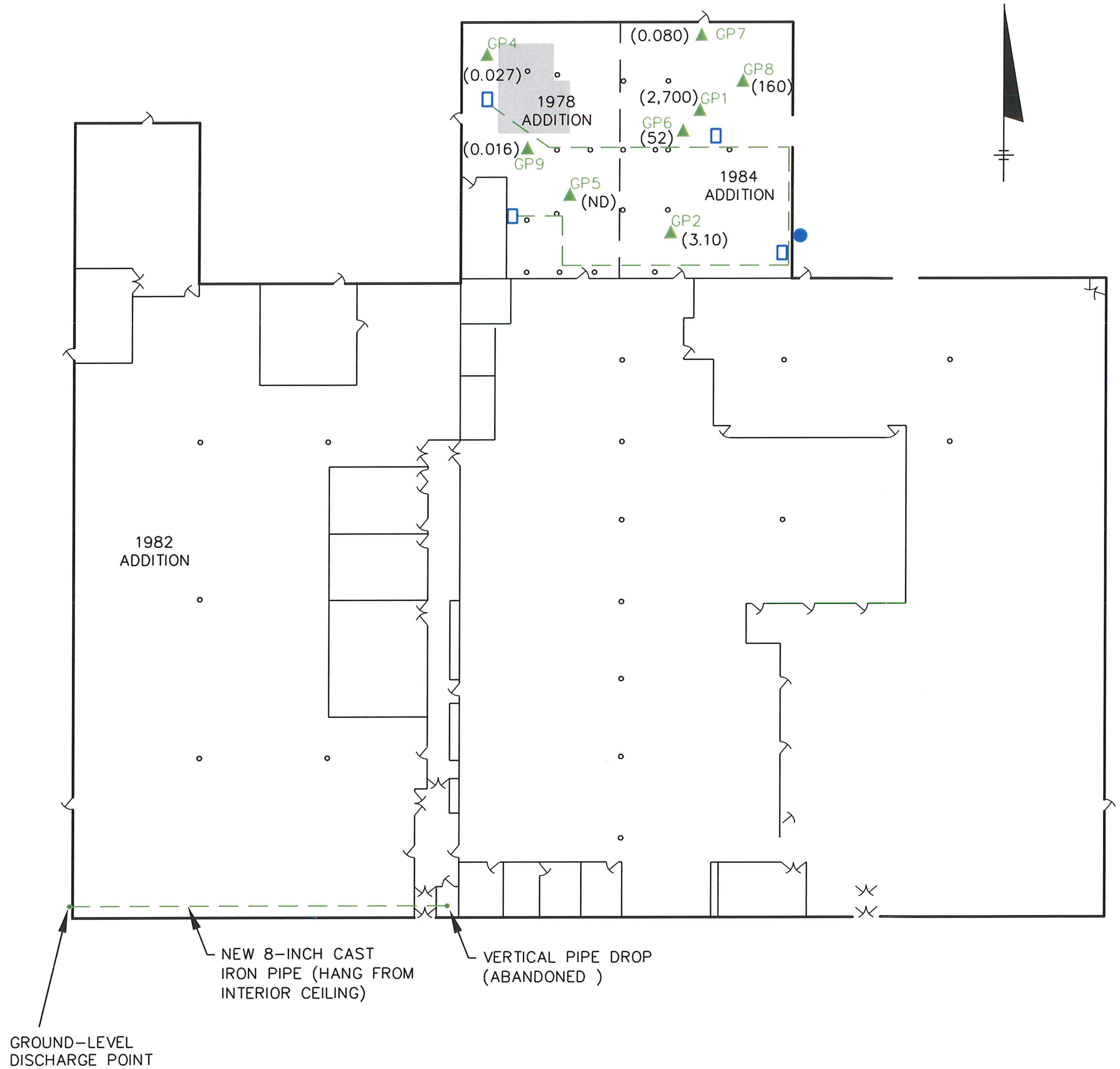
FIGURE
13

X:
L: OFF=REF*
P: PAGESET/PLT–AP
10/31/03 CRA–85–TLF
05203008/05203M03.DWG



LEGEND:

- ACTIVE SUB-SLAB DEPRESSURIZATION POINT LOCATION
- PIPING RUN
- VERTICAL BUILDING POST
- EXTERIOR FAN AND EXHAUST LOCATION
- SOIL SAMPLE LOCATIONS
- (2,700) PCE CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)
- INACCESSIBLE AREA

SOURCE:

BUILDING LAYOUT DIGITIZED FROM PHOTOCOPY OF DRAWING FAXED FROM UNIVERSAL INSTRUMENTS CORPORATION FACILITIES DEPARTMENT. NO FILE NAME OR SCALE PROVIDED.

