

APPENDIX A

HUMAN HEALTH RISK ASSESSMENT REPORTS FOR AOC 2:

A1: Post-remediation Risk Assessment

A2: Pre-remediation Risk Assessment

APPENDIX A1
POST REMEDIATION HUMAN HEALTH RISK
ASSESSMENT AT AOC 2

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TABLE OF CONTENTS

| | |
|---|------------|
| SECTION A1.1 INTRODUCTION..... | 1-1 |
| A1.1.1 Project Background..... | 1-1 |
| A1.1.2 Facility and Site Description..... | 1-1 |
| A1.1.3 Risk Assessment Process | 1-2 |
| A1.1.3.1 Summary of Available Data for AOC 2..... | 1-2 |
| A1.1.3.2 General HHRA Approach and Guidance Documents..... | 1-3 |
| A1.1.4 Organization of HHRA Report | 1-4 |
| SECTION A1.2 DATA EVALUATION AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN..... | 2-1 |
| A1.2.1 Confirmatory Sample Data Overview..... | 2-1 |
| A1.2.2 Screening Criteria Overview..... | 2-1 |
| A1.2.3 Risk Ratio Approach..... | 2-2 |
| SECTION A1.3 EXPOSURE ASSESSMENT | 3-1 |
| A1.3.1 Objective | 3-1 |
| A1.3.2 Conceptual Site Model..... | 3-1 |
| A1.3.3 Potential Receptors and Exposure Pathways | 3-2 |
| A1.3.4 Exposure Pathways | 3-3 |
| A1.3.4.1 Soil Exposure Pathway | 3-3 |
| SECTION A1.4 RISK RATIO AND SCREENING CRITERIA ASSESSMENT | 4-1 |
| A1.4.1 Screening and Comparison Criteria Assessment | 4-1 |
| A1.4.2 Risk Ratio Assessment..... | 4-1 |
| A1.4.3 Soil Screening Criteria | 4-2 |
| A1.4.4 Risk Ratio Equations..... | 4-3 |

TABLE OF CONTENTS

| | |
|--|------------|
| SECTION A1.5 RISK ASSESSMENT RESULTS AND UNCERTAINTIES | 5-1 |
| A1.5.1 Objective | 5-1 |
| A1.5.2 Summary of Carcinogenic and Non-Carcinogenic Risk..... | 5-1 |
| A1.5.3 Uncertainties | 5-1 |
| SECTION A1.6 REFERENCES..... | 6-1 |
| SECTION A1.7 FIGURES, SITE PHOTOGRAPHS, AND TABLES (DATA AND RISK CALCULATION TABLES) | 7-1 |

LIST OF FIGURES

| | |
|---|-----|
| Figure A1.1 Site Vicinity | 7-2 |
| Figure A1.2 Site Plan..... | 7-3 |
| Figure A1.3 Human Health Conceptual Site Model..... | 7-5 |
| Figure A1.4 Human Health Conceptual Site Model Exposure Pathway Completeness and Assumptions..... | 7-6 |

LIST OF TABLES

| | |
|---|-----|
| Table A1.1 Comparison of Exposure Point Concentrations to Background – AOC 2 Soils | 7-7 |
| Table A1.2 Comparison of Exposure Point Concentrations to NYSDEC Screening Criteria – AOC 2 Soils..... | 7-8 |
| Table A1.3 Risk Ratio Calculations – AOC 2 Soils | 7-9 |

SECTION A1.1

INTRODUCTION

A1.1.1 PROJECT BACKGROUND

A1.1.1.1 This quantitative human health risk assessment (HHRA) has been prepared by Parsons as part of the RI for AOC 2, which is the Former Bivouac Area/Post Commander's Landfill, located to the west of the former SADVA. There are five areas of interest (AOIs) within AOC 2 that were targeted for soil removal (called Area B, Area C, Area D, Area F, and AOI5). These AOIs were identified based on visual inspection and evidence of possible contamination (*e.g.*, drums, solvent bottles) identified during the RI. These areas have been combined for site-wide risk analyses of AOC 2. An additional AOI (AOI6) was adjacent to AOI5. One soil sample was collected from AOI6. The data for AOI6 were not included in the site-wide HHRA, but were addressed qualitatively in the HHRA.

