TECHNICAL REPORT

Stage I Remedial Action Report

Volume I

Text, Tables, Figures, and Appendices A, B, & C

AVX Corporation
Olean, New York

April 2001

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

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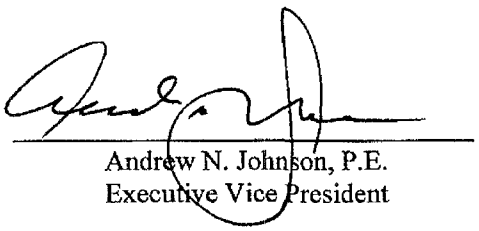
Certification Statement

To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Andrew N. Johnson, P.E.
Executive Vice President

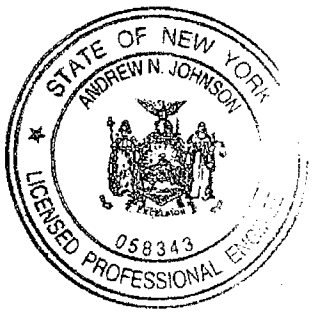
04/06/01
Date

Notice of Completion

I hereby certify, as a professional engineer licensed in the State of New York, that the Stage 1 Remedial Action for the AVX Property, located in Olean, New York, has been completed in full in accordance with the requirements set forth in the United States Environmental Protection Agency's (USEPA's) Operable Unit 2 Record of Decision (OU2 ROD), dated September 30, 1996; the Statement of Work (SOW) that was negotiated between AVX Corporation and the USEPA in 1997; the Consent Decree (Civil Action No. 98 CV0054(M)), effective May 17, 1998; the USEPA-approved Remedial Design/Remedial Action Work Plan (March 1999); the USEPA-approved Stage 1 Remedial Design Report (October 1999); and applicable federal and state laws.

Andrew N. Johnson, P.E.
Executive Vice President

04/06/01
Date



Section 1

1. Introduction

1.1 General

On behalf of BBL Environmental Services, Inc. (BBLES), Blasland, Bouck & Lee, Inc. (BBL) has prepared this Stage 1 Remedial Action Report (Stage 1 RAR) to summarize the Stage 1 Remedial Action (RA) activities performed at the Olean Well Field Superfund Site for the AVX Corporation (AVX) Property (Olean Advanced Products, Inc.) located at 1695 Seneca Avenue in Olean, New York. This Stage 1 RAR presents the activities performed at the AVX Property to implement the source removal component (Stage 1) of the United States Environmental Protection Agency's (USEPA's) selected remedy for the AVX Property, as presented in USEPA's Second Operable Unit Record of Decision (OU2 ROD), dated September 30, 1996. This Stage 1 RAR has been prepared in accordance with the following:

- Section G.4.c of the Statement of Work (SOW) that was negotiated between AVX and the USEPA in 1997 for the implementation of the Stage 1 Remedial Design/Remedial Action and Post-Remediation Ground-Water Monitoring Plan at the AVX Property;

- Section XIV of the Consent Decree (Civil Action No. 98CV0054A(M)) that was entered between the United States of America and AVX of Myrtle Beach, South Carolina, effective March 17, 1998;

- Section 6.10 of the USEPA-approved *Remedial Design/Remedial Action (RD/RA) Work Plan,* which was prepared by BBL in March 1999; and

- Section 8.1 of the USEPA-approved *Stage 1 Remedial Design (RD) Report*, which was prepared by BBL in October 1999.

The primary objective of the Stage 1 RA at the AVX Property was to meet the source removal requirements for soils impacted with the site-specific Constituents of Concern (COCs) identified in the OU2 ROD. These COCs consist of various volatile organic compounds (VOCs), which include benzene; 2-butanone; cis-1,2-dichloroethene; ethylbenzene; tetrachloroethene (PCE); 1,1,1-trichloroethane (1,1,1-TCA); trichloroethene (TCE); toluene; vinyl chloride; and xylene. In general, the Stage 1 RA activities performed at the AVX Property consisted of excavation and off-site disposal of soils containing COCs that were above the established site-specific soil cleanup objectives (Section 1.4), followed by restoration of the excavated area. As discussed in Section 3.0 of the Stage 1 RD Report, the horizontal and vertical limits of excavation for impacted soils were limited, to some extent, due to the presence of the existing manufacturing building and concrete transformer pad, as well as the underlying ground-water table (discussed further in Section 3.3.2).

This Stage 1 RAR provides a complete summary of the Stage 1 RA activities implemented at the AVX Property to address on-site unsaturated zone soils (with the exception of soil adjacent to or under the existing manufacturing building and concrete transformer pad) and the upper 2 feet of saturated zone soils at the AVX Property that are impacted with the site-specific COCs. Soils adjacent to or under the existing manufacturing building and the recently removed underground storage tank (UST) and concrete transformer pad, as well as saturated soils below the base of the excavated area, which are considered indicative of a ground-water condition, will be addressed separately as part of a future activity, which is discussed further in Section 6.4.

1.2 Site Description

The Olean Well Field Superfund Site (Site) is located in the eastern portion of the City of Olean and the Towns of Olean and Portville in Cattaraugus County, New York (Figure 1). The Site, which occupies approximately 800 acres, is approximately 65 miles southeast of Buffalo, New York, and seven miles north of the New York/Pennsylvania state border. The Site is located in the Allegheny River Valley near the border of the northwestern Appalachian plateau. The Allegheny River flows west-northwest through the southern portion of the Site, and the Olean and Haskell Creeks pass through the west and east portions of the Site, respectively.

The AVX Property (Figure 2), which is the focus of this Stage 1 RAR, is located in the north-central portion of the Site in the Town of Olean and is bordered by Seneca Avenue to the north, private property to the east, Conrail railroad tracks to the south, and the boundary between the City and Town of Olean to the west. The AVX Property comprises the main manufacturing building, paved parking areas and driveways, two small wood sheds, and various utility lines located adjacent to the building.

Based on historical ground-water information, local and regional ground-water studies have shown different flow directions for the two flow zones at the Site. The shallow zone flow direction in the vicinity of the AVX Property is primarily to the south, following the topography towards the Allegheny River, while the deeper zone flow direction is more toward the west to southwest, along the general direction of the river flow. The different flow patterns were interpreted from data from shallow and deep wells, primarily from two existing well clusters, to assist in the evaluation of vertical hydraulic gradients. The deeper ground-water system also appears to be influenced locally by the pumping of the AVX production well and the Olean Municipal Well Field (Wells 18M, 37M, and 38M) located in the southwest portion of the Site. Horizontal flow does not appear to be significant in the intermediate zone, as gradients within this portion of the low permeability till unit are primarily downward. The potentiometric surfaces for the upper and lower flow zone, which show the variation in flow patterns between the two zones, are presented in the October 1994 *Supplemental Remedial Investigation (SRI) Report* prepared by Geraghty and Miller, Inc.

1.3 Remedial Action Background

Based on the results of a SRI/Feasibility Study (FS) performed between 1991 and 1993, the USEPA determined that the AVX Property, as well as, McGraw-Edison, Cooper, Alcas, and Alcoa properties, contained sources of VOC contamination at levels that may impact the Site's lower and/or upper ground-water systems. The VOC-contaminated soil was not determined to pose an unacceptable risk; however, the contaminated soil was a source of contamination to ground water, with the ground water being the principal threat posed by the Site. Therefore, USEPA issued the OU2 ROD and Consent Decrees to AVX and the three other Olean Cooperating Industries to address the identified source areas on their respective properties.

As part of the Consent Decree requirements for the AVX Property, BBL prepared the RD/RA Work Plan on behalf of AVX. The RD/RA Work Plan was prepared in accordance with the OU2 ROD, SOW, and Consent Decree for the AVX Property, and addressed the Stage 1 remedial design and implementation. The RD/RA Work Plan was approved by the USEPA on April 17, 1999. The RD/RA Work Plan included provisions for performance of Pre-Remedial Testing (PRT) in order to provide the necessary information for completion of the Stage 1 RD, provisions for completion of the Stage 1 RD, a description of the overall Project Management Plan, a description of the Post-Remediation Ground-Water Monitoring Plan (PRGMP), the Sampling, Analysis, and Monitoring Plan (SAMP), the Quality Assurance Project Plan (QAPP), and the Health and Safety/Contingency Plan (HASCP).

As part of the Consent Decree requirements, BBL also prepared the Stage 1 RD Report on behalf of AVX. The Stage 1 RD Report was prepared in accordance with the OU2 ROD, SOW, Consent Decree, and RD/RA Work Plan for the AVX Property, and presented the final remedial design to be used to implement the Stage 1 RA. The Stage 1

RD Report was approved by the USEPA on March 30, 2000. The Stage 1 RD Report included the results of PRT, the results of an underground storage tank (UST) removal, the Stage 1 RD, Project Management Plan, RA Contingency Plan, Construction Quality Assurance (CQA) Requirements, RA Schedule, Engineering Plans and Specifications, and Addendum No. 1 to the SAMP. The Stage 1 RD Report was the final document generated prior to implementing the Stage 1 RA.

The Stage 1 RA activities were performed at the AVX Property between July 5 and July 25, 2000. BBLES was the Supervising Contractor and was responsible for construction management and overall implementation of the Stage 1 RA activities. BBLES documented all field activities, through Daily Project Reports (Appendix A) and photographs (Appendix B), for the duration of the Stage 1 RA. BBLES also retained several subcontractors during the Stage 1 RA, including the following:

- Buck Environmental Laboratories, Inc. (BEL), of Cortland, New York, provided on-site field gas chromatography (GC) analyses during the May 1999 PRT;

- Paradigm Laboratories (Paradigm), provided chemical analyses at their off-site laboratory (located in Rochester, New York) for waste characterization soil samples collected during the July 1999 PRT;

- Sterling Environmental Services, Inc. (Sterling) served as the primary remediation subcontractor for the Stage 1 RA activities (this also includes the UST removal activities, as discussed in Section 2.3) and provided excavation and backfilling services;

- Columbia Analytical Services, Inc. (Columbia) provided chemical analyses at their off-site laboratory (located in Rochester, New York) for delineation soil samples collected during the May 1999 PRT, as well as additional waste characterization soil samples, clean backfill samples, and post-excavation soil samples collected during the Stage 1 RA;

- CECOS International, Inc. (CECOS) provided transportation and disposal of non-hazardous water generated at the AVX Property during the UST removal activities. The non-hazardous water was transported to CECOS' facility in Niagara Falls, New York, for disposal;

- Waste Management, Inc. (Waste Management) provided transportation and landfill disposal services for non-hazardous soils generated at the AVX Property during the Stage 1 RA (this also includes non-hazardous soil removed during the UST removal activities, as discussed in Section 2.3). The non-hazardous soils were transported to Waste Management's Chaffee Landfill, located in Chaffee, New York, for landfill disposal; and

- Waste Technology Services, Inc. (WTS) provided transportation and treatment/landfill disposal services for Resource Conservation and Recovery Act- (RCRA-) hazardous soils generated at the AVX Property during the Stage 1 RA. The RCRA-hazardous soils were transported to the Environmental Quality Company's (EQ's) Michigan Disposal Waste Treatment Plant, located in Belleville, Michigan, for thermal oxidation treatment, followed by landfill disposal.

1.4 Soil Cleanup Objectives

The cleanup objectives that have been established in Appendix II, Table 1 of the OU2 ROD for the COCs in the soil at the AVX Property include the following:

Contaminant	Soil Cleanup Objectives[1] (parts per million)[2]
Benzene	0.06
2-Butanone	0.30
cis-1,2-Dichloroethene	0.30
Ethylbenzene	5.50
Tetrachloroethene	1.40
1,1,1-Trichloroethane	0.80
Trichloroethene	0.70
Toluene	1.50
Vinyl Chloride	0.20
Xylene	1.20

Notes:
1 - Taken from the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 soil cleanup goals, which represent concentrations of VOCs that are protective of all future land uses and will not leach from soil and dissolve into the ground water at levels that are above federal and New York State Maximum Contaminate Level concentrations.
2 - Parts per million is equivalent to milligrams/kilogram (mg/kg).

1.5 Organization of the Stage 1 Remedial Action Report

This Stage 1 RAR has been organized into the following seven sections:

- Section 1 - Introduction: Provides a brief overview of the Stage 1 RA activities performed at the AVX Property, description of the Site and AVX Property, summary of previous documents prepared for the AVX Property, names and roles of the entities involved with the Stage 1 RA, the soil cleanup objectives for the Stage 1 RA, and the organization of the Stage 1 RAR;

- Section 2 - Pre-Remedial Action Activities and Testing Results: Summarizes the PRT program performed at the AVX Property in May and July 1999, which included delineation and waste characterization soil sampling. Also, summarizes the UST removal activities performed at the AVX Property in July of 1999;

- Section 3 - Stage 1 Remedial Action Summary: Summarizes the Stage 1 RA activities performed at the AVX Property to remediate soils impacted with COCs. This section also identifies areas where excavation activities were restricted due to the presence of the existing on-site manufacturing building and concrete transformer pad, as well as the underlying ground-water table. In addition, this section describes the activities that were performed to restore the site after the soil removal activities were completed;

- Section 4 - Stage 1 Remedial Action Sampling and Analysis Summary: Summarizes the soil sampling activities and chemical analyses performed during the Stage 1 RA, as well as the QA/QC measures and data validation procedures implemented in accordance with the SAMP and QAPP;

- Section 5 - Off-Site Transportation and Disposal Summary: Summarizes the non-hazardous and RCRA-hazardous soils that were generated at the AVX property and disposed off site during implementation of the Stage 1 RA activities;

- Section 6 - Completion Requirements of the Stage 1 Remedial Action: Identifies various items of discussion that are required, in accordance with the OU2 ROD, SOW, Consent Decree, RD/RA Work Plan, and Stage 1 RD Report, upon the completion of Stage 1 RA activities. These additional items include how the performance standards were achieved, how the CQA requirements were satisfied, and future activities anticipated to be performed at the AVX Property; and

- Section 7 - Stage 1 Remedial Action Cost Summary: Summarizes the costs associated with implementing the Stage 1 RA.

Section 2

2. Pre-Remedial Action Activities and Testing Results

2.1 General

This section presents the activities and results of the PRT performed at the AVX Property in May and July 1999. The results of the PRT were used to delineate the initial excavation limits, as well as the associated volumes of soil requiring disposal as a RCRA characteristic hazardous and non-hazardous waste. In addition, this section discusses the activities and testing performed in July 1999 to remove a former UST located at the southeast corner of the on-site manufacturing building. A summary of activities and testing performed during the PRT program and the UST removal is presented below.

2.2 Pre-Remediation Testing

The first PRT sampling event, which was performed in May 1999, was performed in order to delineate the extent of soils to be excavated and to collect additional data for characterizing the soils for disposal purposes. Based on the results obtained from this initial PRT sampling event, the overall volume of soils requiring excavation was determined to be significantly higher than originally estimated in the OU2 ROD. As a result, an additional PRT sampling event was performed in July 1999 to more completely characterize the VOC-impacted soils for off-site disposal purposes. A brief summary of the May 1999 and July 1999 PRT activities is presented below.

2.2.1 May 1999 Pre-Remediation Testing

The primary purpose of this sampling event was to delineate the limits of excavation. This initial PRT program consisted of installing 25 soil borings (soil boring locations are shown on Figure 2-1 in the Stage 1 RD Report) in the vicinity of previously identified soil contamination (around former soil boring SB-06), and obtaining a representative soil sample from each boring. The soil borings were installed using a mobile drill rig utilizing conventional hollow-stem auger drilling and continuous split-spoon sampling. Soil samples were collected at 2-foot intervals at each soil boring location using a decontaminated stainless-steel split-spoon sampler, to a total depth of 8 feet. The recovered soil sample from each split-spoon interval was classified and logged, and then screened for total VOC vapors. The interval with the highest headspace reading was submitted to BEL for on-site field GC analyses using a modified 8260B method.

The concentrations obtained from the on-site GC were compared to the established site-specific soil cleanup objectives (Section 1.4) to delineate the horizontal and vertical extent of excavation. Based on the on-site field GC analyses performed on the initial soil samples, which indicated that the extent of contamination extended beyond the anticipated limits of excavation (as reported in the OU2 ROD), the sampling locations were extended laterally away from the former soil boring SB-06. The analytical results obtained from the on-site field GC are included in Appendix A, summarized in Table 2-2, and depicted on Figure 2-2 of the Stage 1 RD Report. The analytical results obtained from the on-site field GC were used to delineate the initial limits of excavation, which was identified to be approximately 150 feet x 60 feet in area (as shown on Figure 4 of the Technical Drawings, included in Appendix C1 of the Stage 1 RD Report), with an estimated excavation depth of 10 feet below ground surface (bgs). Based on ground-water level measurements collected at the time of sampling, this depth assumes that ground water will be approximately 8 feet bgs, with the excavation extending approximately 2 feet below the ground-water table.

In addition to the on-site analyses of soil samples using a field GC, three discrete soil samples were collected and submitted to Columbia for analysis of RCRA Toxicity Characteristics Leaching Procedures (TCLP) and ignitability. The samples, collected from borings SB-111, SB-211, and SB-419, were selected based on the analytical results obtained from the on-site GC. In general, samples with the highest detected concentrations of VOCs were selected

for analysis of RCRA characteristics, for an overall "worst-case" evaluation of soils requiring management as hazardous waste.

The analytical results for the RCRA characteristics analyses are included in Appendix B and summarized in Table 2-3 of the Stage 1 RD Report. The results indicated that one of the three discrete samples, collected from the "worst-case" soil borings, could be characterized as an RCRA-hazardous waste. Based on these results, which indicated that most of the soils would potentially be suitable for disposal as non-hazardous wastes, an additional PRT sampling event, designed to further characterize the soils for waste disposal purposes, was performed at the AVX Property in July 1999.

2.2.2 July 1999 Pre-Remediation Testing

The primary purpose of this program was to further quantify the volume of soils to be excavated that would require off-site treatment/disposal as an RCRA-hazardous waste. This second PRT sampling event involved the collection of soil samples in pre-determined grid locations for analysis of TCLP VOCs in order to better quantify the volume of soils requiring disposal as RCRA-hazardous and non-hazardous waste. This sampling method was implemented to develop an excavation "overlay," which segregated the anticipated excavation limits into five areas (A through E), in which the RCRA-hazardous and non-hazardous soils could be identified and properly managed during the performance of excavation activities. Each of the five areas, or grids, within the initial limits of excavation was subsequently divided into four quadrants for subsequent sampling purposes (as shown on Figure 2-3 in the Stage 1 RD Report). The waste classification soil sampling involved the collection of soil samples from 2-foot depth intervals within each quadrant.

Split-spoon soil samples were collected from the approximate center of each quadrant in 2-foot intervals using standard hollow-stem augers. At each location, soil samples were collected down to the anticipated maximum depth of excavation (10 feet bgs, based on water-level measurements). Samples were obtained from the following depth intervals: 2 to 4 feet bgs, 4 to 6 feet bgs, 6 to 8 feet bgs, and 8 to 10 feet bgs. The recovered soil sample from each split-spoon interval was classified and logged, and screened for total VOC vapors.

Within each grid, samples collected from the same depth interval (from each of the four interior quadrants) were sent to Paradigm for analysis of TCLP VOCs only, since the May 1999 PRT waste characterization sampling indicated that VOCs were the only detected constituents in leachate. The samples from the same depth interval within each grid were composited (a total of four discrete samples were composited into one sample) by Paradigm prior to performing analysis for TCLP VOCs. A total of 80 discrete samples (not including duplicates) were collected, with the laboratory compositing the appropriate discrete samples and analyzing a total of 20 samples. Of the 20 samples analyzed for TCLP VOCs, two samples (A-6-8 and A-8-10) were above the regulatory limit for a RCRA characteristic hazardous waste. The analytical data obtained from this waste classification sampling event (included in Appendix B and summarized in Table 2-5 of the Stage 1 RD Report) was used to characterize non-hazardous and RCRA-hazardous soils, as shown on Figure 4 of the Technical Drawings, included in Appendix C1 of the Stage 1 RD Report.

2.3 Underground Storage Tank Removal

During the performance of excavation activities for an eastern building expansion at the AVX facility in July 1999, a former UST, reportedly used for the storage of waste paint solvents, was encountered. The cylindrical storage tank was approximately 1,000 gallons in capacity and constructed of concrete, with external dimensions of 6 feet in diameter by 6 feet deep, and was located beneath a 6-inch thick reinforced concrete slab at the southeast corner of the existing manufacturing building (Figure 3). This tank had reportedly been previously closed in place (filled with concrete).

When the UST was encountered during the building expansion activities, BBLES was contracted by AVX to remove the tank and any associated impacted soil and to collect post-excavation soil samples. BBLES subcontracted Sterling to perform the tank removal and soil excavation activities, which were implemented on July 14, 1999.

The first activity performed was to remove the 6-inch thick reinforced concrete slab to access the underlying UST. Following removal of the concrete slab, excavation activities commenced to uncover and remove the tank. During excavation activities, the removed soils were screened for total VOC vapors, and soils that exhibited elevated readings or signs of visual contamination were staged on polyethylene southeast of the excavation for subsequent waste characterization sampling and off-site transportation/disposal. In addition, ambient air monitoring was performed during all excavation activities in accordance with the HASCP (Appendix D of the RD/RA Work Plan). The results of the air monitoring were below the established action levels and are presented in Appendix C.

During excavation activities, a crack developed in the side of the tank and liquid began to discharge into the excavation. Upon further investigation, it was determined that the tank had not been completely filled with concrete and most of the tank contents were liquid. All accumulated liquid and/or ground water in the excavation was pumped to three temporary on-site polyethylene storage tanks for subsequent waste characterization sampling and off-site transportation/disposal. Once the liquid was removed from the excavation, the UST was removed and staged on polyethylene.

Following removal of the UST, excavation activities continued in the area of the tank in an attempt to remove any impacted material. Excavation adjacent to the building (area of tank) was performed to a maximum depth of approximately 14 feet bgs, extending into the saturated zone, with no signs of decreasing VOC vapors. Due to the depth, as well as the close proximity of the building, excavation activities were terminated at 14 feet. In addition, due to the presence of a high-pressure water main to the south, a compactor to the north, and the building to the west, excavation activities in these directions were terminated. However, excavation activities were able to extend in an easterly direction and continued (approximately 20 linear feet) at a depth of approximately 14 feet bgs until VOC vapor concentrations were not elevated above background. In total, approximately 105 tons of soil were removed, along with the storage tank, and temporarily stockpiled on a layer of polyethylene. Another layer of polyethylene was used to cover the UST and excavated soil at the end of the day.

2.3.1 Post-Excavation Soil Sampling

On July 16, 1999, BBLES personnel collected post-excavation soil samples from the excavation sidewalls (a total of four samples) at the approximate elevation of the tank bottom (approximately 7 feet bgs). AVX personnel had collected the excavation bottom samples and transferred them to BBLES personnel, and all five post-excavation samples were submitted to Columbia for analysis. The post-excavation soil samples were analyzed using gas chromatograph/mass spectrometry (GC/MS) by USEPA Methods 8260 (VOCs) and 8270 (semi-VOCs), and total metals. The post-excavation sample analytical results are included in Appendix B, summarized in Table 2-6, and depicted on Figure 2-2 of the Stage 1 RD Report. As shown in these results, the primary COCs associated with the former UST were toluene; PCE; 1,1,1-TCA; and TCE, all of which are site-specific COCs for the Stage 1 RD/RA. Given the similar nature of the COCs, it was agreed upon with the USEPA, in a conversation following the UST removal activities, that the tank area will be incorporated into the overall RD/RA program for the AVX Property. Although excavation of the former storage tank resulted in the removal of a significant volume of VOC-impacted soils, analytical results obtained from post-excavation soil samples indicate that there are still significant residual levels of COCs within the remaining soils. As a result, USEPA has indicated in their letter of March 30, 2000 that impacted soils in the vicinity of the former UST would need to be addressed. At the Pre-Final Inspection of the Stage 1 excavation activity on July 20, 2000, the USEPA requested that AVX perform an evaluation of remedial alternatives to determine what, if any, remedial action could be taken in this area (discussed further in Section 6.4).