X:
L: OFF-REF*
P: PAGESET/PLT-BL
10/31/03 CRA-85-TLF
05203008/05203G06.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

ASD EXTRACTION POINT AND ROOF LEADER RE-ROUTE LOCATIONS

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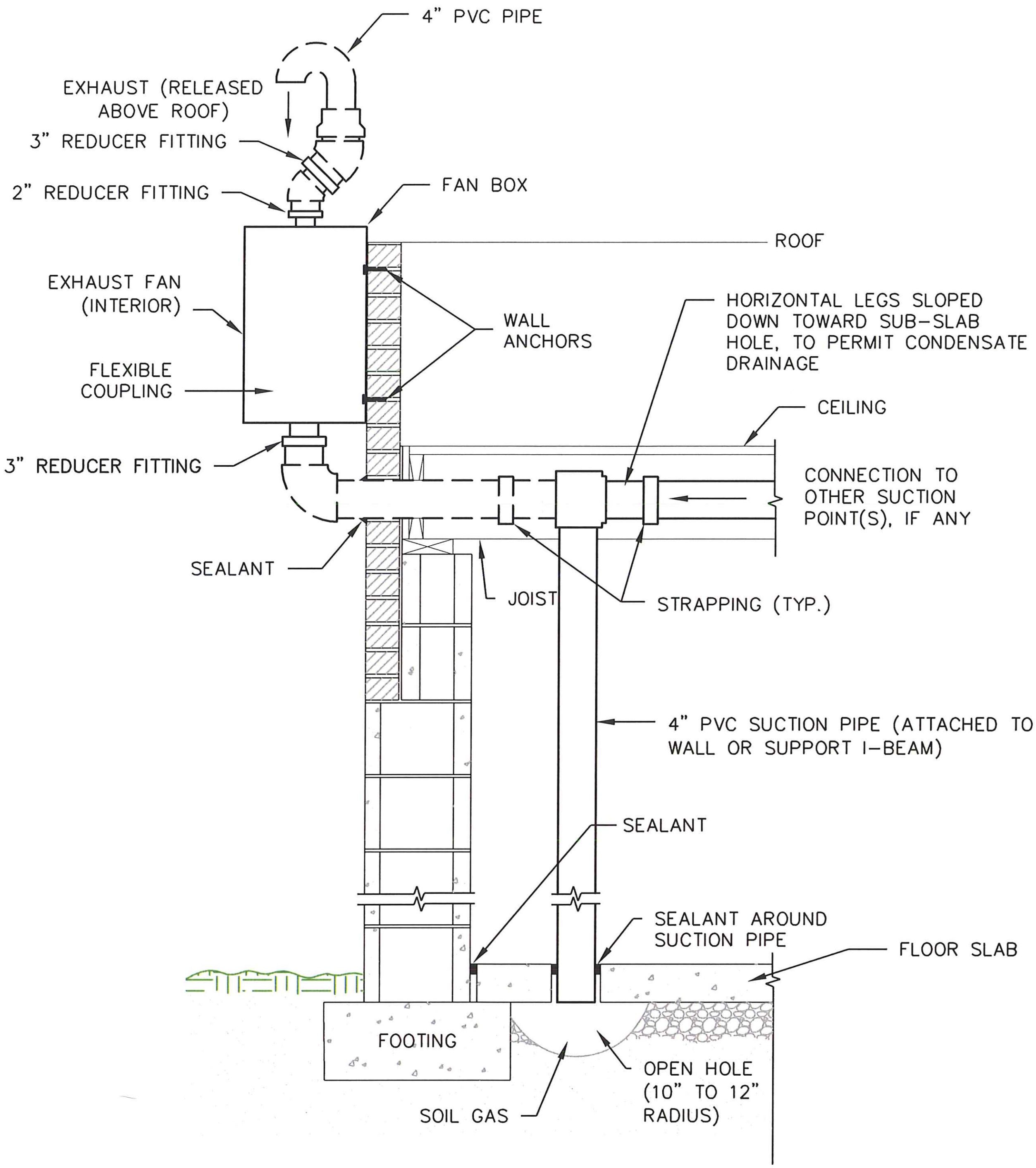
engineers, scientists, economists

FIGURE
14



UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK
REMEDIAL CERTIFICATION REPORT