A1.1.1.2 The specific objective of this quantitative HHRA is to provide a quantitative post-remediation risk assessment of the soil at AOC 2. The HHRA will determine if there is potential risk to human health associated with exposure to soil as an environmental medium.

A1.1.1.3 This HHRA comes under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS). The SADVA site is DERP-FUDS site number C02NY0002. This HHRA has been prepared to satisfy the U.S. Army Corps of Engineers (USACE) internal requirements and DERP-FUDS requirements for risk assessments that are performed for RI projects. This HHRA will be used to assess the effectiveness of the remedial action at AOC 2, and to assess whether AOC 2 poses any further risk to human health.

A1.1.1.4 Although the HHRA for AOC 2 has not been required by the State of New York or by the U.S. Environmental Protection Agency (USEPA), there are numerous guidelines and criteria from the State and the USEPA that are relevant to this HHRA. As described further in this HHRA, the assessment uses applicable guidelines, including those provided by the New York State Department of Environmental Conservation (NYSDEC), the New York State Department of Health (NYSDOH), and the USEPA.

A1.1.2 FACILITY AND SITE DESCRIPTION

A1.1.2.1 SADVA is located 0.25 miles southeast of the Village of Guilderland Center, New York (Figure A1.1). The Department of Defense (DoD) held ownership of the SADVA property from 1941 through 1969. The site was originally constructed as a regulating station and a holding and reconsignment point, and later became a general Army depot. The principal mission of the installation was the receipt, storage, maintenance, and distribution of supply items for the U.S. Department of the Army (DOA).

A1.1.2.2 In 1963, approximately 40 acres on the west side of Route 201 were sold to a private party for use as a residence (Figure A1.1). Historical information indicates the AOC 2 parcel was used as a transit troop bivouac area and officer family housing area in the 1950s and 1960s. After being purchased in 1963, the new owners of the parcel noticed a disposal area (later known as the Post Commander's Landfill) which they ultimately reported to the NYSDEC.

A1.1.2.3 Previous use of the Bivouac Area included the disposal of drums and other waste in a portion of the 40-acre site. The disposal site has since been backfilled and is covered with vegetation consisting of grass and thick brush. Visual evidence of the disposal activities was present, including the presence of small vials containing pills scattered around the area. An area of ground where standing water has been observed during rainy periods has produced discolored soil and runoff. The disposal area is approximately 1,000 feet west of the onsite residence that formerly utilized a drinking water well adjacent to the house. The residents have been connected to the municipal water supply since approximately 1971 and the well is no longer in use. Photos A1.1 and A1.2 show the typical vegetation and land features at AOC 2. These photos were taken during the site visit by the Parsons risk assessment team in July 2006.

A1.1.3 RISK ASSESSMENT PROCESS

A1.1.3.1 Summary of Available Data for AOC 2

A1.1.3.1.1 The RI at AOC 2 began in 2000. The overall RI objective was to assess the presence, nature and extent of contamination at AOC 2. The activities included locating and characterizing the extent of fill, and sampling the fill, soil, groundwater, surface water, and sediment to assess potential exposure pathways to humans and the environment. The scope of work also included sampling former domestic wells at the site and decommissioning a former groundwater monitoring well. The RI objectives were met as planned.

A1.1.3.1.2 The extent of fill was determined using soil borings and test pits. In two large areas, the fill consisted primarily of small glass pill bottles containing salt tablets and iodine tablets. In several other areas, fill consisting of pint-sized solvent-filled bottles, 55-gallon drums of solvent-like materials, 5-gallon pails of a tar-like material, and paint residue was identified and delineated. The fill materials contained hazardous substances and were classified as flammable and toxic, and would be classified as hazardous waste if removed from the site. Pesticides were detected above surface water and sediment criteria. SVOCs were detected above surface water criteria in two samples. Metals were detected above the applicable criteria in all of the media sampled. Benzene, BEHP and phenol were detected above the Class GA groundwater standards. Up to six metals were present at concentrations above the groundwater standards and upgradient concentrations. No VOCs, SVOC, pesticides, or PCBs were detected above Class GA groundwater standards in either of the two nearby former domestic wells that were sampled. No metals were detected above Class GA criteria in the former domestic well located at the site. Three metals were detected above Class GA criteria in the former domestic supply well located on a neighboring property.