2.3.2 Waste Characterization Soil and Water Sampling

Waste characterization soil samples were collected by BBLES on July 16, 1999 from the staged soils that were removed from the UST excavation. Discrete samples were collected from five locations around the soil pile and composited on site into one sample. The composite sample was then submitted to Columbia and analyzed for TCLP metals, VOCs, semi-VOCs, herbicides, and pesticides, as well as for reactivity, corrosivity, and ignitability. Based on the analytical results for this composite soil sample (included in Appendix B and summarized in Table 2-5 of the Stage 1 RD Report), the soil did not contain any RCRA-hazardous characteristics. Therefore, the soil could be managed as a non-hazardous waste material.

Also, a second waste characterization soil sample was collected by BBLES from the stockpiled soil on September 3, 1999, to confirm the previous characterization. Discrete samples were collected from 4 locations around the soil pile and submitted to Paradigm for analysis. The four discrete samples were then composited into one sample by Paradigm and then analyzed for TCLP metals, VOCs, and semi-VOCs. Based on the analytical results for this composite sample (included in Appendix D), the soil again did not contain any RCRA-hazardous characteristics, and, therefore, could be managed as a non-hazardous material.

On July 16, 1999 BBLES collected discrete water samples from each of the three temporary polyethylene storage tanks. The water that was from the UST was combined into one composite sample. This composite aqueous sample was submitted to Columbia and analyzed using GC/MS for USEPA Method 8260 (VOCs), USEPA Method 8270 (semi-VOCs), and total metals. Based on the analytical results from this composite water sample (included in Appendix B and summarized in Table 2-6 of the Stage 1 RD Report), the water did not contain any RCRA-hazardous constituents and was, therefore, managed as a non-hazardous material.

2.3.3 Off-Site Transportation and Disposal of UST and Associated Impacted Soil

As previously discussed in Sections 2.2 and 2.3.2, the excavated UST and associated impacted soil were characterized as a non-hazardous waste. As a result, BBLES prepared the appropriate profile application and submitted the application and the waste characterization soil sampling analytical results to Waste Management to obtain approval for disposing the non-hazardous materials at their Chaffee Landfill facility located in Chaffee, New York. Based on the review of the profile application and the associated analytical data, Waste Management approved the acceptance of the non-hazardous material from the AVX Property into the Chaffee Landfill facility for landfill disposal (Appendix E).

On November 19, 1999, the non-hazardous materials were directly loaded into transport vehicles, and each transport vehicle's soil container was covered with a canvas tarp upon the completion of loading. Before the non-hazardous soil was transported off site, a non-hazardous Waste Manifest was prepared by BBLES and was signed by BBLES, (on behalf of AVX), and by the truck driver. The transport vehicle was inspected by BBLES (i.e., checked to make sure the vehicle had a tarp fastened and had not accumulated soil on its wheels and undercarriage during loading) and was then allowed to exit the AVX Property to transport the soil to Chaffee Landfill to be weighed and landfilled. A total of approximately 105.5 tons of non-hazardous soils was disposed at the Chaffee Landfill facility, as summarized in Table 1. Copies of the non-hazardous Waste Manifests and weigh ticket for each load of non-hazardous soil transported off site are included in Appendix F.

2.3.4 Off-Site Transportation and Disposal of Wastewater

As previously discussed in Section 2.3.2, the containerized water in the three temporary on-site polyethylene tanks was characterized as a non-hazardous liquid. Therefore, BBLES prepared the appropriate profile application and submitted the application and the waste characterization water sampling analytical results to CECOS to obtain approval for disposing the non-hazardous water at their facility in Niagara Falls, New York. Based on the review of

the profile application and the associated analytical data, approval was given by CECOS for the acceptability of the non-hazardous water from the AVX Property into their Niagara Falls facility for disposal (Appendix G).

On November 30, 1999, the non-hazardous water was pumped from the polyethylene tanks into one tanker truck. Before the non-hazardous water was transported off-site, a Non-Hazardous Waste Manifest was prepared by BBLES and was signed by AVX and the truck driver. The tanker truck was inspected by BBLES (i.e., checked to make sure that no soil accumulated on its wheels and undercarriage during loading) and was then allowed to exit the AVX Property to transport the water to CECOS' Niagara Falls facility for treatment and disposal. A total of approximately 2,811 gallons of non-hazardous water was disposed at the CECOS facility. A copy of the Non-Hazardous Waste Manifest (includes the quantity of water removed) for the one load of non-hazardous water transported off site is included in Appendix H.

Section 3

3. Stage 1 Remedial Action Summary

3.1 General

This section provides a summary of the Stage 1 RA activities that were performed at the AVX Property to address soils impacted with the site-specific COCs. UST removal activities previously discussed in Section 2.3 are not included in this section. The Stage 1 RA activities were performed between July 5 and 25, 2000, and consisted of removing approximately 5,055 tons (or approximately 3,353 in-situ cubic yards, based on an estimated conversion factor of 1.5 tons/in-situ cubic yard) of VOC-impacted soil (Table 3), transporting the VOC-impacted soil to off-site disposal facilities, and restoring the excavated/disturbed areas. A summary of the Stage 1 RA activities is presented below.

3.2 Mobilization and Site Preparation

Mobilization activities for the Stage 1 RA activities were initiated at the AVX Property on July 5, 2000, with the delivery of construction materials/supplies, construction equipment, tools, and an on-site portable toilet facility. Prior to mobilizing to the AVX Property, several site preparation activities (i.e., movement of various items that were located within the limits of excavation, removal of an overhead electric line that was located over the limits of excavation, removal of an underground electric line at the southeast corner of the manufacturing building that was located within the limits of excavation, removal of a portion of chain link fence, and removal of an existing air handling system located at the southeast corner of the manufacturing building) were performed by AVX to facilitate the Stage 1 RA activities. Upon the completion of mobilization activities, the following additional site preparation activities were performed by BBLES between July 5 and 7, 2000:

- Local utility companies were notified and located any underground utility lines within or around the AVX Property;
- Temporary erosion and sediment controls (i.e., silt fence) were installed along the east and south sides of the limits of excavation;
- High-visibility plastic construction fence was installed around the site to minimize unauthorized or unknowing access to areas associated with the soil excavation activities;
- A temporary 20,000-gallon Baker tank was staged on the AVX Property (Figure 3) to containerize any water that may be generated during the Stage 1 RA activities;
- A temporary decontamination pad was constructed on the AVX Property (Figure 3);
- The initial limits of excavation were staked out by BBLES in accordance with the areas delineated in the Stage 1 RD Report. The volume of impacted soil to be excavated within the initial limits of excavation was estimated to be approximately 2,600 to 3,000 in-situ cubic yards (or approximately 3,900 to 4,500 tons, based on an estimated conversion factor of 1.5 tons/in-situ cubic yard), at an estimated average depth of 8 feet bgs;
- An attempt was made by BBLES to locate the existing wells that were believed to have been installed as part of a vacuum-enhanced recovery pilot study that was previously performed at the AVX Property. These wells could not be located, and it was determined that they would be addressed during the soil excavation activities;

- To assist AVX's final grading expectations for the south side of the property and to facilitate the Stage 1 RA activities, surface soil that was located in and adjacent to the area to be excavated was removed and stockpiled within the limits of excavation (discussed further in Section 3.3.1). A total of five soil stockpiles were generated, each pile containing approximately 100 cubic yards of soil, and each stockpile was sampled and analyzed for the site-specific COCs. As discussed in Section 4.3, the analytical results for these samples were below the soil cleanup objectives, indicating the soil could be reused as backfill; and

- A temporary soil staging area was constructed on the AVX Property (Figure 3) west of the excavation to stockpile soils excavated from within the limits of excavation (upper few feet of soil) that were considered potentially suitable for replacement in the excavation as backfill. The temporary soil staging area was constructed as follows:

    - The on-site soil from the initial five stockpiles (which were sampled/analyzed and determined to contain levels of COCs that were below the soil cleanup objectives) was spread within the temporary soil staging area to establish a uniform grade for the base of the staging area. The clean soil material was graded and compacted in lifts;
    - Once the clean soil material was graded/compacted along the bottom of the temporary soil staging area, a layer of polyethylene sheeting was placed over the graded soil; and
    - Silt fence and high-visibility plastic construction fence were installed along the east, south, and west sides of the temporary soil staging area.

3.3 Soil Excavation Summary

Soil removal activities were performed using a steel-tracked excavator (Kobelco) within the initial limits of excavation, as delineated on Figure 4 of the Technical Drawings, included in Appendix C1 of the Stage 1 RD Report, to a depth ranging between 8 to 12 feet bgs (depending on the original surface elevations) or approximately 2 feet below the water table. The initial limits of excavation for the VOC-impacted soil were also divided into two different waste classifications (based on the results from the PRT), which included non-hazardous soil along the eastern portion of the excavation and the upper 0 to 6 feet bgs along the western portion of the excavation, and RCRA-hazardous soil from 6 to 10 feet bgs along the western portion of the excavation. These initial limits of excavation were established based on the results of the PRT program (discussed in Section 2.2). The soil excavation activities were performed between July 5 and July 21, 2000, and started on the east side of the site and progressed to the west side.

The upper few feet of soil were removed and staged on-site in the temporary soil staging area for subsequent characterization sampling in order to determine if it was suitable for re-use as backfill material in the excavation. The upper few feet of soil were removed as the overall excavation progressed in the westerly direction, thus providing a clean working surface for the excavator and trucks to work from while excavating VOC-impacted soil and minimizing equipment decontamination requirements.

Once the upper few feet of potentially clean surface soil were removed, the VOC-impacted soil was excavated/segregated from east to west and loaded directly into transport vehicles for transport to the appropriate non-hazardous or RCRA-hazardous off-site waste disposal facility. The container of each transport vehicle was lined with either polyethylene sheeting or an equivalent bed liner. After each transport vehicle was loaded, a canvas tarpaulin was placed over the top of the soil container and secured, and the wheels and undercarriage of the transport vehicle were inspected for any accumulated soil. Prior to exiting the site, either a hazardous or non-hazardous waste manifest form was filled out and signed appropriately, and the proper labels and/or placards (if necessary) were affixed to the outside of each transport vehicle.

Upon the removal of impacted soil from within the initial limits of excavation, post-excavation soil samples (discussed further in Section 4.5) were collected along the bottom and sidewalls of the excavation to verify that the

site soils were remediated to meet the site-specific soil cleanup objectives. Areas where the post-excavation soil sample results exceeded the site-specific soil cleanup objectives (with the exception of a few sidewall and bottom samples, identified in Section 3.3.2), additional soil was removed outside the original limits of excavation, followed by the collection of additional verification soil samples. Excavation activities were completed once the appropriate number of post-excavation samples were collected and the analytical results for these samples were below the site-specific soil cleanup objectives, or further excavation could not be performed due to physical restrictions.

During the performance of all soil excavation activities, which included the upper few feet of soil that was considered potentially suitable for replacement in the excavation and the VOC-impacted soil, air monitoring was performed in accordance with the HASCP (Appendix D of the RD/RA Work Plan). All results of the air monitoring were below the established action levels and are presented in Appendix C. Also, during the performance of excavation activities, odor and dust control measures were available on site at all times. Dust control measures were implemented on site periodically; however, the odor control measures were not used since there were no significant odors present during the performance of excavation activities.

Specific details for the soil excavation activities performed at the AVX Property during the Stage 1 RA activities are presented below.

3.3.1 Excavation of Potentially Clean On-Site Soil

In accordance with the Stage 1 RD Report, it was determined that the upper few feet of soil within the proposed limits of excavation may not contain COCs that exceed the site-specific soil cleanup objectives. The segregation of these soils would reduce the volume of soils to be disposed off site and this material could be used to backfill the excavated area. As discussed previously in Section 3.2, the removal of surface soil was initiated during the site preparation activities, which included removing surface soil located both outside and within the proposed limits of excavation. This initial surface soil was removed during the site preparation activities for the following reasons:

- To meet AVX's final grading objectives for the southern portion of the AVX property, excess surface soil located outside the proposed limits of excavation was removed, as necessary, so that the final grading of this area at the completion of the Stage 1 RA can be performed without removing additional material, and provide a uniform sloped area that will promote positive surface drainage and match surrounding surface contours; and

- A portion of the surface soil located within the proposed limits of excavation was removed, as necessary, to ensure that surface water will drain effectively and be directed away from the excavation to prevent erosion and flow of surface water into the excavation during the soil removal activities.

This initial surface soil was removed using a dozer and was placed within the initial limits of excavation, generating a total of 5 stockpiles, each stockpile approximately 100 cubic yards in volume based on field measurements (see Table 2 for the approximate dimensions and volume of stockpiles 1 through 5). Representative samples were collected from each stockpile and submitted to the off-site laboratory for analysis of the COCs (discussed further in Section 4.3). The analytical results for these samples were below the soil cleanup objectives, and the soil from these five stockpiles was used to construct the on-site temporary soil staging area. Upon the completion of the removal of the underlying VOC-impacted soil, this stockpiled material was removed from the temporary soil stockpile area and reused as backfill for the excavated area (discussed further in Section 3.4).

Additional surface soil was removed from within the limits of excavation as the overall excavation progressed in the westerly direction, thus providing a clean working surface for the excavator and trucks to work from and minimizing equipment decontamination requirements. This surface soil was removed using the dedicated tracked excavator, loaded into a dump truck, and placed in the temporary soil staging area. A total of four additional stockpiles were generated, each stockpile no greater than 100 cubic yards in volume based on field measurements (see Table 2 for the approximate dimensions and volume of stockpiles 6 through 9). Representative samples were collected from

each stockpile and submitted to the off-site laboratory for analysis of the COCs (discussed further in Section 4.3). The analytical results for these samples were below the soil cleanup objectives; therefore, upon the completion of the removal of the VOC-impacted soil, this material was removed from the temporary soil stockpile area and also reused as backfill for the excavated area (discussed further in Section 3.4).

All of the surface soil that was excavated, stockpiled, and sampled contained COC concentrations that were below the site-specific cleanup objectives; therefore, the surface soil was reused to backfill the excavated area (discussed further in Section 3.4). Based on field measurements, a total of approximately 788 cubic yards (a total of nine stockpiles of soil) of surface soil was excavated and reused as backfill, as summarized in Table 2.

3.3.2 Excavation of VOC-Impacted Soil

Excavation of VOC-impacted soil was performed within the initial limits of excavation, progressing in an east to west direction. Based on the original surface elevations, the depth of excavation ranged between approximately 8 to 12 feet bgs, moving in a south to north direction. The depth of excavation progressed approximately 2 feet below the ground-water table, which was at an approximate elevation of 1,426, based on National Geodetic Vertical Datum (NGVD) of 1929. The elevation of the ground-water table was verified during the excavation activities, via ground-water measurements using various existing on-site adjacent monitoring wells, and was determined to be at an approximate elevation of 1,428, based on NGVD of 1929.

The excavated soil consisted primarily of a silty clay material that was easily removed with the tracked excavator. The excavated soil appeared to be a low permeable material; therefore, during the performance of excavation activities, the bottom of the excavation remained fairly dry due to the low ground-water infiltration rate. Based on this soil condition, the excavated soils did not require solidification additives and were directly loaded into transport vehicles for off-site disposal. During the performance of excavation activities, some water was accumulated along the bottom of the excavation due to various rain events, but this accumulated water did not impact excavation or backfilling activities. As a result, no water was pumped from the excavation, and the on-site frac tank was not used during the Stage 1 RA activities.

The existing wells, which were believed to have been installed as part of a vacuum-enhanced recovery pilot study that was previously performed at the AVX Property, were identified during the performance of excavation activities. A total of six wells were located, two 3-inch-diameter polyvinyl chlorinated (PVC) wells, and four 1½-inch-diameter PVC wells. During excavation activities, these wells were protected, and at the completion of excavation activities, the PVC pipes were pulled out from the bottom of the excavation and the remaining borehole (ranging between 6 to 8 feet below the bottom of the excavation) was filled in with a grout mix.

Once the VOC-impacted soil within the initial limits of excavation was removed, post-excavation soil samples were collected from the sidewalls and bottom of the excavation and analyzed for the COCs (discussed further in Section 4.5) to determine if the areas were effectively remediated. Based on the analytical results of these initial post-excavation samples, it was determined that some additional excavation and sampling would be required in various areas, since the soil in these areas contained COCs that were above the site-specific cleanup objectives. This procedure continued until the cleanup objective was achieved for each COC, or further excavation could not be performed.

Areas that required additional excavation included the northeast, east, and southeast sides of the excavation, as well as two locations along the bottom of the excavation (see Figure 3 for the location of the additional excavated areas). In order to access the east side of the excavation with the tracked excavator and transport vehicles and perform additional excavation activities in this area, a new stone temporary access road was constructed along the south and east sides of the excavation (Figure 3). This required removing trees/shrubs/debris (these materials were piled along the south side of the new temporary access road) along the alignment of the new temporary access road, and constructing the access road using a layer of woven geotextile fabric and approximately 8-10 inches of imported,

clean, bank run gravel. Upon the completion of all excavation activities, the temporary access road was removed, and the clean bank run gravel was used to backfill the excavation (discussed further in Section 3.4).

During the performance of excavation activities, physical restrictions located adjacent to the excavation area limited the extent of excavation. These physical restrictions were previously identified in the Stage 1 RD Report and included the following:

- The south side of the existing manufacturing building and concrete transformer pad. The existing manufacturing building and concrete transformer pad served as the northern boundary for the excavation, and soil removal activities adjacent to these existing structures were performed in a manner that protected their structural integrity. Excavation activities adjacent to the building footer consisted of removing soil down to the top of the footer. Excavation activities below the base of the building footer extended approximately two feet horizontally away from the footer and then downward at a side slope of approximately 2-feet horizontal on 1-foot vertical (2H:1V). Excavation activities adjacent to the transformer pad extended away from the top of the pad at a side slope of approximately 2H:1V. As discussed in Section 4.5, post-excavation sidewall soil samples were collected along the excavated sidewall adjacent to the existing manufacturing building and concrete transformer pad, and analyzed for the site-specific COCs; however, if the COC concentrations exceeded the site-specific soil cleanup objectives, additional excavation adjacent to these structures was not performed to avoid compromising the structural integrity of the building; and

- As discussed previously, the depth of the excavation proceeded approximately 2 feet below the ground-water table. As discussed in the Stage 1 RD Report, saturated soils below the base of the excavation are considered indicative of a ground-water condition, which will ultimately be addressed under the Stage 2 remedy for the AVX Property. Therefore, soil removal activities along the bottom of the excavation were terminated at approximately 2 feet below the ground-water table, with the exception of two isolated areas. These two isolated areas are identified on Figure 3, and were excavated down an additional 2 feet (approximate elevation of 1,424, based on NGVD of 1929) to remove soils that contained significant concentrations of the COCs.

In addition to the physical restrictions identified above, an additional restriction was encountered at the northeast corner of the excavation. As shown on Figure 3, additional soil excavation in this area was required since the post-excavation sidewall samples (AVX-PE-SW-1 and -2) had COC concentrations that exceeded the soil cleanup objectives. Subsequent to this additional excavation, additional post-excavation sidewall samples (AVX-PE-SW-14, -15, -16, and -17) were collected and analyzed for the COCs. Two of the post-excavation sidewall samples (AVX-PE-SW-14 and -15) had COC concentrations that exceeded the soil cleanup objectives. Post-excavation sidewall sample AVX-PE-SW-14 was located adjacent to the building footer, therefore, additional excavation in this area was not performed due to the proximity of the building. However, post-excavation sidewall sample AVX-PE-SW-15 was located away from the building footer, and it was determined that additional excavation in the northerly direction would not be performed since it was located directly adjacent to the area that was excavated previously during the UST removal activities (Section 2.3). As a result, the area north of the post-excavation sidewall soil sample AVX-PE-SW-15 will be addressed in the same manner as the soils (containing residual levels of COCs) that remained in place after the UST removal activities, which may include being addressed under a supplemental remedy or under the Stage 2 ground-water remedy for the AVX Property.

A total of approximately 5,055 tons (or approximately 3,353 in-situ cubic yards, based on an estimated conversion factor of 1.5 tons/in-situ cubic yard) of VOC-impacted soil was excavated from the AVX Property (Table 3). This included a total of approximately 4,309 tons of non-hazardous soil (Table 3A) and 746 tons of RCRA-hazardous soil (Table 3B). The final limits of excavation for the AVX Property and the location of all post-excavation soil samples that were collected are shown on Figure 3.

On July 20, 2000, a Pre-Final Site Inspection was performed at the AVX Property by representatives from USEPA, AVX, and BBLES. This inspection included observing the excavated areas, reviewing the analytical results of the post-excavation samples collected within the excavated area, and determining the completeness of the Stage 1 RA

and consistency with the Stage 1 RD Report, Consent Decree, SOW, and OU2 ROD. Based on this inspection, the USEPA agreed that maximum vertical and horizontal limits of excavation had been achieved for this Stage 1 RA, and verbal approval was granted by USEPA to commence placement of backfill materials in the excavated area.

3.4 Site Restoration Summary

Upon completion of excavation, collection/analysis of all post-excavation soil samples, performance of the Pre-Final Site Inspection, and USEPA's verbal approval, the excavated area was backfilled and restored. Site restoration activities were performed at the AVX Property between July 20 and 25, 2000. Materials that were used to backfill the excavated area consisted of the following:

- Imported self compacting stone;
- On-site backfill; and
- Imported bank run gravel.

The imported self-compacting stone and imported bank run gravel were obtained from the same borrow source located in Allegheny, New York (Work & Silvis Co., Inc.). Samples of this material were collected by BBLES prior to commencing the Stage 1 RA and were submitted to the off-site laboratory for chemical analyses (discussed further in Section 4.2). Based on the analytical results of imported backfill samples, this material did not contain COCs that exceeded the site-specific cleanup objectives; therefore, was acceptable for use as a backfill material. In addition, the nine stockpiles of surface soil (discussed in Section 3.3.1) that was excavated from the AVX property was also sampled by BBLES and analyzed by the off-site laboratory for the site-specific COCs (discussed further in Section 4.3). Based on the analytical results of the on-site soil samples, this material did not contain COCs that exceeded the site-specific cleanup objectives; therefore, was acceptable to reuse as a backfill material.

In general, the placement sequence of the imported and on-site backfill materials consisted of the following:

- Imported self-compacting stone was placed along the bottom of the excavation at various locations that contained a significant amount of accumulated rain water. This material was delivered to the site via dump trucks/trailers and placed directly in the excavation;
- The on-site clean backfill was then placed in the excavation using a dozer to push the material from the on-site temporary soil staging area into the excavated area; and
- Imported bank run gravel was then used to backfill the remainder of the excavation. This material was also delivered to the AVX Property via dump trucks/trailers and placed directly in the excavation. In addition, the bank run gravel that was used to construct the temporary access road was also placed in the excavated area using a dozer to push the material into the excavation.

Once the backfill materials were placed in the excavation, a dozer was used to spread/grade the material in approximate 2-foot lifts and it was compacted with either the dozer tracks and/or a roller. The top two feet of backfill were placed in approximate 1-foot lifts and compacted after each lift with a roller. The final surface of the excavated area, as well as all other areas that were impacted during the Stage 1 RA (i.e., temporary access road, temporary soil storage area, and other areas outside the excavated area) were fine graded to match surrounding surface contours, minimize potential erosion concerns, and meet the requirements of AVX plant personnel.