EXHAUST STACK ON FACILITY EXTERIOR

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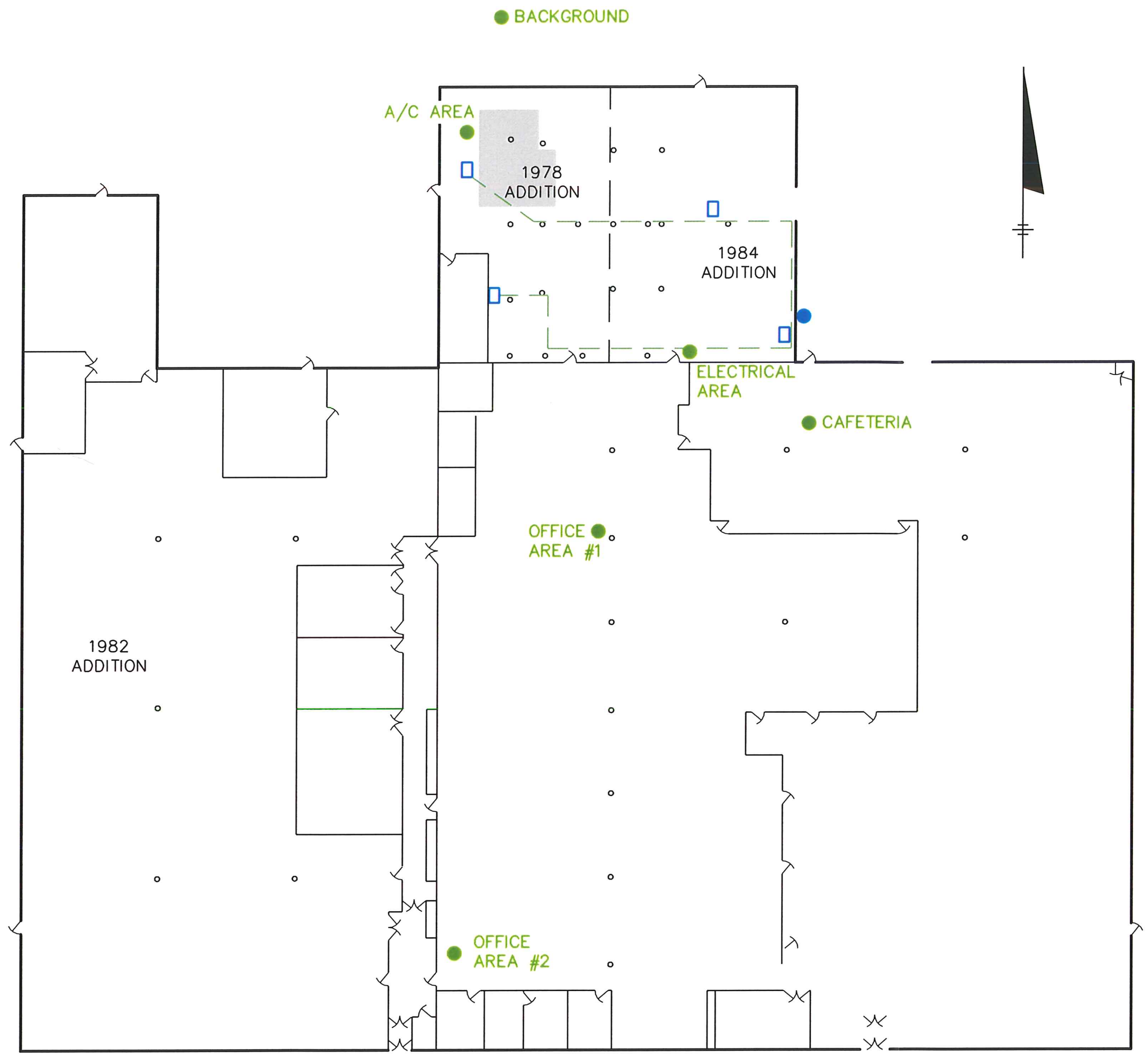
FIGURE
15

X:
L: OFF=REF*
P: PAGESET/PLT-AP
11/06/03 CRA-85-TLF
05203008/05203M01.DWG



LEGEND:

- ACTIVE SUB-SLAB DEPRESSURIZATION POINT LOCATION
- PIPING RUN
- VERTICAL BUILDING POST
- EXTERIOR FAN AND EXHAUST LOCATION
- INACCESSIBLE AREA
- INDOOR AIR SAMPLING LOCATION

SOURCE:

BUILDING LAYOUT DIGITIZED FROM PHOTOCOPY OF DRAWING FAXED FROM UNIVERSAL INSTRUMENTS CORPORATION FACILITIES DEPARTMENT. NO FILE NAME OR SCALE PROVIDED.