A1.1.3.1.3 The fill material (pill bottles, solvent drums and bottles, paint residue, tar buckets, and metallic debris) at the Post Commander's Landfill area is most likely attributable to

the DoD. Since this property is no longer owned by the DoD, and concentrations in soil, surface water, sediment and groundwater exceed applicable NYSDEC criteria, USACE contracted with Parsons to complete a quantitative human health risk assessment (HHRA) and an Engineering Evaluation and Cost Analysis (EECA). Those documents supported USACE's decision to complete a Non-Time Critical Removal Action, which began in 2005 and was completed in 2006.

A1.1.3.1.4 This quantitative post-remediation HHRA for AOC 2 uses the results of the confirmatory soil data collected after the soil removal was completed. After waste materials and impacted soils were excavated, confirmatory soil samples were collected and analyzed for SVOCs, VOCs, metals and pesticides/herbicides. If analyte concentrations exceeded the NYSDEC recommended soil cleanup objectives (hereafter referred to as "NYSDEC criteria"), the excavation resumed and additional confirmatory soil samples were collected until the sample concentrations did not exceed NYSDEC criteria.

A1.1.3.1.5 The waste and soil excavation at AOC 2 occurred in 2005 and 2006, and was performed by Shaw Environmental. In addition to the areas of waste and impacted soils identified during the RI, several areas within AOC 2 were identified as Areas of Interest (AOIs), because they appeared to be contaminated. Shaw Environmental collected soil samples to characterize each AOI. If concentrations exceeded NYSDEC criteria, soil excavation was conducted in the AOI. After the excavation was completed, confirmatory soil samples were collected and analyzed, as previously described. Figure A1.2 shows the AOC 2 area at the time of the site remediation.

A1.1.3.2 General HHRA Approach and Guidance Documents

A1.1.3.2.1 Techniques and methodology developed or recognized by the USACE and the USEPA were used in this HHRA. This quantitative HHRA is intended to satisfy USACE internal requirements and DERP-FUDS requirements for risk assessments for RI projects. As recommended by USACE, the quantitative HHRA uses a risk ratio approach to quantify potential risk. USEPA Region 6 risk-based human health screening values and other screening values listed below were used for the risk ratio analyses. NYSDEC soil criteria were qualitatively used in the risk ratio approach but were not used to develop the final risk ratio results. The NYSDEC soil criteria are not specifically derived for cancer and non-cancer risk assessments. Therefore, the NYSDEC soil criteria were only used for comparison purposes, in part because they had been used to develop cleanup criteria for the site remediation.

A1.1.3.2.2 The primary resources for conducting this post-remediation, quantitative risk ratio HHRA are listed and described below.

- *Standard Scopes of Work for HTRW Risk Assessments* (USACE, 2001).
- USEPA Region 6 *Human Health Medium-Specific Screening Levels* (USEPA, 2006a). These medium-specific screening levels (MSSL) are available for soil, groundwater, and surface water. Residential soil MSSLs were used in this HHRA.

- Technical and Administrative Guidance Memorandum #4046, *Determination of Soil Cleanup Objectives and Cleanup Levels* (NYSDEC, 1994). Used for qualitative comparison purposes only.
- The USEPA provides the basic background and approach for performing standard HHRAs (*e.g.*, data evaluation, exposure assessments, *etc.*). General procedures identified in the USEPA's *Risk Assessment Guidance for Superfund* (RAGS) (USEPA, 1989), were also followed for this HHRA in terms of data evaluation, the exposure assessment, and the toxicity assessment. Supplemental USEPA guidelines were also used in conjunction with RAGS.