A total of approximately 343.67 tons of imported self compacting stone and 4,056.11 tons of imported bank run gravel was used to backfill the excavation, as summarized in Table 4. In addition, a total of approximately 788 cubic yards of on-site surface soil was reused to backfill the excavation, as summarized in Table 2. No surface restoration

materials (i.e., concrete, asphalt, grass, landscape plantings, fencing, etc.) were installed during the Stage 1 RA, since this work will be performed by AVX at a future date. The final contours of the AVX property after the completion of restoration activities are shown on Figure 4.

3.5 Demobilization

At the completion of site restoration activities, contractor labor, equipment, excess materials, silt fence, temporary orange construction fencing, frac tank, and portable restroom facility were removed from the AVX Property. The demobilization activities were completed by July 25, 2000.

Section 4

4. Stage 1 Remedial Action Sampling and Analysis Summary

4.1 General

This section presents a summary of the sampling and analysis activities performed during the Stage 1 RA to verify that the imported and on-site backfill materials were below the site-specific soil cleanup objectives, characterize soil for disposal purposes, and verify that soils within the AVX property containing COCs exceeding the site-specific cleanup objectives have been removed (with the exception of a few areas that were not excavated due to the presence of various physical barriers, as discussed in Section 3.3.2). Details regarding the sampling and analysis activities performed during the Stage 1 RA are presented below.

4.2 Imported Backfill Sampling

On June 6, 2000, three discrete samples from the backfill source area were collected by BBLES and submitted to Columbia to form one composite sample for Contract Laboratory Procedure (CLP) analysis of VOCs, SVOCs, metals, PCBs, and pesticides. Two different types of backfill material were used from this source (self-compacting stone and bank run gravel); therefore, only one representative source soil sample was required. The backfill sample was collected/analyzed in accordance with the SAMP and QAPP, and was analyzed using a standard turnaround time.

Based on the analytical results of the imported backfill sample, the backfill source contained COCs that were well below the site-specific soil cleanup objectives and was acceptable for use at the AVX Property. The analytical results of the imported backfill sample are summarized in Table 5, and the final laboratory report for the backfill sample is included in Appendix I.

4.3 On-Site Backfill Sampling

As previously discussed in Section 3.3.1, the upper few feet of surface soil, located within and outside the limits of excavation, were removed, stockpiled, and sampled to determine if the soil could be reused as backfill for the excavated area. During the performance of the Stage 1 RA activities, a total of nine stockpiles of surface soil (Table 2), each stockpile containing no more than 100 cubic yards of soil, was generated and sampled by BBLES. Each stockpile was divided into five approximately equal areas, and a representative discrete soil sample was collected from a random location within each subdivided area. Five discrete soil samples from each stockpile area were then submitted to Columbia to form one composite sample from each stockpile area for CLP analysis for the site-specific COCs. The on-site backfill samples were collected/analyzed in accordance with the SAMP and QAPP, and were generally analyzed using a 24-hour turnaround time.

Based on the analytical results of the on-site backfill samples, the soil in each of the nine stockpile areas contained COCs that were below the site-specific soil cleanup objectives and was acceptable for reuse as backfill for the excavated area at the AVX Property. The analytical results of the on-site backfill samples are summarized in Table 6, and the final laboratory reports for the on-site backfill samples are included in Appendix J.

4.4 Additional Waste Characterization Soil Sampling

As previously discussed in Section 2.2, sufficient waste characterization sampling was performed within the initial limits of excavation during the PRT sampling events. However, during the Stage 1 RA activities, additional excavation was required outside the initial limits of excavation based on the analytical results of post-excavation soil samples. The additional waste characterization soil samples (a total of three discrete samples) collected during the Stage 1 RA included the following:

- A waste characterization soil sample was collected in each of the two areas that required additional soil to be excavated from the bottom of the excavation (these two areas are shown on Figure 3 and are identified as "Additional Excavation Down to Elevation 1,424"). These two waste characterization soil samples were collected/analyzed, since the waste characterization soil samples collected/analyzed during the PRT sampling events were not performed at this depth interval; and

- A waste characterization soil sample was collected from the southwest sidewall of the excavated area. This waste characterization soil sample was collected after the area was excavated and prior to receiving the analytical results for the post-excavation sidewall soil samples (AVX-PE-SW-26, -30, and -31, as shown on Figure 3) collected along the west side of the excavated area. This waste characterization soil sample was collected/analyzed in anticipation that additional excavation would be required in the westerly direction. As it turned out, the analytical results for the post-excavation sidewall soil samples (AVX-PE-SW-26, -30, and -31, as shown on Figure 3) collected in this area had COC concentrations that were below the soil cleanup objectives; therefore, additional excavation in the westerly direction was not required.

A discrete waste characterization soil sample was collected at each of the three locations and submitted to Columbia for analysis of TCLP VOCs only. The waste characterization soil samples were collected/analyzed in accordance with the SAMP and QAPP, and were analyzed using a 24-hour turnaround time.

Based on the analytical results of the waste characterization soil samples, the soil in each of the three areas did not contain any RCRA-hazardous characteristics. Therefore, this soil could be managed as a non-hazardous waste. The analytical results of the waste characterization soil samples are summarized in Table 7, and the final laboratory reports for the waste characterization soil samples are included in Appendix K.

4.5 Post-Excavation Soil Sampling

As excavation activities progressed during the Stage 1 RA, post-excavation soil samples were collected, concurrent with soil removal activities, from the sidewalls and bottom of the excavation to evaluate the effectiveness of the soil removal activities performed in the source area at the AVX Property. The post-excavation soil samples were collected from the excavation sidewalls, from approximately the bottom one-third of the excavated sidewall and above the associated ground-water table, as grab samples at a minimum frequency of one sample per 20 linear feet of sidewall; and from the bottom of the excavation as grab samples at a minimum frequency of one sample per 400 square feet of excavation bottom. The post-excavation soil samples were collected/analyzed in accordance with the SAMP and QAPP, and were generally analyzed using a 24-hour turnaround time. All post-excavation soil samples were collected by BBLES and submitted to Columbia for CLP analysis for the site-specific COCs. Post-excavation soil samples were collected in all areas of the excavated area, whether additional excavation could be performed or not.

For those locations where post-excavation soil sample analytical data was required to determine if additional excavation was necessary (i.e., areas that did not have physical restrictions, which include the east, south, and west sides of the excavated area), the samples were analyzed for the site-specific COCs using CLP methods. However, the initial analytical data received from the off-site laboratory included the raw analytical data only, and not the entire CLP data package. If the raw CLP analytical data indicated that the soil cleanup objectives were achieved, then additional excavation was not required and the off-site laboratory for these unrestricted areas provided the full CLP deliverable data package for the associated samples. If the raw CLP analytical data indicated that one or more COCs

exceeded the site-specific soil cleanup objectives, then additional excavation was performed, and the off-site laboratory did not provide the full CLP package for the associated samples. This additional excavation/post-excavation soil sampling procedure continued until the post-excavation soil sampling analytical results were all below the site-specific soil cleanup objectives.

For those locations where additional excavation could not be performed due to physical restrictions (i.e., the north side of the excavation due to the existing manufacturing building and concrete transformer pad, and 2 feet below the ground-water table), the samples were analyzed for the site-specific COCs using CLP methods, and the full CLP deliverable data package for the associated samples was provided by the off-site laboratory.

A total of 32 post-excavation sidewall samples and 29 post-excavation bottom samples were collected from the excavated area. Of these 61 post-excavation soil samples, a total of 50 post-excavation soil samples have the full CLP data package (the remaining 11 post-excavation soil samples do not have the full CLP data package since these areas were re-excavated). As a result, the off-site laboratory full CLP data package is considered Definitive Data, as defined by the USEPA. The location of each post-excavation soil sample collected during the Stage 1 RA is shown on Figure 3. The analytical results of the post-excavation soil samples are summarized in Table 8, and the final validated laboratory reports for the post-excavation soil samples are included in Appendix L.

4.6 Quality Assurance/Quality Control

The quality assurance/quality control (QA/QC) measures implemented during the performance of soil sampling activities for the Stage 1 RA included collecting blind duplicate samples, trip blank samples, and matrix spike/matrix spike duplicate (MS/MSD) samples. These QA/QC measures were implemented in accordance with the SAMP and QAPP to ensure that the integrity of the soil samples was not altered during collection, handling, and transportation, and to evaluate the accuracy and reproducibility of the laboratory analyses.

During the performance of soil sampling activities, sterile plastic disposable scoops were used to collect the soil samples. As a result of using disposable sampling equipment, decontamination of sampling equipment was not required; therefore, rinse blank samples were not required. All samples were collected with a new sterile plastic scoop, and each scoop was discarded after collecting the sample.

To verify the homogeneity of the sample matrix, consistency of sample preparation, and precision of the off-site laboratory analysis, field duplicate soil samples were collected at a frequency of one for every 20 soil samples collected. The field duplicate samples were blind-numbered, submitted to Columbia as field samples, and analyzed by Columbia for the site-specific COCs. The analytical results for the field duplicate samples are included in Table 8, and the final laboratory reports for these samples are included in Appendix L.

Trip blank samples were prepared and analyzed for VOCs to assess whether cross-contamination has occurred during sample storage and transport to the off-site laboratory. Trip blanks were prepared at a frequency of once per day, per cooler, and were analyzed for aqueous VOCs. The trip blank consisted of a container filled with analyte-free water preserved with an hydrogen chloride (HCl) solution (each container was prepared/supplied by Columbia) and remained unopened with the field samples throughout the sampling event. These samples were submitted with the field samples and analyzed by Columbia for VOCs. The analytical results for the trip blank samples are summarized in Table 8, and the final laboratory reports for these samples are included in Appendix L.

MS/MSD samples were collected at a frequency of one for every 20 soil samples collected. The MS/MSD samples were submitted to Columbia and analyzed for the site-specific COCs. The MS results were examined in conjunction with blank spike and surrogate spike results to assess the accuracy of the analytical method. When MS recoveries were outside QA acceptance limits, associated blank spike and surrogate recoveries were evaluated to verify the reason, often a matrix interference, for the variance(s) and to determine the effect on the reported sample results.

The results of the MS/MSD samples are reported as qualifiers in the final laboratory reports, which are included in Appendix L.

4.7 Data Validation

Each individual sample data group (SDG) associated with the final limits of the excavation was validated by an independent BBLES data validator who is not directly associated with the Stage 1 RA. The data validation consists of a review of the quality control (QC) data and the raw data from the laboratory to verify that the laboratory was operating within required limits, and that results are correctly transcribed from the instruments, and to identify any questionable or invalid laboratory measurements.

Each validated SDG package is provided in Appendix L, which presents a summary of the data assessment procedures including holding times, blank contamination, instrument tuning, calibration, surrogates, internal standard, compound identification matrix spike and matrix spike duplicate, laboratory control samples, and field duplicates. Each data validation package also contains a system performance and overall data assessment. During the review process, laboratory data are verified against the supporting documentation. Based on this review, qualifier codes have been added, deleted, or modified on the laboratory data sheets. The validator's assessment is shown in Appendix L and reflected in the data summary tables for post excavation soil sample results. (Table 8).

Section 5

5. Off-Site Transportation and Disposal Summary

5.1 General

This section summarizes the off-site transportation and disposal activities performed for the VOC-impacted soils generated at the AVX Property during the Stage 1 RA. It does not include off-site transportation and disposal activities performed during the UST removal, since this was discussed separately in Section 2.3. All impacted soils were properly managed during the Stage 1 RA to minimize environmental impacts and comply with applicable federal, state, and/or local laws and regulations. In addition, the impacted soils were characterized (discussed in Sections 2.2 and 4.4) and profiled for proper disposition. The waste streams that were developed for the impacted soils removed from the AVX Property during the Stage 1 RA included the following:

- Non-hazardous soil; and
- RCRA-hazardous soil.

The impacted soils generated at the AVX Property and disposed during the Stage 1 RA are summarized in Table 3 and discussed in more detail below.

5.2 Non-Hazardous Soils

Based on the analytical results of the waste characterization soil samples (discussed in Section 2.2 and 4.4) collected within the areas scheduled for soil removal, two areas were determined to contain non-hazardous soil. These areas included the eastern portion of the excavation and the upper 0 to 6 feet bgs along the western portion of the excavation.

As discussed previously in Section 2.3.3, prior to commencing the Stage 1 RA, BBLES prepared the appropriate waste profile application and submitted the application and the waste characterization soil sampling analytical results to Waste Management to obtain approval for disposing the non-hazardous materials at their Chaffee Landfill facility located in Chaffee, New York. Based on the review of the profile application and the associated analytical data, approval was given by Waste Management for the acceptability of the non-hazardous material from the AVX Property to Waste Management's Chaffee Landfill facility for landfill disposal (Appendix E).

Between July 10 and July 21, 2000, the non-hazardous materials were directly loaded into transport vehicles, and each transport vehicle's soil container was covered with a canvas tarp upon the completion of loading. Before the non-hazardous soil was transported off site, a non-hazardous Waste Manifest was prepared by BBLES and was signed by BBLES (on behalf of AVX) and by the truck driver. The transport vehicle was inspected by BBLES (i.e., checked to make sure the vehicle had a tarp fastened and has accumulated no soil on its wheels and undercarriage during loading) and was then allowed to exit the AVX Property to transport the soil to Chaffee Landfill where it was weighed and landfilled. A total of approximately 4,309 tons of non-hazardous soils was disposed at the Chaffee Landfill facility, as summarized in Table 3A. A copy of the non-hazardous Waste Manifests and weigh ticket for each load of non-hazardous soil transported off site during the Stage 1 RA are included in Appendix M.

5.3 RCRA-Hazardous Soils

Based on the analytical results of the waste characterization soil samples (discussed in Section 2.2 and 4.4) collected within the areas scheduled for soil removal, one area was determined to contain RCRA-hazardous soil, which included an area approximately 6 to 10 feet bgs along the western portion of the excavation.

Prior to commencing the Stage 1 RA, BBLES prepared the appropriate waste profile application and submitted the application and the waste characterization soil sampling analytical results to EQ to obtain approval for disposing the RCRA-hazardous materials at their Michigan Disposal Waste Treatment Plant facility, located in Belleville, Michigan. Based on the review of the profile application and the associated analytical data, approval was given by EQ for the acceptability of the RCRA-hazardous material from the AVX Property to their Michigan Disposal Waste Treatment Plant facility for thermal oxidation treatment, followed by landfill disposal (Appendix N).

The RCRA-hazardous soil containing VOCs was directly loaded into transport vehicles, and the transport vehicles' soil container was covered with a canvas tarp upon the completion of loading. Before the RCRA-hazardous soil was transported off-site, a Uniform Hazardous Waste Manifest for the State of Michigan was prepared by BBLES and was signed by BBLES (on behalf of AVX) and by the truck driver. After the transport vehicle was inspected by BBLES (i.e., checked to make sure the vehicle had a tarp fastened, the proper placards in place, and that no soil had accumulated on its wheels and undercarriage during loading) the vehicle was allowed to exit the AVX Property. The loaded soil was then transported to EQ's Michigan Disposal Waste Treatment Plant facility, where it was weighed and disposed by thermal oxidation treatment and landfilling. A total of approximately 746 tons of RCRA-hazardous soil containing VOCs was treated/disposed at Michigan Disposal Waste Treatment Plant, as summarized on Table 3B.

Once each load of RCRA-hazardous soil containing VOCs was treated/disposed at the Michigan Disposal Waste Treatment Plant facility, a Certificate of Disposal was prepared by EQ to certify that the RCRA-hazardous waste specified on each manifest was properly treated/disposed in accordance with all local, state, and federal regulations. Copies of the manifest, weigh ticket, and Certificate of Disposal for each load of RCRA-hazardous soil containing VOCs transported off site are included in Appendix O.

Section 6

6. Completion Requirements of the Stage 1 Remedial Action

6.1 General

In accordance with the SOW, Consent Decree, and the Stage 1 RD Report, this section presents various requirements as a result of completing the Stage 1 RA. In general, these requirements include the following:

- Achievement of Performance Standards;
- Satisfaction of Construction Quality Assurance Requirements; and
- Future Activities.

A discussion of each requirement is presented below.

6.2 Achievement of Performance Standards

The Performance Standards for the Stage I Remedial Action, as specified in the Consent Decree, refer to the cleanup standards for soils set forth in Table 1 of the OU2 ROD and in Section C.7 of the Statement of Work (SOW). The performance standards in the SOW state that all Impacted Soils at the Affected Property shall be excavated in compliance with the specific cleanup criteria established in Table 1 of the OU2 ROD. The soil cleanup values are presented earlier in Section 1.4.

The standard of all Impacted Soil was established based on the earlier characterization of the extent of contamination at the AVX property. This earlier work that was carried through the Feasibility Study and the OU2 ROD characterized the AVX soil source as a 40-foot by 40-foot area to a depth of 6 feet. Subsequent pre-remedial testing and the discovery of UST resulted in a dramatic increase in the amount of soil to be excavated. Impacted soil was also determined to be adjacent to and under the building. Finally, contamination was determined to be present in the soil that extended into the saturated zone, indicating a ground-water issue.

In terms of the Stage I Remedial Action, all Impacted Soil that could be excavated was removed. The Impacted Soils were excavated in accordance with the USEPA-approved *Stage I Remedial Design Report*, which limited the extent of excavation near the building, as well as the depth of the excavation into the saturated zone. Impacted Soils located adjacent to the building and in the area of the former UST could not be accessed for excavation and are, therefore, left in place. Options for additional remedial action are currently under review for the UST and building areas, with the analysis presented in the *Supplemental Remedial Design Work Plan* submitted to USEPA on November 8, 2000.

6.3 Satisfaction of Construction Quality Assurance Requirements

The CQA requirements identified in Section 6.0 of the Stage 1 RD Report were satisfied during the implementation of the Stage 1 RA activities. These CQA requirements were implemented by BBLES to ensure proper construction, evaluation, and documentation during the performance of the Stage 1 RA at the AVX Property. A description of each CQA requirement identified in Section 6.0 of the Stage 1 RD Report and how each CQA requirement was satisfied during the Stage 1 RA are summarized in the table presented below.

CQA Requirement	Description of How the CQA Requirement was Satisfied
Pre-Construction Meeting	A Pre-Construction Meeting was held at the AVX Property on May 5, 2000.
Site Preparation	During the site preparation activities, BBLES verified that the required utilities (overhead and underground) were removed by AVX, reviewed the Stage 1 RA activities with AVX on-site personnel, verified that silt fencing and the decontamination pad were installed, and staked out the initial limits of excavation. These activities, as well as other site preparation activities, were documented by BBLES (Appendix A).
Soil Excavation	During soil removal activities, BBLES observed/documented that soil was removed within the established limits of excavation, verified that the excavated soil was segregated between non-hazardous and RCRA-hazardous soil, and performed/documented the appropriate air-monitoring program (Appendix C).
Backfilling	All on-site and imported backfill materials were sampled by BBLES and analyzed by Columbia for the site-specific COCs. All backfill materials used contained COCs that were below the site-specific cleanup objectives. The backfill materials were placed in lifts and compacted appropriately.
Daily Documentation	Daily Project Reports (Appendix A) were prepared by BBLES to document the Stage 1 RA activities.
Photographs	Photographs were taken by BBLES prior to, during, and after the Stage 1 RA activities. A photodocumentation log of the Stage 1 RA activities is included in Appendix B
Pre-Final Site Inspection	A Pre-Final Site Inspection was performed by USEPA, AVX, and BBLES on June 20, 2000.
Pre-Certification Final Site Inspection	A Pre-Certification Final Site Inspection will be performed at the AVX Property within 90 days after the Remedial Action is deemed complete. The Stage 1 RA was completed on July 25, 2000; however, the USEPA has requested that the USTarea and other adjacent areas beneath the building be evaluated for possible additional Stage 1 remedial actions.
Remedial Action Report	The draft Stage 1 Remedial Action Report has been completed.

6.4 Future Activities

AVX has recently responded to the USEPA's concern over the residual contamination in place near the former UST and adjacent to the building with the submittal of the *Supplemental Remedial Design Work Plan. The Supplemental Remedial Design Work Plan* presents a review of possible soil remedial technologies for the remaining contamination. The report concludes that, because of the dense nature of the soil and the general pervasiveness of contamination at the UST, adjacent to the building, and in the saturated zone beneath the bottom of the excavation, there is no feasible technology that will effectively remove all Impacted Soil. Alternate ground-water control systems are discussed and recommended to achieve the ultimate goal of eliminating contamination from migrating to the municipal well field. The report is currently under review with USEPA. If approved, AVX will implement a program to evaluate the effectiveness of the AVX production well in controlling off-site migration of contaminated ground water. Included in this program is the installation of additional monitoring points, and the performance of a pump test using the AVX production well. The objective of this program is to determine if contamination in the

saturated till or underlying lower aquifer can be captured by the production well under standard operation or with modifications.

AVX is currently performing the Post-Remediation Ground-Water Monitoring Program (PRGMP) on a quarterly basis as specified in the *RD/RA Work Plan* (BBLES, March 1999). A total of 13 monitoring wells will continue to be sampled for VOCs, with the results reported to the USEPA.

Section 7

7. Stage 1 Remedial Action Cost Summary

A summary of the costs associated with the Stage 1 RA activities implemented at the AVX Property to address source removal of soils impacted with the site-specific COCs is presented in Table 9. These costs only include those associated with the Stage 1 RA and do not include costs associated with the UST/contaminated soil removal completed in July 1999.

Tables

Table 1
Summary of Non-Hazardous Material Excavated
During the UST Removal Activities
AVX Corporation
Olean, New York

Date	Load Ticket Number	Approximate Weight of Excavated Soil (Tons)
11/19/99	309992	18.27
11/19/99	309993	20.10
11/19/99	309994	17.82
11/19/99	310020	20.62
11/19/99	310021	16.28
11/19/99	310022	12.41
Total Weight of Excavated Non-Hazardous Soil		**105.5**

Table 2
Summary of Excavated Clean On-Site Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Stockpile No.	Approximate Dimensions of Stockpile	Approximate Volume of Stockpile (cubicyards)
1	24' x 20' x 5.5'	98
2	20' x 30' x 4.5'	100
3	17' x 44' x 3.5'	97
4	20' x 30' x 4.5'	100
5	22' x 24' x 5'	98
6	20' x 12' x 6.5'	58
7	39.5' x 13.5' x 5'	99
8	41' x 12' x 5.5'	100
9	16' x 16' x 4'	38
Total Volume of Excavated Clean On-Site Soil		**788**

Table 3
Summary of Excavated Impacted Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
- Olean, New York

Excavated Areas	Approximate Weight of Excavated Soil (Tons) [1,2]	Approximate Volume of Excavated Soil (in-situ cubic yards) [3]
Non-Hazardous Soil	4,308.48	2,858.22
RCRA-Hazardous Soil	746.26	495.06
Total	**5,054.74**	**3,353.28**

Notes:

1 Quantities based on actual weigh tickets obtained from the off-site disposal facilities.
2 See Tables 3A and 3B for further details.
3 The approximate soil volume was calculated based on an estimated conversion factor of 1.5 tons/in-situ cubic yard.