X:
L: OFF-REF*
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05203008/05203G08.DWG

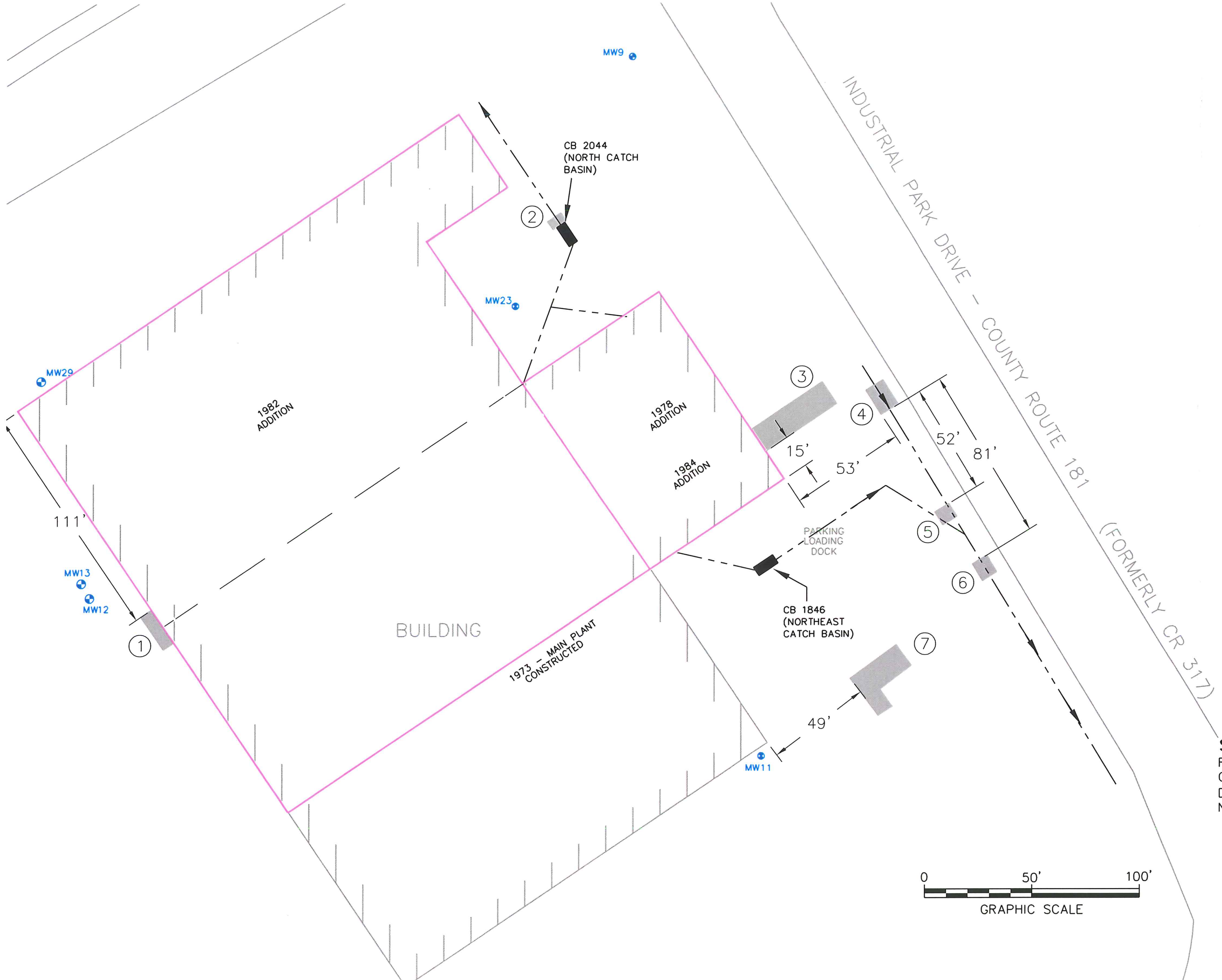
UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW YORK

REMEDIAL CERTIFICATION REPORT

INDOOR AIR SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE **16**



LEGEND

- EXISTING MONITORING WELL
- BUILDING DEED NOTICE AREAS
- EXTERIOR DEED NOTICE AREAS

DEPTH TO PCE–AFFECTED SOIL

1. 4 FEET
2. 6 FEET
3. 8 FEET
4. 8 FEET
5. 5 FEET
6. 7 FEET
7. 3 FEET

SOURCE:
FIGURE 2 OF LETTER REPORT "UNIVERSAL INSTRUMENTS CORPORATION, KIRKWOOD, BROOME COUNTY, NEW YORK: DOVER ELECTRONICS SITE", GANNETT FLEMING, INC., NOVEMBER 9, 2000.

X: 05203X01.DWG
L: OFF=REF
P: PAGESET/PLT-BL
03/26/04 CRA-85-TLF
05203008/05203G10.DWG

UNIVERSAL INSTRUMENTS CORPORATION
KIRKWOOD, NEW JERSEY
REMEDIAL CERTIFICATION REPORT

DEED NOTICE AREAS

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engineers & scientists

FIGURE
17