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/10/00	1	1663	25.87
07/10/00	2	1644	24.13
07/10/00	3	1480	22.36
07/10/00	4	1660	24.36
07/10/00	5	1314	23.70
07/10/00	6	1313	21.10
07/10/00	7	1284	23.20
07/10/00	8	1245	33.90
07/10/00	9	1656	34.19
07/10/00	10	1691	29.23
07/10/00	11	1714	24.40
07/10/00	12	1703	25.30
07/10/00	13	1386	22.99
07/10/00	14	1693	23.21
07/10/00	15	1698	19.15
07/10/00	16	1697	23.71
07/10/00	17	3737	24.62
07/10/00	18	3740	33.39
07/10/00	19	3739	31.44
07/10/00	20	1715	25.70
07/10/00	21	1704	24.57
07/10/00	22	1690	25.22
07/10/00	23	1700	27.01
07/10/00	24	1694	27.86
07/10/00	25	3731	22.00

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/10/00	26	3732	23.87
07/10/00	27	3738	24.58
07/10/00	28	1246	32.89
07/10/00	29	3743	28.07
07/11/00	30	3736	22.92
07/11/00	31	1712	22.48
07/11/00	32	1705	26.21
07/11/00	33	3714	30.95
07/11/00	34	1668	23.64
07/11/00	35	1732	23.67
07/11/00	36	1741	24.18
07/11/00	37	1699	22.05
07/11/00	38	1737	30.22
07/11/00	39	3735	24.02
07/11/00	40	1713	23.10
07/11/00	41	1706	21.17
07/11/00	42	3715	30.40
07/11/00	43	1669	25.03
07/11/00	44	1664	25.76
07/11/00	45	1733	25.65
07/11/00	46	1665	24.96
07/11/00	47	1735	35.26
07/11/00	48	1695	25.47
07/11/00	49	1716	23.20
07/11/00	50	1707	26.93

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/11/00	51	3716	33.45
07/11/00	52	1670	21.34
07/11/00	53	1738	22.38
07/11/00	54	1734	25.12
07/11/00	55	3730	20.92
07/11/00	56	1736	36.07
07/11/00	57	1696	26.00
07/11/00	58	1717	23.98
07/11/00	59	1709	23.98
07/11/00	60	3717	30.89
07/11/00	61	1671	24.70
07/11/00	62	1739	23.81
07/11/00	63	1740	20.23
07/11/00	64	1666	21.11
07/12/00	65	1718	21.94
07/12/00	66	1711	23.93
07/12/00	67	3734	23.21
07/12/00	68	1343	31.95
07/12/00	69	3718	31.41
07/12/00	70	1757	29.83
07/12/00	71	1759	24.57
07/12/00	72	1771	23.19
07/12/00	73	1672	24.40
07/12/00	74	1689	30.31
07/12/00	75	1767	21.69

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/12/00	76	1719	27.59
07/12/00	77	1710	27.18
07/12/00	78	1751	21.69
07/12/00	79	1753	35.98
07/12/00	80	1758	20.24
07/12/00	81	1760	23.95
07/12/00	82	1702	23.62
07/12/00	83	1791	20.68
07/12/00	84	1762	30.23
07/12/00	85	1673	22.09
07/12/00	86	1688	33.15
07/12/00	87	1768	25.57
07/12/00	88	1708	23.99
07/12/00	89	1720	21.72
07/12/00	90	1754	32.95
07/12/00	91	1344	25.87
07/12/00	92	1755	23.02
07/12/00	93	1761	24.49
07/12/00	94	1692	26.34
07/12/00	95	1792	21.87
07/12/00	96	3720	30.93
07/12/00	97	1730	21.03
07/12/00	98	1395	30.61
07/12/00	99	1769	24.07
07/12/00	100	1721	23.99

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/12/00	101	1772	26.74
07/12/00	102	1742	29.52
07/12/00	103	3733	22.88
07/12/00	104	1756	23.26
07/12/00	105	1701	22.94
07/12/00	106	1634	24.30
07/12/00	107	1793	22.30
07/12/00	108	3719	31.70
07/12/00	109	1731	23.02
07/13/00	110	1722	24.61
07/13/00	111	1788	25.76
07/13/00	112	1743	30.26
07/13/00	113	1752	22.15
07/13/00	114	1725	32.30
07/13/00	115	1657	22.49
07/13/00	116	1799	23.55
07/13/00	117	1667	21.77
07/13/00	118	1676	20.29
07/13/00	119	1770	23.22
07/13/00	120	1723	25.84
07/13/00	121	1789	24.85
07/13/00	122	1746	24.49
07/13/00	123	1744	27.84
07/14/00	124	1724	25.51
07/14/00	125	1790	23.79

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/14/00	126	1728	26.29
07/14/00	127	1826	25.50
07/14/00	128	1726	31.97
07/14/00	129	1818	35.19
07/14/00	130	1800	23.25
07/14/00	131	1797	23.89
07/14/00	132	1677	21.92
07/14/00	133	1815	24.39
07/14/00	134	1787	23.05
07/14/00	135	1831	25.86
07/14/00	136	1827	24.83
07/14/00	137	1819	34.15
07/14/00	138	1727	29.29
07/14/00	139	1802	26.28
07/14/00	140	1814	23.80
07/14/00	141	1678	24.88
07/14/00	142	1816	26.52
07/14/00	143	1786	27.52
07/14/00	144	1832	25.51
07/14/00	145	1828	20.79
07/17/00	146	1729	22.11
07/17/00	147	1842	23.18
07/17/00	148	1833	22.66
07/17/00	149	1803	24.60
07/17/00	150	1810	23.55

Table 3A
Summary of Non-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Waste Manifest Number	Weight (Tons)
07/17/00	151	1679	22.59
07/17/00	152	3721	21.73
07/17/00	153	1649	24.77
07/17/00	154	1817	26.71
07/17/00	155	1843	26.62
07/17/00	156	1834	24.81
07/17/00	157	1804	23.66
07/17/00	158	1811	23.00
07/17/00	159	1680	20.33
07/17/00	160	1637	22.95
07/17/00	161	3722	22.92
0/7/17/00	162	1650	23.37
7/18/00	163	1835	22.87
7/18/00	164	1784	23.93
7/18/00	165	1836	19.55
7/18/00	166	1785	24.39
7/21/00	167	1830	23.99
7/21/00	168	1805	24.90
7/21/00	169	1543	26.67
7/21/00	170	3741	19.81
		Total	**4,308.48**

Table 3B
Summary of RCRA-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Manifest Number	Weight (Tons)
7/17/00	1	7514330	26.96
7/17/00	2	7514331	17.96
7/17/00	3	7514332	22.56
7/17/00	4	7514333	19.06
7/17/00	5	7514334	27.20
7/17/00	6	7514335	23.07
7/17/00	7	7514336	20.67
7/17/00	8	7514337	21.54
7/17/00	9	7514338	22.82
7/17/00	10	7514339	26.06
7/17/00	11	7514340	20.85
7/17/00	12	7514341	21.94
7/17/00	13	7514342	26.70
7/17/00	14	7514343	25.10
7/17/00	15	7514344	24.06
7/18/00	16	7514345	23.88
7/18/00	17	7514346	23.81
7/18/00	18	7514347	23.42
7/18/00	19	7514348	25.39
7/18/00	20	7514349	25.68
7/18/00	21	7514350	22.18
7/18/00	22	7514351	18.85
7/18/00	23	7514352	21.64
7/18/00	24	7514354	21.91

Table 3B
Summary of RCRA-Hazardous Soil Quantities
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Date Excavated	Load Number	Manifest Number	Weight (Tons)
7/18/00	25	7514355	23.34
7/18/00	26	7514356	20.48
7/19/00	27	7514357	25.79
7/19/00	28	7514358	21.65
7/19/00	29	7514359	25.22
7/19/00	30	7514360	29.74
7/19/00	31	7514361	22.25
7/19/00	32	7514362	24.48
		Total	**746.26**

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
1	7/13/00	0.00	15.88
2	7/13/00	0.00	16.80
3	7/13/00	0.00	16.31
4	7/13/00	0.00	16.59
5	7/13/00	0.00	22.93
6	7/13/00	0.00	21.87
7	7/13/00	0.00	22.06
8	7/13/00	0.00	23.10
9	7/13/00	0.00	22.84
10	7/13/00	0.00	31.68
11	7/13/00	0.00	36.77
12	7/13/00	0.00	32.31
13	7/13/00	0.00	31.33
14	7/13/00	0.00	33.31
15	7/13/00	0.00	33.12
16	7/20/00	0.00	15.94
17	7/20/00	0.00	15.75
18	7/20/00	0.00	14.55
19	7/20/00	0.00	15.21
20	7/21/00	0.00	14.70
21	7/21/00	0.00	16.42
22	7/21/00	0.00	17.59
23	7/21/00	0.00	15.80
24	7/21/00	0.00	17.39

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
25	7/21/00	0.00	16.47
26	7/21/00	0.00	16.73
27	7/21/00	0.00	16.50
28	7/21/00	0.00	15.81
29	7/21/00	0.00	14.79
30	7/21/00	0.00	17.19
31	7/21/00	0.00	17.04
32	7/21/00	0.00	16.94
33	7/21/00	0.00	17.39
34	7/21/00	0.00	17.17
35	7/21/00	0.00	17.49
36	7/21/00	0.00	16.81
37	7/21/00	0.00	16.25
38	7/21/00	0.00	15.59
39	7/21/00	0.00	24.87
40	7/21/00	0.00	22.87
41	7/21/00	0.00	26.48
42	7/21/00	0.00	25.44
43	7/21/00	0.00	23.72
44	7/21/00	0.00	24.06
45	7/21/00	0.00	24.14
46	7/21/00	0.00	25.91
47	7/21/00	0.00	27.07
48	7/21/00	0.00	26.15

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
49	7/21/00	0.00	25.09
50	7/21/00	0.00	25.76
51	7/21/00	0.00	26.41
52	7/21/00	0.00	26.54
53	7/21/00	0.00	25.34
54	7/21/00	0.00	24.16
55	7/21/00	0.00	26.91
56	7/21/00	0.00	25.94
57	7/21/00	0.00	22.46
58	7/21/00	0.00	26.28
59	7/21/00	0.00	24.48
60	7/21/00	0.00	24.63
61	7/21/00	0.00	23.28
62	7/21/00	0.00	25.96
63	7/21/00	0.00	20.14
64	7/21/00	0.00	25.75
65	7/21/00	0.00	21.52
66	7/21/00	0.00	23.63
67	7/21/00	0.00	21.93
68	7/21/00	0.00	24.16
69	7/21/00	0.00	24.06
70	7/21/00	0.00	23.16
71	7/21/00	0.00	23.80
72	7/21/00	0.00	23.62

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
73	7/21/00	0.00	22.94
74	7/21/00	0.00	21.81
75	7/21/00	0.00	24.13
76	7/21/00	0.00	24.36
77	7/21/00	0.00	24.35
78	7/21/00	0.00	23.71
79	7/21/00	0.00	22.94
80	7/21/00	0.00	23.29
81	7/21/00	0.00	23.59
82	7/21/00	0.00	24.73
83	7/21/00	0.00	23.90
84	7/21/00	0.00	20.52
85	7/21/00	0.00	23.56
86	7/21/00	0.00	24.86
87	7/21/00	0.00	23.63
88	7/21/00	0.00	22.16
89	7/21/00	0.00	24.41
90	7/21/00	0.00	21.70
91	7/21/00	0.00	24.82
92	7/21/00	0.00	24.31
93	7/21/00	0.00	23.17
94	7/21/00	0.00	24.44
95	7/21/00	0.00	22.84
96	7/21/00	0.00	25.19

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
97	7/21/00	0.00	24.49
98	7/21/00	0.00	24.00
99	7/21/00	0.00	23.17
100	7/21/00	0.00	23.20
101	7/21/00	0.00	24.61
102	7/21/00	0.00	23.57
103	7/21/00	0.00	23.51
104	7/21/00	0.00	25.28
105	7/21/00	0.00	23.88
106	7/21/00	0.00	24.92
107	7/21/00	0.00	25.12
108	7/21/00	0.00	25.62
109	7/21/00	0.00	26.14
110	7/21/00	0.00	26.28
111	7/21/00	0.00	25.50
112	7/21/00	0.00	25.43
113	7/21/00	0.00	23.34
114	7/21/00	0.00	24.43
115	7/21/00	0.00	26.86
116	7/21/00	0.00	24.24
117	7/21/00	0.00	23.70
118	7/21/00	0.00	24.96
119	7/21/00	0.00	24.99
120	7/24/00	0.00	25.60

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
121	7/24/00	0.00	24.96
122	7/24/00	0.00	26.55
123	7/24/00	0.00	23.58
124	7/24/00	0.00	26.00
125	7/24/00	0.00	25.03
126	7/24/00	0.00	26.89
127	7/24/00	0.00	26.01
128	7/24/00	0.00	25.53
129	7/24/00	0.00	24.77
130	7/24/00	0.00	25.94
131	7/24/00	0.00	25.32
132	7/24/00	0.00	15.94
133	7/24/00	0.00	16.43
134	7/24/00	0.00	16.43
135	7/24/00	0.00	15.79
136	7/24/00	0.00	17.34
137	7/24/00	0.00	15.44
138	7/24/00	0.00	16.13
139	7/24/00	0.00	17.12
140	7/24/00	0.00	16.36
141	7/24/00	0.00	15.94
142	7/24/00	0.00	26.11
143	7/24/00	0.00	29.94
144	7/24/00	0.00	27.67

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
145	7/24/00	0.00	16.82
146	7/24/00	22.23	0.00
147	7/24/00	25.80	0.00
148	7/24/00	25.89	0.00
149	7/24/00	26.51	0.00
150	7/24/00	25.89	0.00
151	7/24/00	26.89	0.00
152	7/24/00	24.64	0.00
153	7/24/00	21.83	0.00
154	7/24/00	25.41	0.00
155	7/24/00	17.26	0.00
156	7/24/00	15.45	0.00
157	7/24/00	15.04	0.00
158	7/24/00	17.57	0.00
159	7/24/00	18.36	0.00
160	7/24/00	17.40	0.00
161	7/24/00	17.50	0.00
162	7/25/00	0.00	17.60
163	7/25/00	0.00	17.00
164	7/25/00	0.00	16.77
165	7/25/00	0.00	16.39
166	7/25/00	0.00	16.26
167	7/25/00	0.00	14.44
168	7/25/00	0.00	15.91

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
169	7/25/00	0.00	16.56
170	7/25/00	0.00	17.20
171	7/25/00	0.00	15.67
172	7/25/00	0.00	16.46
173	7/25/00	0.00	16.73
174	7/25/00	0.00	16.46
175	7/25/00	0.00	16.52
176	7/25/00	0.00	16.49
177	7/25/00	0.00	17.09
178	7/25/00	0.00	16.50
179	7/25/00	0.00	15.93
180	7/25/00	0.00	16.64
181	7/25/00	0.00	16.03
182	7/25/00	0.00	15.94
183	7/25/00	0.00	17.10
184	7/25/00	0.00	17.16
185	7/25/00	0.00	16.93
186	7/25/00	0.00	16.54
187	7/25/00	0.00	15.99
188	7/25/00	0.00	16.10
189	7/25/00	0.00	16.94
190	7/25/00	0.00	15.88
191	7/25/00	0.00	16.24
192	7/25/00	0.00	15.96

Table 4
Summary of Imported Backfill Materials
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Truck No.	Date	Imported Self Compacting Stone (Tons)	Imported Bank Run Gravel (Tons)
193	7/25/00	0.00	15.92
194	7/25/00	0.00	16.01
195	7/25/00	0.00	15.37
196	7/25/00	0.00	16.63
197	7/25/00	0.00	15.17
198	7/25/00	0.00	16.72
199	7/25/00	0.00	16.65
200	7/25/00	0.00	16.08
201	7/25/00	0.00	15.24
202	7/25/00	0.00	16.66
203	7/25/00	0.00	16.80
204	7/25/00	0.00	16.42
205	7/25/00	0.00	15.24
206	7/25/00	0.00	15.70
207	7/25/00	0.00	15.83
208	7/25/00	0.00	15.86
	Total	**343.67**	**4,056.11**

TABLE 5
Summary of Imported Backfill Material
Stage I Remedial Action
AVX Facility
Stage I Remedial Action

The following analyses were performed on sample AVX-BF-1 :

Volatile Organic Analysis : No Detections

Polychlorinated biphenyls Analysis : No Detections

Pesticides Analysis : No Detections

Semivolatile Analysis

Sample I.D. **Date**	AVX-BF-1 6/6/2000	TAGM 4046 Soil Cleanup Objectives (ppm)
Parameters (mg/kg)		
Di-N-Butylphthalate	46 J	8100

Notes:
mg/kg : milligrams per kilogram
Only Compounds with detections listed on table.
TAGM : New York State Division Technical and Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup Levels.

Metals Analysis

Sample I.D. **Date**	AVX-BF-1 6/6/2000	TAGM 4046 Soil Cleanup Objectives (ppm)
Parameters (mg/kg)		
Aluminum	3690	SB
Arsenic	8.2	7.5 or SB
Barium	52.7	300 or SB
Calcium	9380	SB
Chromium	4.1	10 or SB
Copper	14.6	25 or SB
Iron	10100	2000 or SB
Lead	6.3	400
Magnesium	1460	SB
Manganese	592	SB
Nickel	7.5	13 or SB
Potassium	340	SB
Selenium	0.9	2 or SB
Sodium	331	SB
Vanadium	7	150 or SB
Zinc	28.2	20 or SB

Notes:
mg/kg : milligrams per kilogram
Only Compounds with detections listed on table.
TAGM : New York State Division Technical and Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup Levels.
SB : Site Background.

Table 6
Summary of Analytical Results for On-Site Backfill Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

Sample I.D.	SP1-A-E COMP	SP2-A-E COMP	SP3-A-E COMP	SP4-A-E COMP	SP5-A-E COMP	TAGM 4046 Soil Cleanup Objectives (ppb)
Date	7/5/2000	7/5/2000	7/5/2000	7/5/2000	7/5/2000	
Parameters (ug/kg)						
Vinyl Chloride	-	-	-	-	-	120
cis-1,2-Dichloroethene	-	9.5	3.2 J	-	-	
2-Butanone (MEK)	-	-	-	-	-	300
1,1,1-Trichloroethane	14	42	110	200	13	760
Trichloroethene	-	-	-	-	-	70
Toluene	4.1 J	20	4.0 J	2.2 J	1.9 J	1500
Tetrachloroethene	37	180	57	45	-	1400
Ethylbenzene	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	

Sample I.D.	AVX-SP6	AVX-SP7	AVX-SP-8	AVX-SP-9	TAGM 4046 Soil Cleanup Objectives (ppb)
Date	7/10/2000	7/12/2000	7/18/2000	7/18/2000	
Parameters (ug/kg)					
Vinyl Chloride	-	-	-	-	120
cis-1,2-Dichloroethene	-	-	-	-	
2-Butanone (MEK)	-	-	-	-	300
1,1,1-Trichloroethane	-	-	-	-	760
Trichloroethene	-	-	-	-	70
Toluene	3 J	-	-	-	1500
Tetrachloroethene	4 J	-	-	-	1400
Ethylbenzene	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	1200
o-Xylene	-	-	-	-	

Notes:
ug/kg : micrograms per kilograms
SP1-A-E COMP : Sample taken as a Soil pile composite.
AVX-SP : Soil sample taken from soil pile.
(-) : Not detected at or below detection limit.
J : The compound was positively identified; however, the associated numerical value is an estimated concentration.
TAGM : New York State Division Technical and Administrative Guidance Memorandum
on the determination of Soil Cleanup Objectives and Cleanup Levels.

Table 7
Summary of Additional Waste Characterization Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

Sample I.D.	AVX-CS-1	AVX-WC-2	AVX Bot 22/23/24
Date	7/13/2000	7/18/2000	7/18/2000
Parameters (ug/l)			
Benzene	-	-	-
2-Butanone	-	-	-
Carbon Tetrachloride	-	-	-
Chlorobenzene	-	-	-
Chloroform	-	-	-
1,2-Dichloroethane	-	-	-
1,1-Dichloroethene	-	-	-
Tetrachloroethene	94	-	59
Trichloroethene	330	-	250
Vinyl Chloride	-	-	-

Notes:
ug/l : micrograms per liter
Method : 8260B TCLP
(-) : Not detected at or below detection limit.
CS-1 : Composite sample from floor of Northeast portion of excavation.
WC-2 : Composite sample from side wall near SW-26.
Bot 22/23/24 : Composite sample from bottom of excavation near Bot-22, 23, and 24.

TABLE 8
Summary of Analytical Results for Post-Excavation Soil Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

A. Bottom Samples

Sample I.D. / Date	AVX-PE-BOT-1 7/12/2000	AVX-PE-BOT-2 7/12/2000	AVX-PE-BOT-3[1] 7/12/2000	AVX-PE-BOT-4 7/12/2000	AVX-PE-BOT-5 7/12/2000	AVX-DUP-2 7/12/2000	AVX-PE-BOT-6 7/12/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)								
Vinyl Chloride	-	-	-	-	-	-	-	200
cis-1,2-Dichloroethene	880 J	350 J	910 J	620 J	1300 J	1500 J	950 J	250
2-Butanone (MEK)	-	-	-	-	-	-	-	300
1,1,1-Trichloroethane	61000 D	180000 D	2700	14000	22000	26000	6600	800
Trichloroethene	8300	19000	-	2500	2400	2400	570 J	700
Toluene	17000	40000 D	1500	6100	6600	7000	2600	1500
Tetrachloroethene	3700	9000	-	360 J	570 J	440 J	170 J	1400
Ethylbenzene	-	-	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	-	-	

Sample I.D. / Date	AVX-PE-BOT-7[1] 7/12/2000	AVX-PE-BOT-8 7/12/2000	AVX-PE-BOT-9 7/12/2000	AVX-PE-BOT-10 7/12/2000	AVX-PE-BOT-11 7/13/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)						
Vinyl Chloride	-	-	-	-	-	200
cis-1,2-Dichloroethene	-	7400	3000	2400	910	250
2-Butanone (MEK)	110	-	-	-	61	300
1,1,1-Trichloroethane	-	8100	4700	18000	140	800
Trichloroethene	-	1200 J	860 J	-	-	700
Toluene	18 J	10000	5100	4700	520	1500
Tetrachloroethene	-	180 J	310 J	170 J	-	1400
Ethylbenzene	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	

Notes:
ug/kg : micrograms per kilogram
AVX-PE-BOT-3[1]: MS/MSD analysis performed on sample.
AVX-PE-BOT : Sample taken from the bottom of excavation location.
AVX-DUP-2: Duplicate sample of AVX-PE-BOT-5.
(-) : Not detected at or below detection limit.
J : The compound was positively identified; however, the associated numerical value is an estimated concentration.
D : Concentration is based on a diluted sample analysis.
TAGM : New York State Division Technical and Administrative Guidance Memorandum
on the determination of Soil Cleanup Objectives and Cleanup Levels.

TABLE 8
Summary of Analytical Results for Post-Excavation Soil Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

Sample I.D.	AVX-PE-BOT-12	AVX-PE-BOT-13 [1]	AVX-PE-BOT-14	AVX-PE-BOT-15	AVX-DUP-3	AVX-PE-BOT-16	AVX-PE-BOT-17	TAGM 4046 Soil Cleanup Objectives (ppb)
Date	7/13/2000	7/13/2000	7/13/2000	7/13/2000	7/13/2000	7/13/2000	7/17/2000	
Parameters (ug/kg)								
Vinyl Chloride	-	-	-	-	-	-	-	200
cis-1,2-Dichloroethene	3800	1900	16	530	670	35	-	250
2-Butanone (MEK)	-	-	-	90	96	-	-	300
1,1,1-Trichloroethane	1100 J	1800	60	280	400	21	-	800
Trichloroethene	960 J	-	-	-	-	11 J	-	700
Toluene	3200	1500	-	51 J	53 J	-	-	1500
Tetrachloroethene	250	-	15	-	-	6 J	1300 J	1400
Ethylbenzene	-	-	-	-	-	-	-	5500
(m+p) Xylene	250 J	-	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	-	-	

Sample I.D.	AVX-PE-BOT-18	AVX-PE-BOT-19	AVX-PE-DUP-4	AVX-PE-BOT-20 [2]	AVX-PE-BOT-21	AVX-PE-BOT-22A [3]	AVX-PE-BOT-23A	TAGM 4046 Soil Cleanup Objectives (ppb)
Date	7/17/2000	7/17/2000	7/17/2000	7/17/2000	7/17/2000	7/20/2000	7/20/2000	
Parameters (ug/kg)								
Vinyl Chloride	-	-	-	-	-	-	-	200
cis-1,2-Dichloroethene	13	920 J	2000	1600	1000 J	13000	9300	250
2-Butanone (MEK)	3 J	1900 J	-	-	-	-	-	300
1,1,1-Trichloroethane	7 J	-	6500 J	74000 D	3900	1500	45000 D	800
Trichloroethene	10 J	-	-	6300	-	1200 J	2500	700
Toluene	3 J	1200 J	1800	19000	1300 J	1400 J	3100	1500
Tetrachloroethene	65	-	-	4700	-	1500	510 J	1400
Ethylbenzene	-	-	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	430 J	-	1200
o-Xylene	-	-	-	-	-	200 J	-	

Notes:
ug/kg : micrograms per kilogram
AVX-PE-BOT : Sample taken from the bottom of excavation location.
AVX-PE-BOT-13[1] : MS/MSD analysis performed on sample.
AVX-PE-BOT- 20[2] : MS/MSD analysis performed on sample.
AVX-PE-BOT- 22A[3] : MS/MSD analysis performed on sample.
AVX-PE-DUP-4 : Duplicate sample of AVX-PE-BOT-19.
(-) : Not detected at or below detection limit.
J : The compound was positively identified; however, the associated numerical value is an estimated concentration.
D : Concentration is based on a diluted sample analysis.
TAGM : New York State Division Technical and Administrative Guidance Memorandum on the determination of Soil Cleanup Objectives and Cleanup Levels.

TABLE 8
Summary of Analytical Results for Post-Excavation Soil Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

Sample I.D. Date	AVX-PE-BOT-24A 7/20/2000	AVX-PE-BOT-25 [1] 7/19/2000	AVX-PE-BOT-26 7/19/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)				
Vinyl Chloride	48 J	-	-	200
cis-1,2-Dichloroethene	7400 D	1900	2700	250
2-Butanone (MEK)	170	-	-	300
1,1,1-Trichloroethane	22000 D	11000	740 J	800
Trichloroethene	2200 D	450 J	360 J	700
Toluene	2600 D	220 J	-	1500
Tetrachloroethene	320	500 J	180 J	1400
Ethylbenzene	26 J	-	-	5500
(m+p) Xylene	110	-	-	1200
o-Xylene	49 J	-	200 J	

Notes:
ug/kg : micrograms per kilogram
AVX-PE-BOT : Sample taken from the bottom of excavation location.
AVX-PE-BOT-25[1] : MS/MSD analysis performed on sample.
(-) : Not detected at or below detection limit.
E : The compound was quantified above the calibration range.
D : Concentration is based on a diluted sample analysis.
TAGM : New York State Division Technical and Administrative Guidance Memorandum on the determination of Soil Cleanup Objectives and Cleanup Levels.

TABLE 8
Summary of Analytical Results for Post-Excavation Soil Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

B. Side Wall Samples

Sample I.D. / Date	AVX-PE-SW-1 7/10/2000	AVX-PE-SW-2 7/10/2000	AVX-PE-SW-3 7/10/2000	AVX-PE-SW-4 [1] 7/10/2000	AVX-PE-SW-5 7/10/2000	AVX-DUP-1 7/10/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)							
Vinyl Chloride	47 J	-	8 J	-	-	-	200
cis-1,2-Dichloroethene	3000 EJ	370	2000 EJ	530 J	160 J	800 J	250
2-Butanone (MEK)	84	85	60 J	-	-	-	300
1,1,1-Trichloroethane	40000 D	14000 EJ	1700000 D	1400 J	520 J	3900	800
Benzene	11 J	-	28 J	-	150 J	-	60
Trichloroethene	3200 D	2400 EJ	140000 DJ	-	320 J	-	700
Toluene	8400 D	1800 D	320000 D	270 J	-	1000 J	1500
Tetrachloroethene	5400 EJ	820	110000 DJ	-	-	-	1400
Ethylbenzene	12 J	-	94	-	-	-	5500
(m+p) Xylene	34 J	12 J	280	-	-	-	1200
o-Xylene	11 J	-	86	-	-	-	

Sample I.D. / Date	AVX-PE-SW-6 7/12/2000	AVX-PE-SW-7 7/12/2000	AVX-PE-SW-7RE 7/12/2000	AVX-PE-SW-8 [2] 7/14/2000	AVX-PE-SW-9 [3] 7/14/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)						
Vinyl Chloride	-	-	-	-	-	200
cis-1,2-Dichloroethene	440 J	710 J	1700	150 J	-	250
2-Butanone (MEK)	-	-	-	-	-	300
1,1,1-Trichloroethane	970 J	1800	7200	2600	20 J	800
Trichloroethene	-	-	-	280 J	23 J	700
Toluene	310 J	1400 J	3000	1500	64	1500
Tetrachloroethene	-	-	-	150 J	-	1400
Ethylbenzene	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	

Notes:
ug/kg : micrograms per kilogram
AVX-PE-SW-4[1]: MS/MSD analysis performed on sample.
AVX-PE-SW-8[2] : MS/MSD analysis performed on sample.
AVX-PE-SW-9[3] : MS/MSD analysis performed on sample.
AVX-PE-SW : Sample taken from the sidewall of excavation location.
(-) : Not detected at or below detection limit.
J : The compound was positively identified; however, the associated numerical value is an estimated concentration.
E : The compound was quantified above the calibration range.
D : Concentration is based on a diluted sample analysis.
TAGM : New York State Division Technical and Administrative Guidance Memorandum on the determination of Soil Cleanup Objectives and Cleanup Levels.
AVX-DUP-1 : Duplicate Sample of AVX-PE-SW-5.

TABLE 8
Summary of Analytical Results for Post-Excavation Soil Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

Sample I.D. / Date	AVX-PE-SW-10 7/12/2000	AVX-PE-SW-10RE 7/13/2000	AVX-PE-SW-11 7/12/2000	AVX-PE-SW-12 7/13/2000	AVX-PE-SW-13 7/13/2000	AVX-PE-SW-14 7/14/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)							
Vinyl Chloride	-	-	-	-	-	-	200
cis-1,2-Dichloroethene	410 J	700 J	38	-	-	140 J	250
2-Butanone (MEK)	-	-	-	-	-	-	300
1,1,1-Trichloroethane	2100	4100	4 J	-	-	4200	800
Trichloroethene	-	-	-	-	-	320 J	700
Toluene	1400 J	2000	-	5 J	-	1300 J	1500
Tetrachloroethene	-	-	-	-	-	-	1400
Ethylbenzene	-	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	-	

Sample I.D. / Date	AVX-PE-SW-15 7/14/2000	AVX-PE-SW-16 7/14/2000	AVX-PE-SW-17 7/14/2000	AVX-PE-SW-18 7/14/2000	AVX-PE-SW-19 7/17/2000	AVX-PE-SW-20 7/17/2000	TAGM 4046 Soil Cleanup Objectives (ppb)
Parameters (ug/kg)							
Vinyl Chloride	-	-	-	-	-	-	200
cis-1,2-Dichloroethene	550 J	4 J	14	24	-	4 J	250
2-Butanone (MEK)	-	-	-	-	-	7 J	300
1,1,1-Trichloroethane	1200 J	-	180	8 J	10 J	-	800
Trichloroethene	150 J	-	27	12	-	-	700
Toluene	690 J	4 J	65	-	-	-	1500
Tetrachloroethene	-	8 J	33	15	-	-	1400
Ethylbenzene	-	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	-	

Notes:
ug/kg : micrograms per kilogram
AVX-PE-SW : Sample taken from the sidewall of excavation location.
(-) : Not detected at or below detection limit.
J : The compound was positively identified; however, the associated numerical value is an estimated concentration.
E : The compound was quantified above the calibration range.
D : Concentration is based on a diluted sample analysis.
TAGM : New York State Division Technical and Administrative Guidance Memorandum
on the determination of Soil Cleanup Objectives and Cleanup Levels.

TABLE 8
Summary of Analytical Results for Post-Excavation Soil Samples
Stage I Remedial Action Report
AVX Corporation
Olean, New York

Sample I.D.	AVX-PE-SW-21	AVX-PE-SW-22	AVX-PE-SW-23	AVX-PE-SW-24	AVX-PE-SW-25 [1]	AVX-PE-SW-26 [2]	AVX-PE-SW-27	TAGM 4046 Soil Cleanup Objectives (ppb)
Date	7/17/2000	7/17/2000	7/17/2000	7/17/2000	7/17/2000	7/18/2000	7/18/2000	
Parameters (ug/kg)								
Vinyl Chloride	-	-	-	-	-	-	-	200
cis-1,2-Dichloroethene	200	4 J	12	180	-	-	-	250
2-Butanone (MEK)	-	-	-	34 J	4 J	-	-	300
1,1,1-Trichloroethane	300 D	4 J	4 J	540	-	7 J	-	800
Trichloroethene	27	-	-	-	-	-	-	700
Toluene	56	-	-	210	-	-	-	1500
Tetrachloroethene	8 J	-	-	-	-	-	-	1400
Ethylbenzene	-	-	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	-	-	

Sample I.D.	AVX-PE-SW-28	AVX-PE-SW-29	AVX-PE-SW-30	AVX-PE-SW-31 [3]	AVX-PE-SW-32	AVX-DUP-5	TAGM 4046 Soil Cleanup Objectives (ppb)
Date	7/18/2000	7/18/2000	7/18/2000	7/19/2000	7/19/2000	7/19/2000	
Parameters (ug/kg)							
Vinyl Chloride	170 J	-	4 J	-	-	-	200
cis-1,2-Dichloroethene	3700	970 J	42	130	1400 J	1800	250
2-Butanone (MEK)	-	-	-	-	-	-	300
1,1,1-Trichloroethane	480 J	1600	230	8 J	3100	3500	800
Trichloroethene	-	820 J	14	20	-	-	700
Toluene	600 J	-	-	-	370 J	420 J	1500
Tetrachloroethene	-	480 J	92	6 J	140 J	-	1400
Ethylbenzene	-	-	-	-	-	-	5500
(m+p) Xylene	-	-	-	-	-	-	1200
o-Xylene	-	-	-	-	-	-	

Notes:
ug/kg : *micrograms* per kilogram
AVX-PE-SW-25 [1] : MS/MSD analysis performed on sample.
AVX-PE-SW-26 [2] : MS/MSD analysis performed on sample.
AVX-PE-SW-31 [3] : MS/MSD analysis performed on sample.
AVX-PE-SW : Sample taken from the sidewall of excavation location.
AVX-DUP-5 : Duplicate sample of AVX-PE-SW-32.
(-) : Not detected at or below detection limit.
J : The compound was positively identified; however, the associated numerical value is an estimated concentration.
E : The compound was quantified above the calibration range.
D : Concentration is based on a diluted sample analysis.
TAGM : New York State Division Technical and Administrative Guidance Memorandum on the determination of Soil Cleanup Objectives and Cleanup Levels.

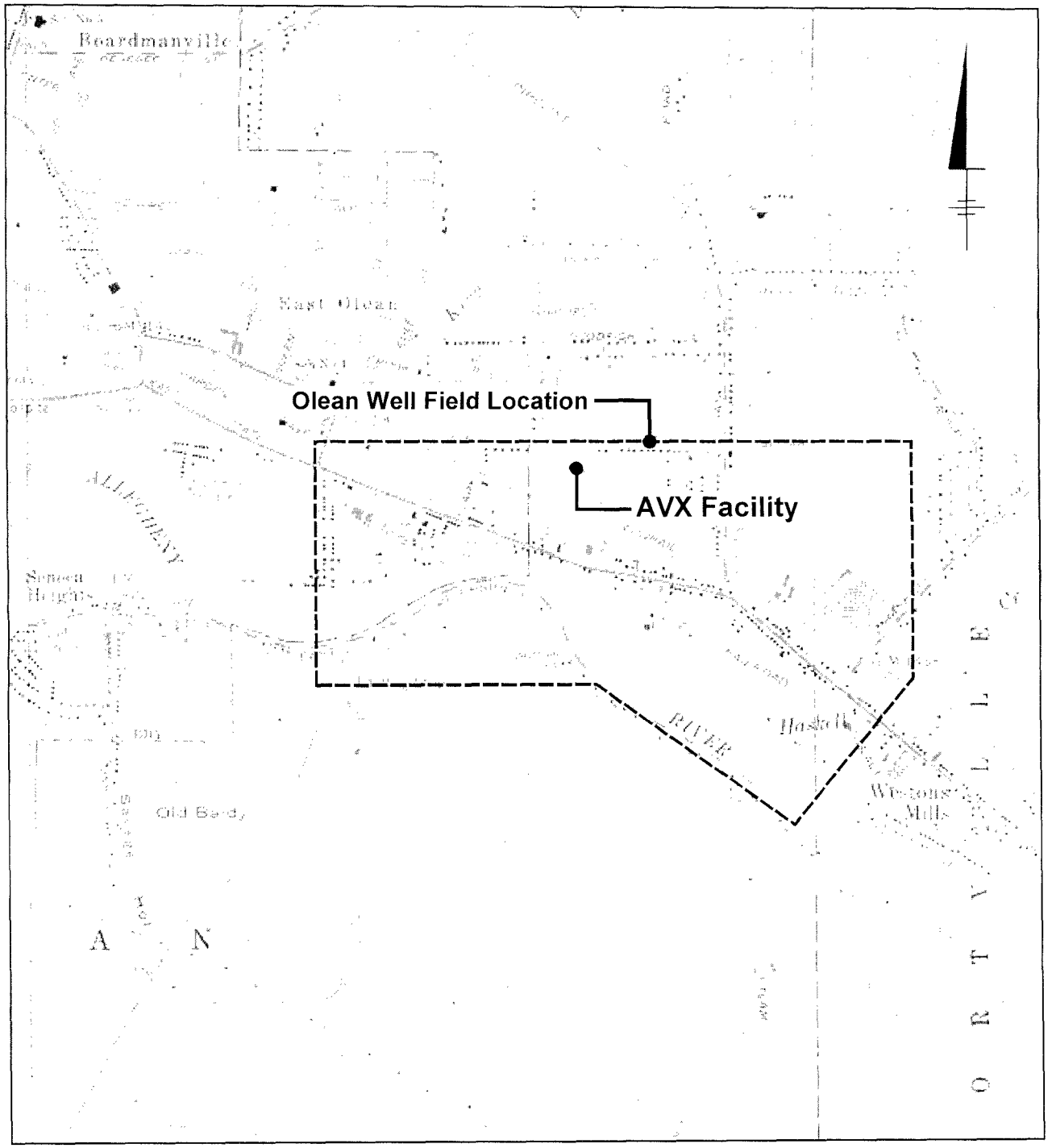
Table 9
Stage 1 Remedial Action Cost Summary
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Task Number	Task Description	Cost
1	Excavation of Soils	$92,000
2	Off-Site Transportation and Disposal of Non-Hazardous Soil	$128,000
3	Off-Site Transportation and Disposal of RCRA-Hazardous Soil	$262,000
4	Off-Site Transportation and Disposal of Wastewater	$2,000
5	Analytical Services	$25,000
6	Placement of Backfill Materials	$100,000
7	Preparation of Stage 1 Remedial Action Report	$15,000
	Total	**$624,000**

Notes:

1 Costs include work associated with the UST removal activities.

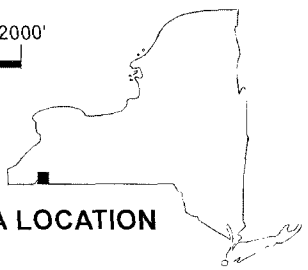
Figures



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD. OLEAN, NEW YORK, 1961.

2000' 0 2000'

Approximate Scale: 1" = 2000'



AREA LOCATION

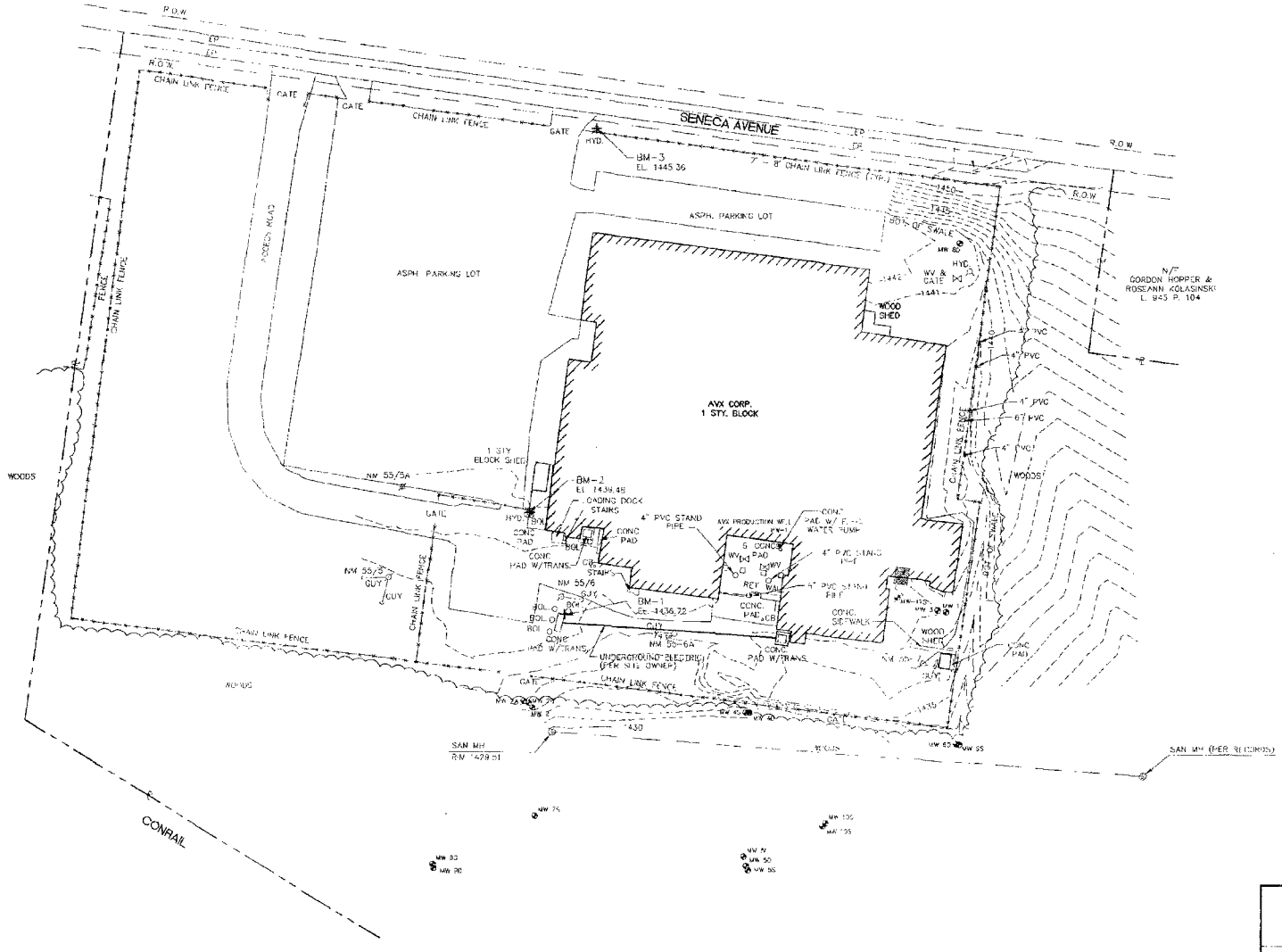
11/00 SYR-D54-DJH
48086024/48086n01.cdr

AVX CORPORATION
OLEAN, NEW YORK
STAGE I REMEDIAL ACTION REPORT

SITE LOCATION MAP

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

FIGURE 1



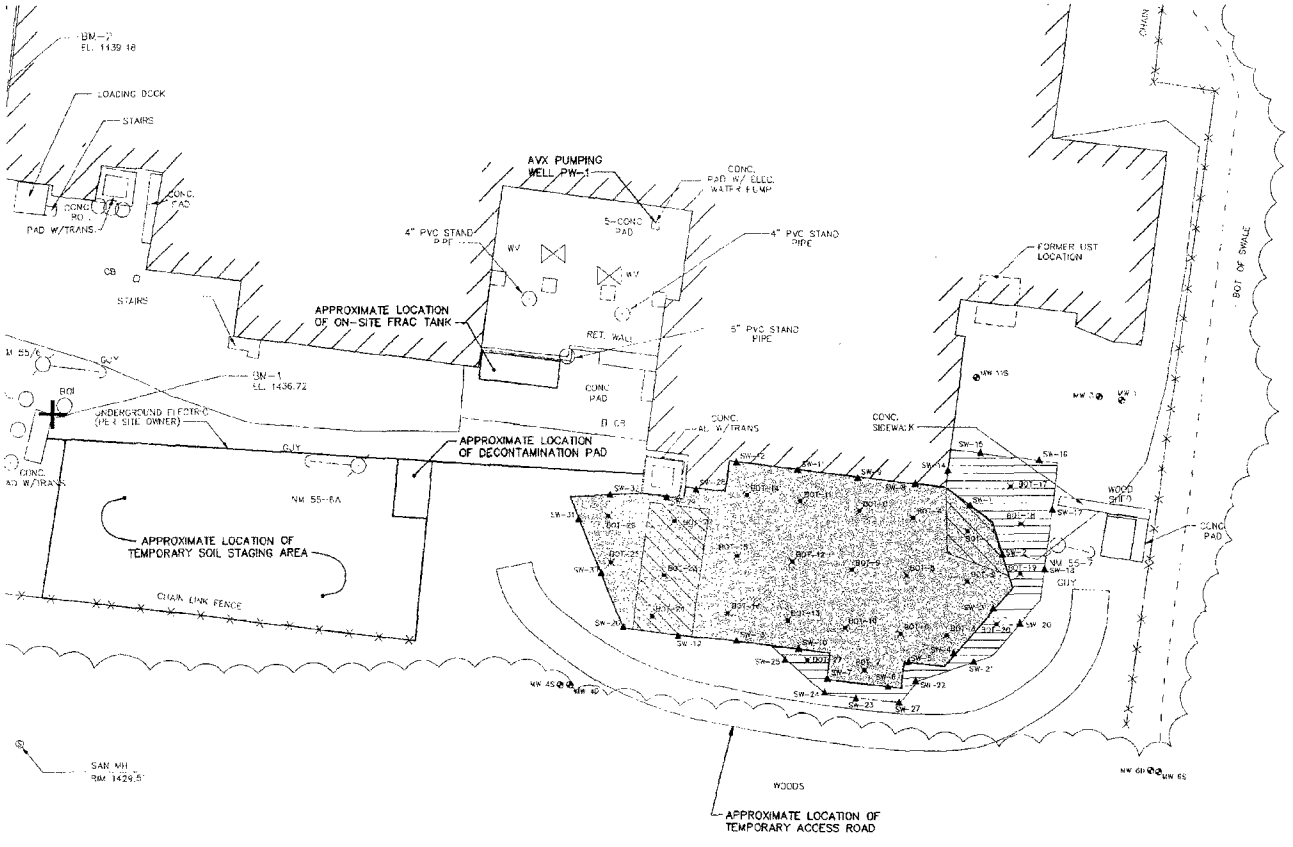
AVX CORPORATION
OLEAN, NEW YORK

STAGE 1 REMEDIAL ACTION REPORT

SITE PLAN

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

FIGURE 2



LEGEND:

- EXISTING MONITORING WELL
- POST-EXCAVATION SIDEWALL SAMPLE
- POST-EXCAVATION BOTTOM SAMPLE
- INITIAL LIMITS OF EXCAVATION DOWN TO APPROXIMATE ELEVATION 1,426.
- ADDITIONAL EXCAVATION BETWEEN APPROXIMATE ELEVATIONS 1,426 TO 1,424 (ADDITIONAL EXCAVATION REQUIRED DUE TO POST-EXCAVATION BOTTOM SAMPLE ANALYTICAL RESULTS)
- ADDITIONAL EXCAVATION DOWN TO APPROXIMATE ELEVATION 1,426 (ADDITIONAL EXCAVATION REQUIRED DUE TO POST-EXCAVATION SIDEWALL SAMPLE ANALYTICAL RESULTS).

NOTE:

PROPERTY LINE INFORMATION OBTAINED FROM A SURVEY MAP PREPARED BY D. MICHAEL CANADA, JOB No. 552, DATED JANUARY 13, 1981.

GRAPHIC SCALE

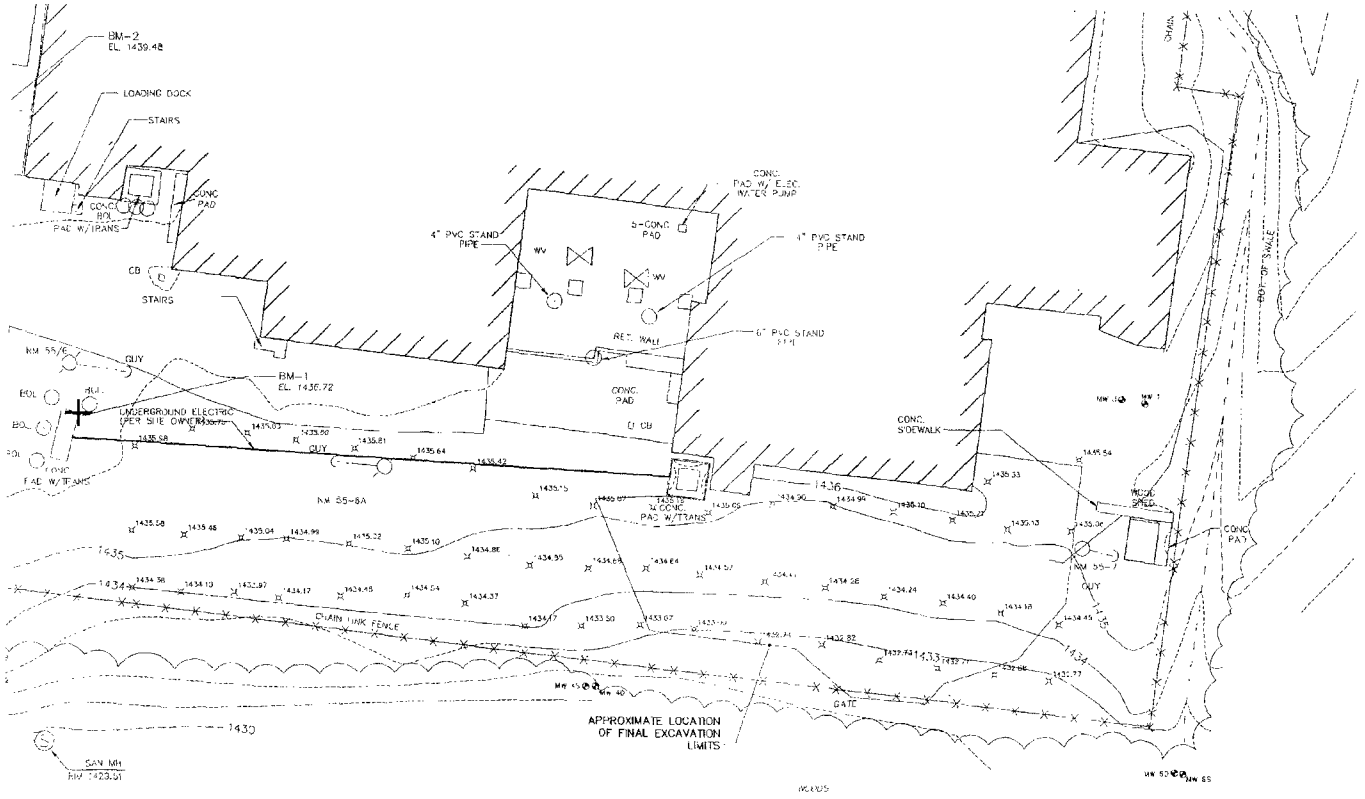
AVX CORPORATION
OLEAN, NEW YORK

STAGE 1 REMEDIAL ACTION REPORT

FINAL LIMITS OF EXCAVATION AND POST-EXCAVATION SOIL SAMPLE LOCATIONS

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

FIGURE 3



LEGEND:

- MW 55 ⊕ EXISTING MONITORING WELL
- 439.64 ⊠ SPOT ELEVATION
- 1435 —— POST-EXCAVATION ELEVATION CONTOUR (IN FEET)

NOTE:

PROPERTY LINE INFORMATION OBTAINED FROM A SURVEY MAP PREPARED BY D. MICHAEL CANADA, JOB No. 552, DATED JANUARY 13, 1981.

GRAPHIC SCALE

AVX CORPORATION
OLEAN, NEW YORK

STAGE 1 REMEDIAL ACTION REPORT

AS-BUILT DRAWING

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

FIGURE 4

Appendices

Appendix A

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

BBLES Daily Project Reports

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: ANX RD/RA, OLEAN, NEW YORK

Date: 7/5/00

Sheet No. 1 of 1 sheets

Proj. No.: 073.85 Page: 1

Contractor: STERLING ENVIRONMENTAL Contract No.:

Day of Week: S M T (W) T F S

Report By: DOUGLAS M. RUSZCZYK Signature: Douglas M. Ruszczyk

Weather: MORNING FOG TO CLEAR SKIES, LIGHT WIND Temperature: Low 57 °F High 78 °F

0720: STERLING ENVIRONMENTAL ON SITE. WAYNE CAMERON AND JIM KELLERAN

EQUIPMENT ON SITE AS INTERNATIONAL TD-15 DOZER AND KOBELCO SK200OLC EXCAVATOR

- HELD H&S TAILGATE MEETING AND THEN WALKED SITE DISCUSSING SOIL GRADING / PRE-EXCAVATION ACTIVITIES.
- IDENTIFIED PROBABLE LOCATIONS OF VAPOR EXTRACTION WELLS AND TEST PIT SAMPLING LOCATION
- STERLING USED EXCAVATOR TO SCRAPE UPPER LEVEL FILL MATERIALS INTO SOIL PILES FOR SAMPLING AND LABORATORY ANALYSIS
- STERLING CREATED 4 SOIL PILES ($\pm$ 100 yd^3) FROM GENERAL EXCAVATION AREA AND 1 SOIL PILE FROM FORMER TANK AREA.
- STERLING ATTEMPTED TO UNCOVER SVE WELL USING EXCAVATOR (NONE FOUND)
- STERLING DUG TEST PIT TO DEPTH OF $\pm$ 8.5 FT BELOW GRADE ($\pm$ 6 FT INTO NATIVE SOIL) TO COLLECT SOIL SAMPLE FOR WASTE TECHNOLOGY SERVICES (WTS) ON SITE FROM 1445 - 1305.
- ALL HOLES / TEST PITS BACKFILLED WITH EXCAVATED SOIL.

1510: STERLING OFF SITE.

- STERLING ALSO SET UP $\pm$ 230 FT OF SILT FENCING ALONG SOUTH END OF WORK AREA.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent										
Foreman										
Laborer										
Operator										
Teamster										
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe											
Loader											
Truck											
Dozer INTERNATIONAL TD-15	✓										
Dump Truck											
Crane											
Roller											
EXCAVATOR - SK-200 LC			4								

A Is: C Is:

B Is: D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AVX RD/RA OLEAN, N.Y.	Date: 7/7/00
	Sheet No. 1 of 1 sheets
	Proj. No.: 073.85 Page: 1
Contractor: STERLING ENVIRONMENTAL Contract No.:	Day of Week: S M T W T F S
Report By: DOUGLAS M. RUSZCZYK Signature: Douglas M. Ruszczyk	
Weather: SUNNY, CLEAR	Temperature: Low 57°F High 68°F

0730 : STERLING ENV. ON SITE
- HELD H&S TAILGATE MEETING
- MEASURED SOIL PILES AND CALCULATED PILE VOLUMES @ 546 YDS
- STERLING GRADED SOIL PILES IN SOIL STAGING AREA
- APPROXIMATELY 60 YDS OF SOIL REMAINING IN PILE FOR SAMPLING PURPOSES PER SAMPLING PLAN
- SET UP ± 90 FT OF SILT FENCING
- PORTA JOHN DELIVERED TO SITE
- STERLING SETTING UP DECON PAD

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent										
Foreman										
Laborer										
Operator										
Teamster										
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe											
Loader											
Truck											
Dozer			6								
Dump Truck											
Crane											
Roller											
EXCAVATOR	X										

A Is: C Is:

B Is: D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT
AUX Site
Stagel RA
Olean, NY

Date: 7/10/00
Sheet No. 1 of 1 sheets
Proj. No.: 073.87 Page: ____

Sub Contractor: Sterling Contract No.: ——

Day of Week: S M T W T F S

Report By: Joseph Molins Signature: Joseph Molins III

Weather: Mostly Sunny Temperature: Low 62°F High 80°F

BBLES and Sterling onsite @ 0630. Performed site preparation activities to commence excavation activities. The following activities were performed today

0630-0700 - Used a dozer to scrap off the top 3"-6" of saturated soil along the north side of the proposed excavation area. Approximately 46 cys of soil was removed and placed in the temporary stockpile area. (46+4 = 50 cys).

0700-0750 - Scraped between 0 to 2' of potentially clean soil from the east side of the proposed excavation area. Material was excavated and loaded into a 10-wheel dump truck, which transported the material to the on-site temporary stockpile area. This material will be sampled once 100 cys has been accumulated. A total of 3 trucks were loaded and placed in the temporary stockpile area.

0750-0808 - Loaded 2 trucks with non-hazardous (VOC impacted) soil. Air monitoring was performed during the excavation activities and recorded every hour.

0808-0835 - Waiting for trucks.

0835-0949 - Loaded 7 trucks w/ non-hazardous soil. Excavation was approximately 12' deep at the ~~south~~ northeast corner of the excavation. Groundwater was present approximately 10 bgs at this ~~clean~~ location.

0949-1045 - waiting for trucks

1045-1240 - Loaded 10 trucks w/ non-hazardous soil. Excavation depth decreased to approximately 8' at the southeast corner of the excavation.

1240-1315 - Lunch break and waiting for trucks.

1315-1420 - Loaded 7 ~~trucks~~ w/ non-hazardous soil

1420-1446 - Waiting for trucks

1446-1505 - Loaded 2 trucks w/ non hazardous soil.

1505-1600 - Removed between 0-2' of potential clean soil from the surface to expose VOC impacted soil for tomorrows excavation activities. A total of 3 trucks were loaded and placed in the temporary stockpile area. Approximately 80 cys of soil stockpiled in this area. Sterling offsite @ 1600.

BBLES collected 5 post-excavation sidewall samples from the east side of the proposed excavation area, as well as a sample from the stockpile that was generated on 7/7/00. Samples were transported by BBLES to Columbia Analytical for CLP VOC analysis for constituents of concern.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0630-1600			1	9.5						
Foreman										
Laborer										
Operator			1	9.5						
Teamster					10	8				
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe - Kobelco - SK 200LC				1	9.5						
Loader											
Truck - Pickup				2	9.5						
Dozer - International				1	9.5						
Dump Truck						10	8				
Crane											
Roller											

A is: Sterling

B is: L&A Trucking

C is:

D is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT
AVX Corporation
Stagel RA
Olean, NY

Date: 7/11/00
Sheet No. 1 of 1 sheets
Proj. No.: 073.87 Page: ____

Sub Contractor: Sterling Environmental Contract No.: ——

Day of Week: S M T W T F S

Report By: Joe Molina Signature: Joe Molina

Weather: Foggy in the A.M., Sunny in the P.M. Temperature: Low 58°F High 80°F

BBL ES and Sterling on site @ 0630 to commence excavation activities. The following activities were performed today.

0630 - 0821 - Loaded 1st round of trucks (9) with non-hazardous soil. Again the excavation was approximately 10' deep along the north side and about 8' deep along the south side. Began to expose the building foundation wall. Exposed about 2-3' of the wall down to the footer. Once at the footer, the excavation was sloped (1:1) to protect the wall. A small amount of ground water was observed @ the northeast corner of the excavation. The bottom of the excavation was held @ a constant elevation of approximately 1426' (NGVD 1929)

0821 - 0843 - Waiting for trucks

0843 - 1052 - Loaded the 2nd round (9) of trucks with non-hazardous soil. Air monitoring was performed during excavation activities and was recorded on an hourly basis. No exceedences in the air monitoring were observed.

1052 - 1242 - Loaded the 3rd round of trucks (8) with non-hazardous soil.

1242 - 1305 - Lunch Break.

1305 - 1520 - Loaded the 4th and final round of trucks (9) with non-hazardous soil. A total of 35 trucks were loaded today and transported the material to the Waste Management facility in Chaffee, NY for landfill disposal.

1520 - 1630 - Removed soil from 0'-2' within the area scheduled for excavation tomorrow.

Sterling offsite @ 1630

BBL ES offsite @ 1700

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0630-1600			1	9.5						
Foreman										
Laborer										
Operator 0630-1600			1	9.5						
Teamster					10	9.5				
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe											
Loader											
Truck											
Dozer											
Dump Truck						10	9.5				
Crane											
Roller											

A is: Sterling C is:

B is: LGA Trucks D is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AUX Corporation, Stage I RA, Olean, NY	Date: June 12, 2000 Sheet No. 1 of 1 sheets Proj. No.: 053.87 Page:
Contractor: Sterling (Sb) Contract No.: —	Day of Week: S M T W T F S
Report By: Joe Molina Signature: Joe Molina	
Weather: Foggy & cool in A.M.; Mostly Sunny in P.M.	Temperature: Low 46 °F High 79 °F

BBLES and Sterling on site @ 0615 to prepare the site for excavation activities. The following activities were performed today:

0615 BBLES and Sterling arrived at the job site and made preparations to excavate non-hazardous soils.

0615 – 0900 – Loaded first 11 dump trucks w/ non-hazardous soil along the east side of the site down to a depth ranging between 8'-12' below ground surface (approximate elevation of 1426). The excavated soil was loaded directly into the trucks and was fairly dry. The bottom of the excavation was approximately 2' below the ground-water table. The bottom of the excavation was fairly dry. The excavated soil consisted of a highly consolidated silty/clay material w/ a low permeability; therefore, infiltration of groundwater into the excavation was minimal. Air monitoring was performed by BBLES during the excavation activities. The excavated non-hazardous soil was transported to Waste Management Facility in Chaffee, NY;

0900 – 1030 – Loaded 12 dump trucks w/ non-hazardous soil excavated from near the center of the excavation moving in the westerly direction.

1030 – 1100 – Waiting for the next round of dump trucks/trailers.

1100 – 1145 – Loaded another 5 dump trucks of non-hazardous soil.

1145 – 1205 – Lunch.

1205 – 1520 – Loaded 17 trucks of non-hazardous soil. Excavation activities are complete for the day. The excavation is now approximately 6'-8' east of the RCRA-hazardous soil demarcation line. Will dig additional non-hazardous material tomorrow to finish the original non-hazardous area and to remove a portion of the non-hazardous soil above the RCRA-hazardous soil.

1520 – 1630 – Excavated potentially clean surface soil (0-2') in the area delineated as RCRA-hazardous soil. The potentially clean soil was placed in the temporary staging area.

Note: BBLES collected 6 sidewall samples, 1 stockpile soil sample, 10 bottom samples and 1 duplicate sample today.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0630 – 1630			1	10						
Foreman										
Laborer										
Operator 0630 – 1630			1	10						
Teamster					1	9				
Carpenter										
Iron Worker										

EQUIPMENT

Description / Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe – Kobelco				1	10						
Loader											
Truck											
Dozer – International				1	10						
Dump Truck						1	9				
Crane											
Roller											

A is: Sterling C is:

B is: LCA D is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AVX Corporation, Stask 1-RA, Olean, NY	Date: June 13, 2000 Sheet No. 1 of 1 sheets Proj. No.: 073.87 Page:
Sub Contractor: Sterling — Contract No.: —	Day of Week: S M T W T F S
Report By: JOE MOLINA — Signature: Joe Molina	
Weather: Foggy in A.M. - Mostly Sunny in P.M.	Temperature: Low 46°F High 81°F

0600-0615 - BBL ES and Sterling arrived at the site and made preparations to resume excavation activities.

0615-0900 - Continued to excavate non-hazardous soil and loaded the soil directly into 14 ten wheel dump trucks. Completed excavating soil in the non-hazardous area and excavated a portion of the non-hazardous soil above the RCRA-hazardous soil. The RCRA hazardous soil will not be excavated until 7/17/00. The depth of excavation ranged 8-12' below ground surface (moving south to north) and the bottom of the excavation was fairly dry. The bottom of the excavation was at approximate elevation 1426, which was approximately 2 feet below the ground-water table. Soil excavation activities along the west side were complete today and until 7/17/00. Based on the results of post-excavation sidewall soil samples along the eastern side of the excavated area, additional soil removal was required. In order to access this area, a temporary access road along the south side of the excavation (in the wooded area) had to be constructed. This access road will be used to load excavated soil into dump trucks along the east side of the site (scheduled to be excavated on 7/14/00). Excavated soil was transported to Waste Management's facility in Chaffee, NY.

0900-1230 - Cleared trees/brush ~~along~~ in a 20' wide area along the south side of the excavated area. Trees were knocked down with the tracked excavator and placed in an orderly fashion in the wooded area. The area was graded w/ dozer. A layer of woven geotextile fabric was then placed on the ground followed a 8"-10" layer of gravel. The gravel material was compacted using a steel drum roller. Approximately 375 tons of gravel was placed to construct this temporary access road. Since the temporary access road consisted of clean imported material, this material could be reused as backfill upon the completion of excavation activities.

1230-1300 - Lunch

1300-1400 - Closed up the site. Access road was prepared to truck traffic tomorrow.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0600 - 1400			1	8						
Foreman										
Laborer										
Operator 0600 - 1400			1	8						
Teamster					10	3				
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe - Kobelco				1	8						
Loader											
Truck											
Dozer - International				1	8						
Dump Truck				1		10	3				
Crane											
Roller steel drum				1	8						

A Is: Sterling

B Is: LCA - Trucking

C Is:

D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AVX Corporation Stage I RA Olean, NY	Date: June 14, 2000 Sheet No. 1 of 1 sheets Proj. No.: 073.07 Page:
Sub Contractor: Sterling Contract No.: —	Day of Week: S M T W T F S
Report By: Joe Molina	Signature: Joe Molina
Weather: Foggy/cloudy in A.M. – Mostly Sunny in P.M.	Temperature: Low 59°F High 80°F

0600-0615 - BBL ES & Sterling arrived at the site and prepared the site to resume excavation of non-hazardous soil. This area was an additional area located on the east side of the excavation.

0615 - 0800 - Loaded the first 9 dumptrucks w/ non-hazardous soil excavated from the east side of the site. This additional soil was excavated down to a depth of approximately 10-12' below the ground surface. The bottom of the excavation was fairly dry and at approximate elevation 1426±. The excavated soil was transported to Waste Management's facility in Chaffee, NY for landfill disposal. Air monitoring was performed during excavation activities.

0800-0900 - Waiting for trucks to arrive at the site.

0900 - 1215 - Loaded ~~the~~ 13 dumptrucks with non-hazardous soil excavated from the east side of the site. This was additional soil excavation. Excavation activities were completed for the day and a total of 22 trucks were loaded w/ non-hazardous soil today.

1215-1300 - Lunch

1300-1400 - Closed up the site for the day and the site was prepared for excavation of RCRA hazardous soil on 7/17/00.

*Note: Excavated some additional soil along the bottom of the excavation near the northeast corner of the site (near sample BOT-1&2). The excavation was approximately 2' deep and was stockpiled. Polyethylene sheeting on the bottom of the excavation. The pile was sampled (waste characterization sample to determine if the soil was RCRA-hazardous or non-hazardous) and covered with a layer of polyethylene.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0600 - 1300			1	7						
Foreman										
Laborer										
Operator 0600 - 1300			1	9						
Teamster					10	7				
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe - Kobelco				1	7						
Loader											
Truck											
Dozer - International				1	7						
Dump Truck -						10	7				
Crane											
Roller - Steel Drum				1	7						

A Is: Sterling

C Is:

B Is: LCA Trucking

D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT AUX Corporation Stagel RA Olean, NY	Date: June 17, 2000 Sheet No. 1 of 1 sheets Proj. No.: 873.07 Page:
Sub Contractor: Sterling Contract No.: —	Day of Week: S X T W T F S
Report By: Joe Molina Signature: Joe Molina	
Weather: Mostly Sunny & Warm.	Temperature: Low 60°F High 80°F

0600 - 0645 - BBLES and Sterling arrived at the site and prepared for soil excavation activities. Approximately 4"-6" of water (average) was on the bottom of the excavation due to a rain event on Sunday (7/16/00) night. The water did not need to be removed since it would not impact excavation or future backfilling activities.

0645 - 1045 - Commenced excavation of RCRA-hazardous soil on the west side of the excavation. The depth of excavation was approximately 8-12' below ground surface (moving from south to north). The bottom of the excavation was at approximate elevation 1426'*. Air monitoring was performed by BBLES during excavation activities. A total of 13 dump trailers were loaded and hauled the RCRA-hazardous soil to EQ's facility in Belleville, MI for treatment (thermal oxidation) and subsequent landfilling for disposal.

1100 - 1230 - Loaded 8 trucks with non-hazardous soil excavated from the east side of the excavation. This was additional soil that was excavated down to a depth ranging between 8-12' below ground surface (moving south to north). The bottom of the excavation was at approximate elevation 1426'*. Air monitoring was performed during the soil excavation activities. The non-hazardous soil was transported to Waste Management's facility in Chaffee, NY for landfill disposal.

1230 - 1330 - Lunch and waiting for trucks.

1330 - 1515 - Loaded another 9 trucks w/ non-hazardous soil excavated from the east side of the site. Finished excavating non-hazardous soil for the day and a total of 17 trucks were loaded. Completed additional excavation of east side of site. Still have additional excavation at the southeast corner of excavation.

1515 - 1545 - Waiting for RCRA-hazardous trucks.

1545 - 1605 - Loaded the last 2 trucks with RCRA-hazardous soil. A total of 15 trucks were loaded today w/ RCRA-hazardous soil.

1605 - 1630 - Closed the site for the day and left the site @ 1630.

*The soil stockpiled on the bottom of the excavation (east side) was determined to be non-hazardous based on the waste characterization sample result.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0600-1630			1	10						
Foreman										
Laborer										
Operator 0600-1630			1	10						
Teamster					9	6	15	3		
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe - Kobelco				1	10						
Loader											
Truck											
Dozer				1	10						
Dump Truck & Trailers						9	6	15	3		
Crane											
Roller				1	10						

A is: Sterling

B is: LGA Trucking

C is: RCRA hazardous trucks

D is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AUX Corporation Stage I RA Olean, NY	Date: June 19, 2000 Sheet No. 1 of 1 sheets Proj. No.: 073.07 Page:
Sub Contractor: Sterling Contract No.: —	Day of Week: S M T W T F S
Report By: Joe Molina Signature: Joe Molina	
Weather: Mostly Sunny	Temperature: Low 59°F High 82°F

0600 - 0615 - BBLES & Sterling arrived onsite and prepared for excavation activities.
0615 - 0630 - Excavated the remaining non-hazardous soil over the RCRA-hazardous soil on the west side of the excavation. The soil was excavated approximately 0-3' below ground surface. Air monitoring was performed during the excavation activities. The excavated non-hazardous soil was transported to Waste Management's facility in Chaffee, NY for landfill disposal. A total of 2 trucks were loaded.
0630 - 0915 - Excavated RCRA-hazardous soil at the west end of the excavation. The soil was direct loaded into dump trailers. A total of 11 dump trailers were loaded. The soil was excavated down to a depth of 8-12' below ground surface, to an elevation of approximately 1426± . Air monitoring was performed by BBLES during the excavation activities. The excavated soil was transported to EQ's facility in Belleville, MI for treatment (thermal oxidation) and subsequent landfill disposal.
0915 - 0940 - Loaded 2 additional dump trucks with non-hazardous soil. This was the remaining additional non-hazardous soil at the southeast corner of the excavation. A total of 4 trucks were loaded today w/ non-hazardous soil.
0940 - 1000 - Closed the site for the day.

LABOR

Classification	Prime No. Men	Prime Hours	A No. Men	A Hours	B No. Men	B Hours	C No. Men	C Hours	D No. Men	D Hours
Superintendent 0600 – 1000			1	4						
Foreman										
Laborer										
Operator 0600-1000			1	4						
Teamster					2	3	11	3		
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime No.	Prime Hours	A No.	A Hours	B No.	B Hours	C No.	C Hours	D No.	D Hours
Backhoe				1	4						
Loader											
Truck											
Dozer				1	4						
Dump Truck/Trailers						2	3	11	3		
Crane											
Roller				1	4						

A Is: Sterling

B Is: LCA Trucking

C Is: RCRA-haz. soil

D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AVX Corporation
Stage I RA
Olean, NY

Date: June 19, 2000

Sheet No. 1 of 1 sheets

Proj. No.: 073.87 Page: _____

Contractor: Sterling Contract No.: _____

Day of Week: S M T W T F S

Report By: Joe Molna Signature: Joe Molna

Weather: Mostly Sunny Temperature: Low 54°F High 80°F

0600-0630 - BBLES and Sterling arrived onsite and made preparations for excavation activities.

0630-1040 - Excavated the remaining RCRA-hazardous soil on the west side of the excavation. The excavation depth was approximately 8-12' below grand surface (moving south to north) and at approximate elevation 1426. Air monitoring was performed by BBLES during excavation. The RCRA-hazardous soil has been completed for the site. The excavated RCRA-hazardous soil was transported to EQ's facility in Belleville, MI for treatment (thermal oxidation) and subsequent landfilling for disposal.

1040-1100 - Closed the site for the day.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0600-1100	1	5								
Foreman										
Laborer										
Operator 0600-1100	1	5								
Teamster			6	2						
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe		1	5								
Loader											
Truck											
Dozer		1	5								
~~Dump Truck~~ Trailers				6	2						
Crane											
Roller		1	5								

A Is: Sterling

B Is: RCRA Haz Trucks

C Is:

D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT AUK Corporation Stagel RA Olean, NY	Date: July 20, 2000 Sheet No. 1 of 1 sheets Proj. No.: 073.07 Page:
Sub Contractor: Sterling Contract No.:	Day of Week: S M T W T F S
Report By: Joe Molina Signature: Joe Molina	
Weather: Mostly Sunny	Temperature: Low(6) °F High 81 °F

A Prefinal Inspection was performed @ the site between 1000-1200 with AUX, BBLES, and USEPA. Received post excavation soil samples analytical results (BOT-23, 24, #25) which were well above the soil cleanup criteria. The USEPA agreed that the horizontal extent of excavation has been achieved and backfilling could commence at the site. It was also agreed that additional excavation should be performed along the bottom of the excavation at Sample points BOT-23, 24, #25). This will include a 20' wide area across the excavation, an additional 2' deep.

1400-1500 — Sterling on site and performed additional excavation along the bottom of the excavation. This material was placed on polyethylene at the west side of the excavation and was covered with a layer of polyethylene. A sample of this soil was collected and analyzed for disposal purposes.

1500-1600 — Placed approximately 4 loads of clean backfill material in the excavation.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent - 1400-1600			1	2						
Foreman										
Laborer										
Operator - 1400-1600			1	2						
Teamster										
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe				1	2						
Loader											
Truck											
Dozer				1	2						
Dump Truck											
Crane											
Roller				1	2						

A is: Sterling C is:

B is: D is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT: AVK Corporation Stage I RA Olean, NY	Date: July 21, 2000 Sheet No. 1 of 1 sheets Proj. No.: 07387 Page:
Sub Contractor: Sterling Contract No.: —	Day of Week: S M T W T F S
Report By: Joe Molina Signature: Joe Molina	
Weather: Sunny	Temperature: Low 61°F High 80°F

0700 – BBLES and Sterling arrived at the site to resume backfilling activities.
0700–1540 – Backfilled the excavated area with imported clean bankrun gravel. A total of 88 loads of bankrun gravel was placed in the excavation. The gravel was dump directly in the excavation and graded w/ a dozer. The material was placed toward the east side of the excavation and the water along the bottom of the excavation was pushed to the east side.
1430–1500 – Received the analytical result for the soil sample collected from the SOU excavated/stockpiled yesterday. The ~~sample~~ soil was determined to be a non hazardous material based on the analytical results. Therefore, this material was loaded into four trucks and hauled to Waste Management's facility in Chaffee, NY for land fill disposal. At this time all excavating and post-excavation sampling have been completed for the site.

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent 0700-1600	1	9								
Foreman										
Laborer										
Operator 0700-1600	1	9								
Teamster										
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe		1	9								
Loader											
Truck											
Dozer		1	9								
Dump Truck											
Crane											
Roller		1	9								

A Is: Sterling C Is:

B Is: D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT
AVX RD/RA
OCEAN, N.Y.

Date: 7/24/00
Sheet No. 1 of 1 sheets
Proj. No.: 073.87 Page: 1

Contractor: STERLING ENVIRONMENTAL Contract No.:

Day of Week: S M T W T F S

Report By: DOUGLAS M. RUSZCZYK Signature: Douglas M. Ruszczyk

Weather: P.CLOUDY, FOG 53°F TO P.CLOUDY Temperature: Low 53 High 74

0700: STERLING ENV. ON SITE (W. CAMERON & J. KELLEHAN)

0715-0920 - 5 TRUCK LOADS OF WASHED STONE PLACED IN EAST EXCAVATION

0925: RECEIVED ANALYTICAL DATA REGARDING WEST EXCAVATION. GIVEN APPROVAL TO BACKFILL

0940-1013 - 5 TRUCK LOADS OF WASHED STONE PLACED IN WEST EXCAVATION

1030: NOTIFIED THAT SOIL PILES B & 9 ARE CLEAN AND CAN BE USED AS APPROVED BACKFILL.

1035-1100: 3 TRUCK LOAD OF WASHED & 2 LOADS OF BANK RUN

1130-1145: 5 LOADS OF BANK RUN

1237-1250: 5 LOADS OF BANK RUN - 1 TRUCK STAYS TO ASSIST IN LOADOUT OF SITE BACKFILL

1335-1345: 4 LOADS OF BANK RUN

1428-1440: 4 LOADS OF BANK RUN

1528-1545: 4 LOADS OF WASHED STONE

1625-1640: 5 LOADS OF #2 ANGULAR

- 3 SOIL DRUMS & 4 DRUMS OF DRILL/PURGE/DECON WATER STAGED IN MAINTENANCE SHED BY AVX

1700: STERLING OFF-SITE

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent										
Foreman										
Laborer										
Operator										
Teamster										
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe / EXCAVATOR		1	5								
Loader											
Truck		+	~~3~~								
Dozer		1	3								
Dump Truck		1	3								
Crane											
Roller											
VIBRATOR		1	4								

A Is: C Is:

B Is: D Is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

BBL ENVIRONMENTAL SERVICES, INC.

DAILY PROJECT REPORT

PROJECT AVX RD/KA OLEAN, NY	Date: 7/25/00 Sheet No. 1 of 1 sheets Proj. No.: 073-87 Page: 1
Contractor: STERLING ENVIRONMENTAL Contract No.:	Day of Week: S M T W T F S
Report By: DOUGLAS M. RUSZCZYK Signature:	
Weather: M. SUNNY, MORNING FOG	Temperature: Low 56°F High 78°F

0630: STERLING ON SITE. PREPPING HEAVY EQUIPMENT FOR CONTINUED SITE BACKFILL & GRADING ACTIVITIES

0708-0720: 2 LOADS OF #2 STONE

0800-0810: 2 LOADS OF #2 STONE

0840-0855: 4 LOADS OF #2 STONE

0907-0915: 2 LOADS OF #2 STONE - TRACK EXCAVATOR PICKED UP FROM SITE

0930-0947: 4 LOADS OF #2 STONE

1017-1035: 6 LOADS OF #2 STONE

1105-1130: 6 LOADS OF #2 STONE

1155-1220: 6 LOADS OF #2 STONE

1300-1327: 6 LOADS OF #2 STONE

1340-1410: 5 LOADS OF #2 STONE

1440-1445: 2 LOADS OF #2 STONE

- STERLING CONTINUALLY GRADED BACKFILL AND COMPACTED. GRADING MAINTAINS A SOUTHERLY SLOPE FROM AVX BUILDING TO VEGETATION.

1600: STERLING COMPLETES SITE GRADING ACTIVITIES

LABOR

Classification	Prime		A		B		C		D	
	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours	No. Men	Hours
Superintendent										
Foreman										
Laborer										
Operator										
Teamster										
Carpenter										
Iron Worker										

EQUIPMENT

Description Make/Size/Model No.	Not Used	Prime		A		B		C		D	
		No.	Hours	No.	Hours	No.	Hours	No.	Hours	No.	Hours
Backhoe / EXCAVATOR		1	1								
Loader											
Truck											
Dozer			9								
Dump Truck											
Crane											
Roller											
VIBRATOR / ROLLER			6								

A is:

C is:

B is:

D is:

MATERIAL

Item No.	Description	Quantity	Item No.	Description	Quantity

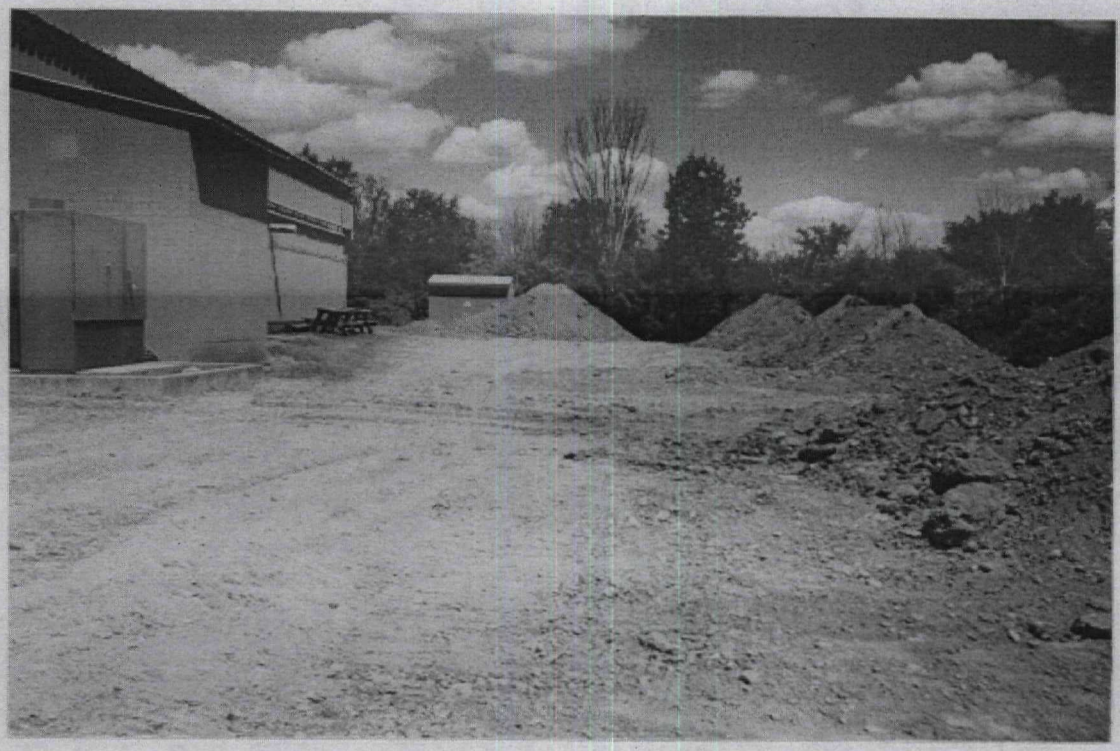
Appendix B

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

Photodocumentation Log

Appendix B
Photodocumentation Log
Stage 1 Remedial Action Report
AVX Corporation
Olean, New York

Photograph No.	Date Photo Taken	Description
1	7/5/00	Removing/stockpiling clean on-site surface soil.
2	7/7/00	Spreading clean on-site soil in the temporary soil staging area.
3	7/7/00	Excavation area is graded prior to removing impacted soil.
4	7/7/00	Spreading clean on-site soil in the temporary soil staging area.
5	7/10/00	Commenced excavation of impacted soil at the east side of the site.
6	7/11/00	Excavating impacted soil at the east side of the site.
7	7/11/00	Excavating impacted soil at the east side of the site.
8	7/11/00	Excavating impacted soil next to the existing manufacturing building.
9	7/12/00	Continued to excavate impacted soil in the westerly direction.
10	7/14/00	Excavated area looking west to east.
11	7/14/00	Excavated area looking east to west.
12	7/14/00	Constructing a temporary access road along the south side of the site.
13	7/18/00	Excavated area looking west to east.
14	7/18/00	Excavating the northwest corner of the site.
15	7/18/00	Excavating the southwest corner of the site.
16	7/19/00	Excavated area looking west to east.
17	7/25/00	Area backfilled/graded, looking west to east.
18	7/25/00	Area backfilled/graded along the existing building, looking west to east.
19	7/25/00	Area backfilled/graded along the south side of the site.
20	7/25/00	Area backfilled/graded along the east side of the site.
21	7/25/00	Area backfilled/graded at the northeast corner of the site.
22	7/25/00	Area backfilled/graded along the existing building, looking east to west.
23	7/25/00	Area backfilled/graded, looking east to west.
24	7/25/00	Area backfilled/graded, looking east to west.



Photograph No. 1

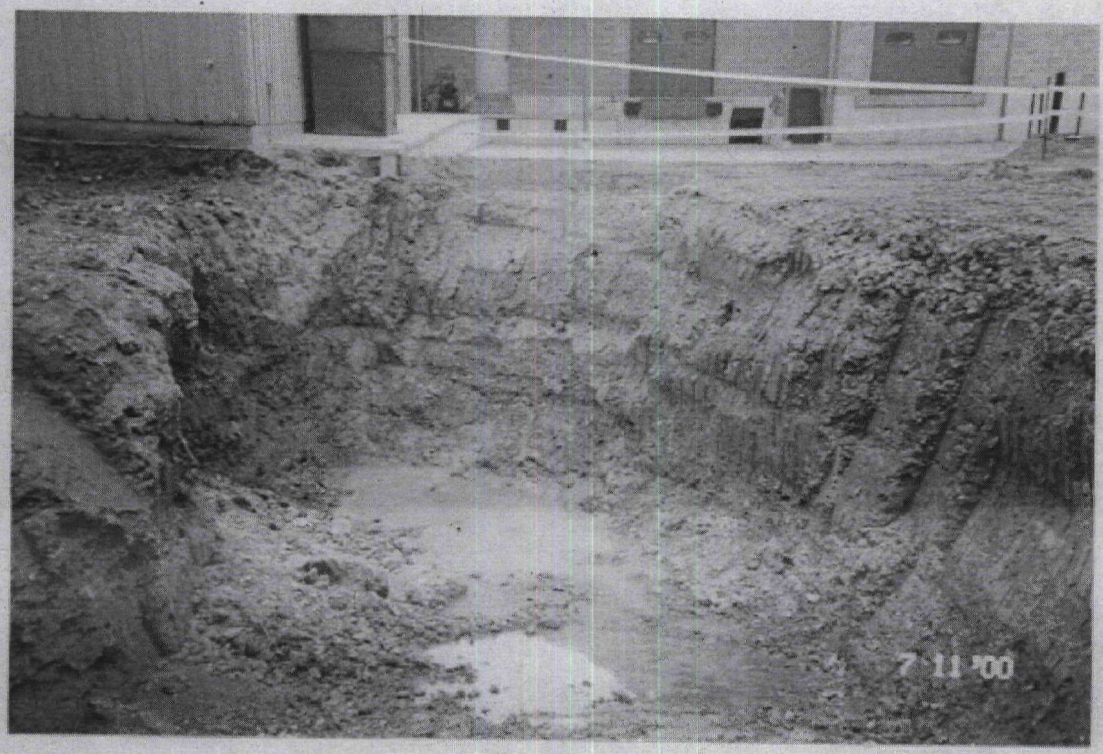
Photograph No. 2

Photograph No. 3

Photograph No. 4

Photograph No. 5

Photograph No. 6



Photograph No. 7

Photograph No. 8

Photograph No. 9

Photograph No. 10

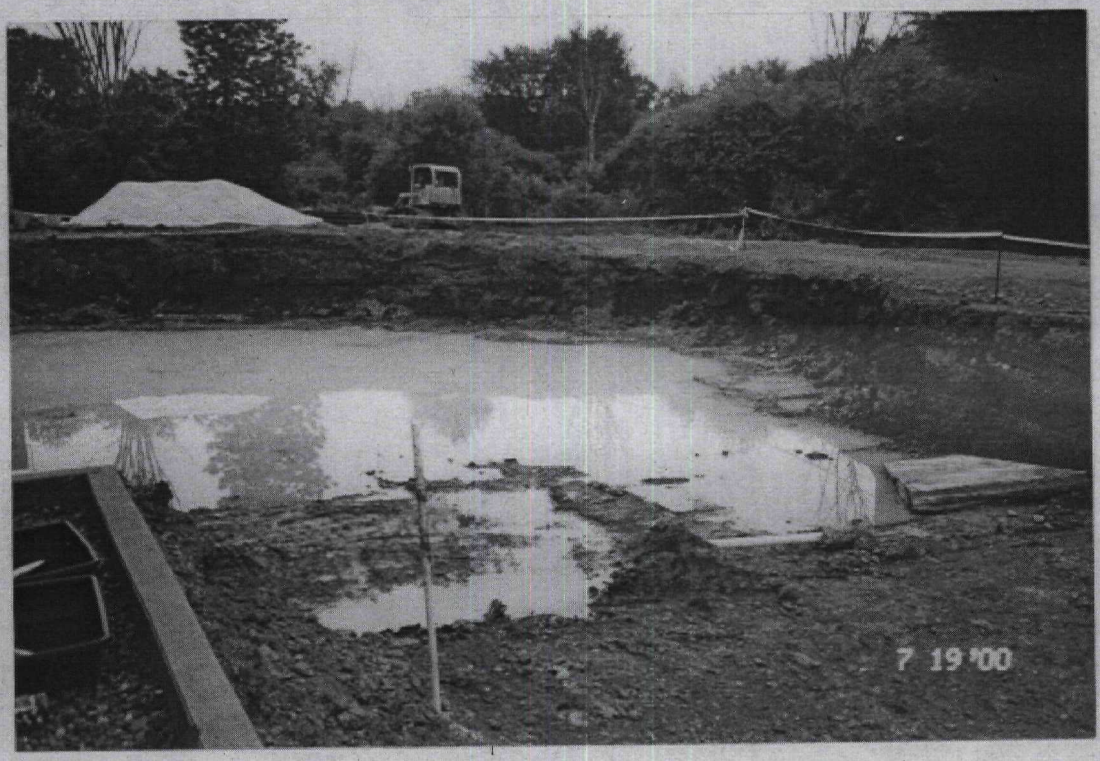
Photograph No. 11

Photograph No. 12

Photograph No. 13

Photograph No. 14

Photograph No. 15



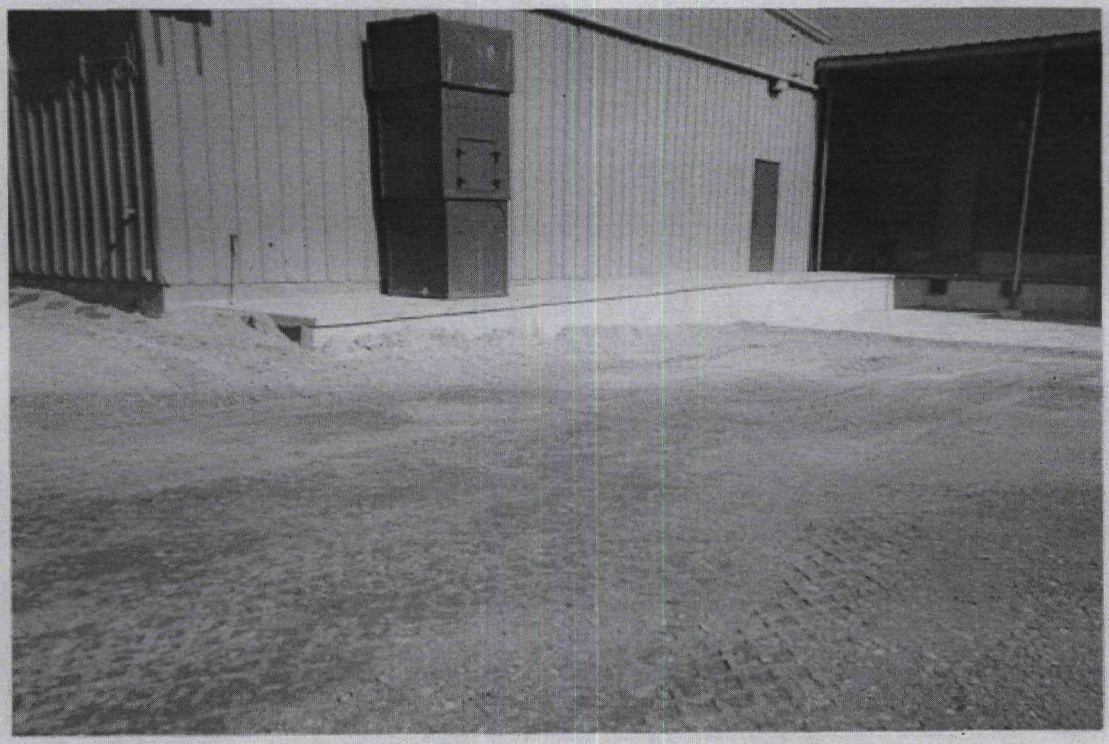
Photograph No. 16

Photograph No. 17

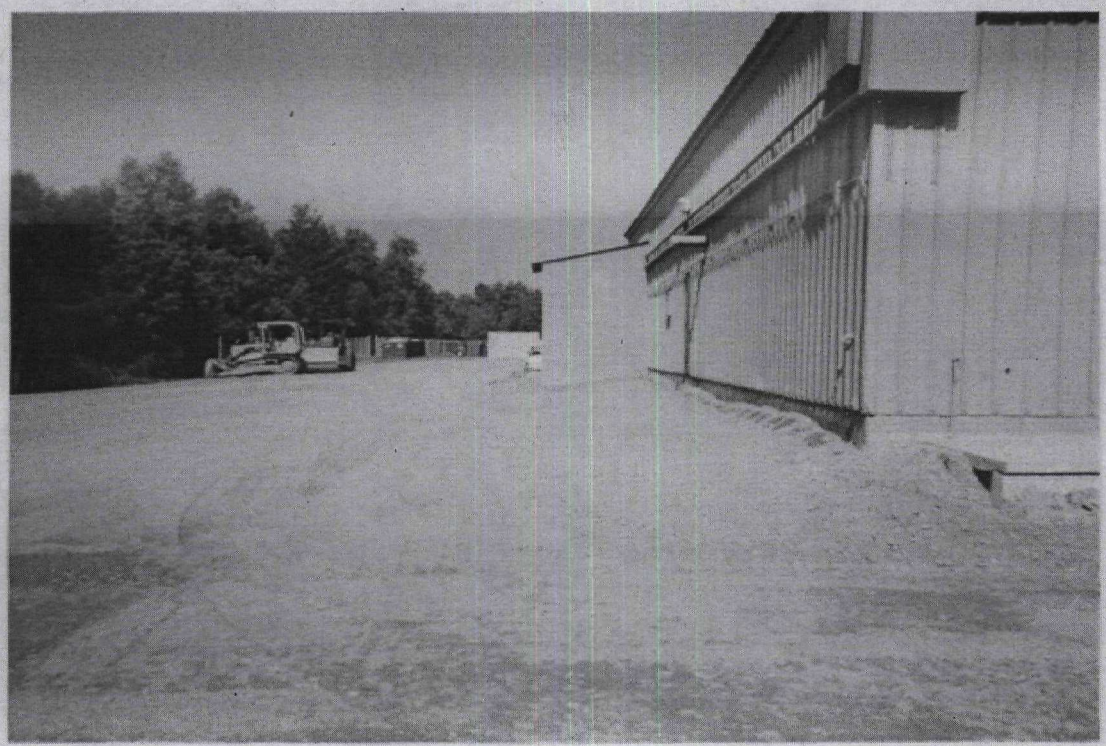
Photograph No. 18

Photograph No. 19

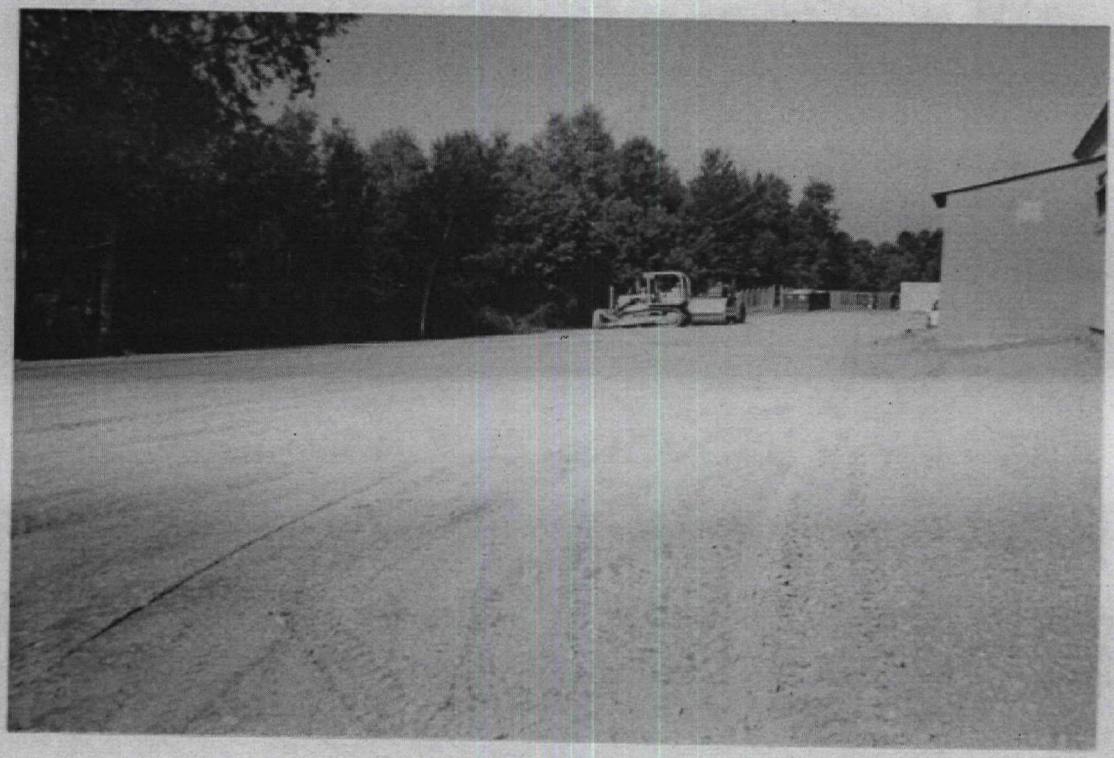
Photograph No. 20



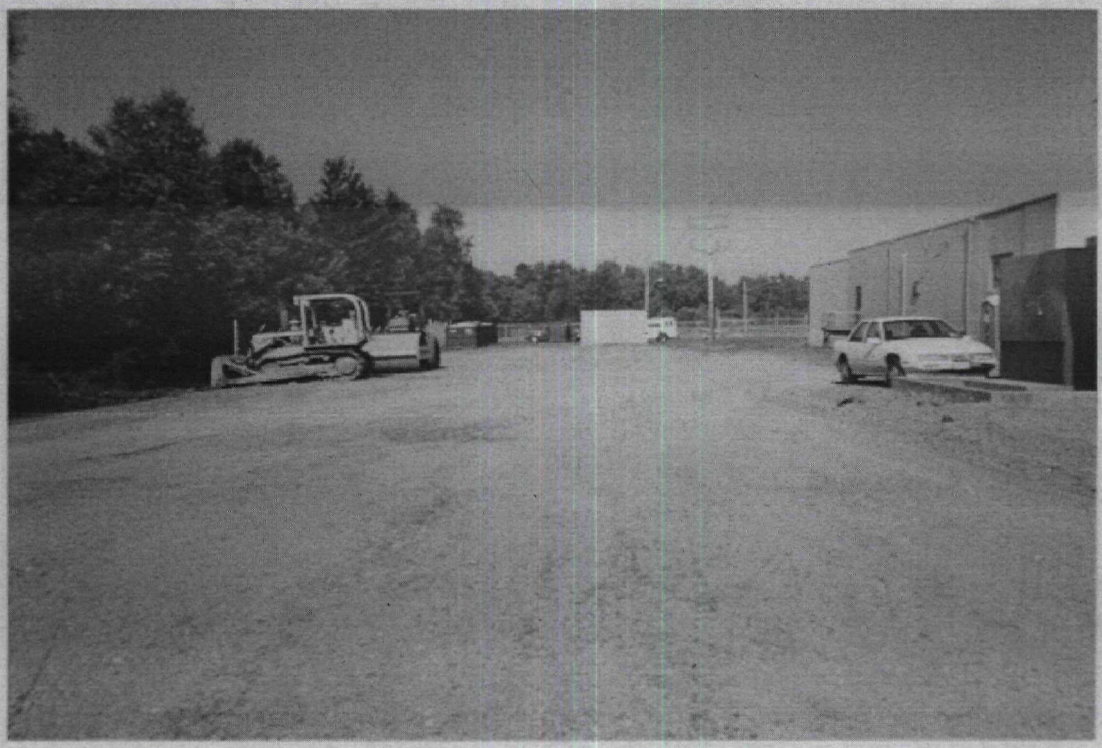
Photograph No. 21



Photograph No. 22



Photograph No. 23



Photograph No. 24

Appendix C

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

Daily Air Monitoring Logs

DAILY AIR MONITORING LOG

Project: AUX RD/LA **Date:** 7/5/00

Monitoring Instruments: FOXBORO OVA, MIE DATARAM, GASTECH LEL/O_2/H_2S/CO

Air Monitor: DOUGLAS RUSZCZYK **Activity:** SITE GRADING

Level of Protection: LEVEL D

Time	Location	Instrument Reading	Comments
0820 - DATA RAM	GRADING AREA - UPWIND	0.010 mg/m^3	
	- DOWNWIND	0.015 mg/m^3	
0825 - OVA	GRADING AREA	1.0 ppmV	BACKGROUND CONCENTRATION
0830 - GASTECH	GRADING AREA	21.9% O_2/0% LEL, H_2S, CO	
0900 DATA RAM	GRADING AREA	0.019 mg/m^3	
0930 DATA RAM	GRADING AREA	0.030 mg/m^3	
1000 DATA RAM	GRADING AREA	0.028 mg/m^3	
OVA	GRADING AREA	1.0 ppmV	BACKGROUND CONCENTRATION
1100 DATA RAM	GRADING AREA	0.035 mg/m^3	
1 OVA	GRADING AREA	1.0 ppmV	BACKGROUND CONCENTRATION
1200 DATA RAM	GRADING AREA	0.031 mg/m^3	
OVA	GRADING AREA	1.0 ppmV	BACKGROUND CONCENTRATION
1500 OVA	TEST PIT (0-8.5')	1,000 - 2,000 ppmV	ABOVE BACKGROUND

DAILY AIR MONITORING LOG

Project: AVX RD/RA **Date:** 7/7/00

Monitoring Instruments: FOXBORO OVA, MIE DATARAM, GASTECH LEL/H_2S/CO/CO_2 METER

Air Monitor: DOUGLAS RUSZCZYK **Activity:** SOIL PILE GRADING

Level of Protection: LEVEL D

Time	Location	Instrument Reading	Comments
0830 - DATA RAM	GRADING AREA - UPWIND	0.009 mg/m^3	
	GRADING AREA - DOWNWIND	0.017 mg/m^3	
0840 - OVA	GRADING AREA	1.0 ppm V	BACKGROUND CONCENTRATION
0845 - GASTECH	GRADING AREA	21.9% O_2, 0% LEL, H_2S & CO	
0900 - DATA RAM	GRADING AREA	0.024 mg/m^3	
0930 DATA RAM	GRADING AREA	0.029 mg/m^3	
0930 OVA	GRADING AREA	1.0 ppm V	BACKGROUND CONCENTRATION
1000 DATA RAM	GRADING AREA	0.034 mg/m^3	
1030 DATA RAM	GRADING AREA	0.023 mg/m^3	
1100 DATA RAM	GRADING AREA	0.027 mg/m^3	
1100 OVA	GRADING AREA	1.0 ppm V	BACKGROUND CONCENTRATION
1200 DATA RAM		0.018 mg/m^3	
1300 DATA RAM		0.025 mg/m^3	
1400 DATA RAM		0.027 mg/m^3	
1430 DATA RAM		0.015 mg/m^3	

DAILY AIR MONITORING LOG

Project: AUX Site - Stage 1 EA **Date:** 7/10/00

Monitoring Instruments: Gastech, OVA, DataRam

Air Monitor: Joe Molina **Activity:** Removal of Potentially Clean Surface Soil and Impacted Soil. West End of Site

Level of Protection: Level D PPE

Time	Location	Instrument Reading	Comments
0715	Downwind of Excavation of Clean Soil - 0-2'	Gastech - LEL-0%, H2S-0.0 CO-0.0, O2-20.1 DataRam - 0.030	
		OVA - 0.0	
0800	Excavation of Impacted Soil	Gastech - LEL-0%, H2S-0.0 CO-0.0, O2-20.2 DataRam - 0.010	
		OVA - 0.0	
0900	Excavation of Impacted Soil	DataRam - 0.006 OVA - 0.00	
		Gastech - LEL-0%, H2S-0.0 CO-0.0, O2-19.9%	
1000	" "	DataRam - 0.005 OVA - 0.0	
		GasTech - LEL-0%, H2S 0.0 CO-0.0, O2-19.8%	
1100	" "	DataRam - 0.006 OVA - 3ppm	Some spikes occurred but no sustained reading
		GasTech - LEL-0.0, H2S-0.0 CO-0.0, O2-19.8%	10-20ppm spikes but settled down to 2ppm.
1200	" "	Data Ram - 0.011 OVA - 4ppm	Some spikes but no sustained reading
		GasTech - LEL-0.0, H2S-0.0 CO-0.0, O2-19.8%	
1300	" "	DATA RAM - 0.016 OVA - 4ppm	
		GASTECH - LEL - 0.0 H2S-0.0 CO 0.0, O2 - 19.8%	
1400	" "	DATA RAM - 0.014 OVA - 4ppm	
		GASTECH - LEL - 0.0 H2S - 0.0 CO - 0.0 O2 - 19.8%	
1500	" "	DataRam - 0.020 OVA - 3ppm	
		Gastech - LEL-0.0, H2S-0.0 CO-0.0, O2-19.9%	
1530	Removed potentially clean material from 0-2'	DataRam - 0.018 OVA - 2ppm	
		Gastech - LEL-0.0, H2S-0.0 CO-0.0, O2-20.0%	

DAILY AIR MONITORING LOG

Project: AUX Corporation, Stage 1 RA **Date:** 7/11/00

Monitoring Instruments: GasTech, Miniram, FID

Air Monitor: Joe Molin **Activity:** Soil excavation activities

Level of Protection: Level D

Time	Location	Instrument Reading	Comments
0645	Downwind of breathing zone.	Miniram – 0.005 PID – 2.0ppm – background Gastech – LEL – 0%, O_2 – 19.8%, H_2S – 0.0, CO – 0.0	Excavation of non-hazardous soil
0745	" "	Miniram – 0.030 FID – 3ppm Gastech – LEL – 0% – O_2 – 19.8% H_2S – 0.0, CO – 0.0	Background was 2ppm for FID
0845	" "	Miniram – 0.020 FID – 2.0 Gastech – LEL – 0% – O_2 20.1% H_2S – 0.0, CO – 0.0	Background was 2ppm for FID
0945	" "	Miniram – 0.022 FID – 3.0 Gastech – LEL – 0% – O_2 20.1% H_2S – 0.0, CO – 0.0	Background was 2ppm for FID
1045	" "	Miniram – 0.011 FID – 3.0 Gastech – LEL – 0% – O – 19.9% H_2S – 0.0, CO – 0.0	Background for FID @ 2ppm
1145	" "	Miniram – 0.012 FID – 3.0 GASTECH – LEL – 0.0 O_2 – 19.8% H_2S – 0.0, CO – 0.0	Background for FID @ 2ppm
1245	" "	Miniram – 0.012 FID – 3.0 GASTECH – LEL 0.0, O_2 19.9 H_2S – 0.0, CO 0.0	Background @ 2ppm
1345	" "	Miniram – 0.017 FID – 2.0 Gastech – LEL 0.0 O_2 – 19.9 H_2S 0.0 / CO – 0.0	Background @ 2.0
1445	" "	Miniram – 0.015 FID – 2.0 GASTECH – LEL 0.0, O_2 – Air H_2S – 0.0, CO – 0.0	Background @ 2.0ppm
1545	Excavating clean soil "	Miniram – 0.012 FID 4.3 GASTECH – LEL – 0.0, O_2 – 19.8 H_2S 0.0, CO – 0.0	Background @ 2.0ppm

DAILY AIR MONITORING LOG

Project: AUX Corp – Stage I RA **Date:** July 12, 2000

Monitoring Instruments: Gastech, OVA, Miniram

Air Monitor: JM **Activity:** Excavation of non-hazardous (UDC-impacted) soil

Level of Protection: Level D PPE

Time	Location	Instrument Reading	Comments
06:30	Downwind of excavation in the breathing zone.	Miniram – 0.012 FID – 0.0	
		Gastech – O_2 20.9%, CO – 0.0 H_2S – 0.0 LEL – 0.0%	
0730	" "	Miniram – 0.010 FID – 0.0	
		GASTECH – O_2 20.9%, CO – 0.0 H_2S – 0.0 LEL 0.0%	
0830	" "	Miniram – 0.012 FID – 0	
		Gastech – O_2 20.9%, CO – 0.0 H_2S – 0.0 ; LEL – 0 %	
0930	" "	Miniram – 0.010 FID – 0	
		GASTECH – O_2 20.1%, CO – 0.0 LEL 0.0%, H_2S – 0.0	
1030	" "	Miniram – 0.018 FID 0	
		GASTECH – O_2 20.1%, CO – 0.0 LEL 0%, H_2S – 0.0	
1130	" "	Miniram – 0.014 FID – 0.0	
		Gastech – O_2 20.2%, CO – 0.0 LEL – 0%, H_2S – 0.0	
1230	" "	Miniram – 0.020 FID – 0.0	
		Gastech – O_2 – 20.1, CO – 0.0 LEL – 0%, H_2S – 0.0	
1330	" "	Miniram – 0.026 FID – 0.0	
		Gastech – O_2 – 20.0%, CO – 0.0 LEL – 0%, H_2S – 0.0	
1450	" "	Miniram – 0.030 FID 0.0	
		Gastech – O_2 – 20.1%, CO – 0.0 LEL 0%, H_2S – 0.0	
1530	" "	Miniram – 0.022 FID – 0.0	
		Gastech – O_2 – 20.9% CO – 0.0 LEL – 0% – H_2S – 0.0	

DAILY AIR MONITORING LOG

Project: Stage I RA - AVX Corporation, Olean, NY **Date:** 7/13/00

Monitoring Instruments: OVA, Miniram, Gastech

Air Monitor: JM **Activity:** Excavation of Non-Hazardous Soil

Level of Protection: Level D

Time	Location	Instrument Reading	Comments
0645	Downwind perimeter of excavation - Breathing Zone	FID - 0.0 Miniram - 0.025	
		Gastech - O_2 - 20.9% - CO 0.0 H_2S - 0.0, LEL - 0%	
0745	" "	FID - 0.0 Miniram - 0.016	
		Gastech - CO - 0.0, H_2S - 0.0 LEL - 0%, O_2 - 20.7%	
0845	" "	FID - 0.0 Miniram - 0.010	
	Stopped excavation at 0900	Gastech - CO - 0.0, H_2S - 0.0 LEL 0%, O_2 - 20.6%	

DAILY AIR MONITORING LOG

Project: AOC Stage 1 RA **Date:** 7/14/00

Monitoring Instruments: Gastech-Miniram

Air Monitor: JM **Activity:** Soil Excavation, east end

Level of Protection: Level D

Time	Location	Instrument Reading	Comments
0715	Downgradient perimeter in the Breathing Zone	Miniram - 0.010 FID - 0.0	
		Gastech - LEL-0%, CO-0.0 H_2S - 0.0, O_2 - 20.7%	
0815	" "	Miniram - 0.019 FID - 0	
		ONSTECH LEL-0.0%, CO-0.0 H_2S 0.0, O_2 - 20.3%	
0915	" "	Miniram - 0.018 FID - 1	
		GASTECH - LEL-0%, CO-0.0 H_2S - 0.0, O_2 - 20.3%	
1015	" "	Miniram - 0.018 FID - 0.0	
		Gastech - LEL-0% - CO-0.0 H_2S - 0.0, O_2 - 20.2%	
1115	" "	Miniram - 0.021 FID - 0.0	
		Gastech - LEL-0% CO+0.0 H_2S 0.0, O_2 - 20.1%	
1200	" "	Miniram - 0.025 FID - 0.0	
		Gastech - LEL-0% - CO-0.0 H_2S - 0.0, O_2 - 20.1%	

DAILY AIR MONITORING LOG

Project: Stage 1 RA - AVX Corporation, Olean, NY **Date:** June 17, 2000

Monitoring Instruments: OVA, Miniram, Gastech

Air Monitor: JM **Activity:** Excavation of Hazardous & non-hazardous soil

Level of Protection: Level D

Time	Location	Instrument Reading	Comments
0650	Downwind perimeter breathing zone - West End hazardous soil excavation	Miniram - 0.008 FID - 2.0	Background for PID was 2.0
		Gastech - LEL-0%, O_2-20.6% H_2S-0.0, CO - 0.0	
0750	" "	Miniram - 0.010 FID - 2.0	
		Gastech - LEL-0%, O_2-20.6% H_2S-0.0, CO - 0.0	
0850	" "	Miniram - 0.018 FID - 4.2	
		Gastech - LEL-0%, O_2-20.6% H_2S-0.0, CO-0.0	
0950	" "	Miniram - 0.012 FID - 2.0	
		GASTECH - LEL-0%, O_2-20.5% H_2S-0.0, CO-0.0	
1050	" "	Miniram - 0.009 FID - 2.0	
		GASTECH - LEL-0%, O_2-20.5% H_2S-0.0, CO-0.0	
1150	Downwind perimeter breathing zone - East End non-hazardous excavation	Miniram - 0.015 FID - 2.0	
		Gastech - LEL-0%, O_2-20.4% H_2S-0.0, CO-0.0	
1250	" "	Miniram - 0.018 FID - 2.0	
		Gastech - LEL-0%, O_2-20.5% H_2S-0.0, CO-0.0	
1350	" "	Miniram - 0.020 FID - 2.0	
		Gastech - LEL-0%, O_2-20.3% H_2S-0.0, CO-0.0	
1450	" "	Miniram - 0.017 FID - 2.0	
		Gastech - LEL-0%, O_2-20.4% H_2S-0.0, CO-0.0	
1550	Downwind perimeter breathing zone West end - hazardous soil excavation	Miniram - 0.025 FID - 2.0	
		Gastech - LEL-0%, O_2-20.2% H_2S-0.0, CO-0.0	

DAILY AIR MONITORING LOG

Project: Aux Corporation - Stage I RA **Date:** June 18, 2000

Monitoring Instruments: OVA, Miniram, Gastech

Air Monitor: JM **Activity:** Excavation of Hazardous & Non-hazardous Soil

Level of Protection: Level D

Time	Location	Instrument Reading	Comments
0645	Downwind Perimeter - Excavation of haz soil on west end.	Miniram - 0.007 FID - 1.0 ppm Gastech - LEL-0%, O2-20.5% H2S-0.0, CO-0.0	Background for PID was 1.0 ppm
0745	" "	Miniram - 0.012 FID - 1.0 ppm Gastech - LEL-0%-O2-20.8% H2S-0.0, CO-0.0	" "
0845	" "	Miniram - 0.015 FID - 1.0 ppm Gastech - LEL-0%, O2-20.7% H2S-0.0, CO-0.0	" "
0945	" "	Miniram - 0.011 FID - 1.0 ppm Gastech - LEL-0%, O2-20.5% H2S-0.0, CO-0.0	" "
1045	Downwind Perimeter Excavation of non-hazardous soil	Miniram - 0.008 FID - 1.0 ppm Gastech - LEL-0%, O2-20.6% H2S-0.0, CO-0.0	" "

DAILY AIR MONITORING LOG

Project: Aux Coperation - Stage 1 RA **Date:** 7/19/00

Monitoring Instruments: FID, Miniram, & Gastech

Air Monitor: JM **Activity:** Soil Excavation

Level of Protection: Level D

Time	Location	Instrument Reading	Comments
0700	Downwind perimeter in the Breathing zone. Excavation of hazardous soil at the west end of the excavation.	Miniram - 0.008 FID - 1.0 Gastech - LEL-0%, O_2-20.8% H_2S - 0.0, CO - 0.0	Background for the FID was @ 1.0 ppm.
0800	" "	Miniram - 0.015 FID - 1.0 Gastech - LEL-0%, O_2-20.7% H_2S - 0.0, CO - 0.0	" "
0900	" "	Miniram - 0.019 FID - 1.0 Gastech - LEL-0%, O_2-20.5% H_2S - 0.0, CO - 0.0	" "
1000	" "	Miniram - 0.023 FID - 1.0 Gastech - LEL-0%, O_2-20.5% H_2S - 0.0 - CO - 0.0	" "