A1.1.4 ORGANIZATION OF HHRA REPORT

The overall risk assessment process consists of four key steps: data evaluation, exposure assessment, toxicity assessment, and risk characterization. These four steps of risk assessment provide the general outline of this risk assessment report. Because this HHRA uses the risk ratio approach, the outline and overall format is slightly modified from a traditional HHRA report. This HHRA is generally consistent with USEPA guidelines as presented in *Risk Assessment Guidance for Superfund* (RAGS) (USEPA, 1989) and supporting supplemental guidance including the *Standard Scopes of Work for HTRW Risk Assessments* (USACE, 2001). This HHRA report is organized into seven sections and two attachments, as outlined below.

- A1.1 Introduction
- A1.2 Data Evaluation and Identification of Chemicals of Potential Concern
- A1.3 Exposure Assessment
- A1.4 Risk Ratio and Screening Criteria Assessment
- A1.5 Risk Assessment Results and Uncertainties
- A1.6 References
- A1.7 Figures, Photographs, and Tables (Data Summary and Risk Calculation Tables)

Attachment A1.A Confirmatory Soil Sample Data (Provided by Shaw Environmental, Inc.)

Attachment A1.B UCL Calculations used in this HHRA

SECTION A1.2

DATA EVALUATION AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN

A1.2.1 CONFIRMATORY SAMPLE DATA OVERVIEW

A1.2.1.1 Post-remediation soil samples were analyzed for VOCs, SVOCs, pesticides/herbicides, PCBs, and metals. The analytical data for samples that were collected, analyzed and validated by Shaw Environmental during the remediation of AOC 2 are summarized in Attachment A1.A. The data in Attachment A1.A includes those samples used to characterize AOIs, and some of those data were not used in the HHRA because they represent pre-remediation conditions. Similarly, Attachment A1.A includes data for confirmatory samples that were found to be impacted and were used to guide further excavation activities; those data were not used in the HHRA. Only those sample data that characterize the post-remediation conditions were used in the HHRA; those data are shaded in Attachment A1.A and were identified using summary memos from Shaw Environmental and through personal communication with Shaw Environmental staff. Further details of the soil sampling methodology are provided in the Shaw Environmental *Final Project Report* for AOC 2, dated January 2007 (Shaw, 2007).

A1.2.1.2 Excavation limits and confirmatory sample analyses were defined by location and by the analyte group that exceeded relevant NYSDEC criteria during the RI. For example, if in a given area only one analyte group (*e.g.*, metals) exceeded NYSDEC criteria, the confirmatory samples were only analyzed for metals. Because other analyte groups (*e.g.*, VOCs) at that location did not exceed NYSDEC criteria during the RI, those chemicals were not analyzed in the confirmatory samples.

A1.2.1.3 For each class of chemicals, the number of soil samples used in the HHRA varied by chemical class. A total of 67 soil samples were used to assess risk from metals; 87 soil samples were used to assess risk from VOCs; 74 soil samples were used to assess risk from SVOCs, and 74 soil samples were used to assess risk from pesticides in the AOC 2 HHRA. AOC 2 is considered residential, and therefore, exposure to soils would be due via residential pathways, including such activities as gardening, tree planting, and excavation of soil (*i.e.*, for building construction, installation of sprinklers, repairs to sewer lines, etc). The tables in Attachment A1.A summarize the sampling locations and the contaminants that exceed NYSDEC soil quality criteria (individual sample concentrations that exceed criteria are in bold text).

A1.2.2 SCREENING CRITERIA OVERVIEW

A1.2.2.1 Chemicals of potential concern (COPCs) at AOC 2 are those that were detected in soil samples during the RI. COPCs have the potential to impact human health, particularly if present at concentrations above regulatory criteria. Based on USEPA RAGS guidance (USEPA, 1989) and supplemental guidance for data evaluation, the COPC list was refined during an initial

screening. One of the steps was to eliminate essential nutrients such as calcium, magnesium, potassium, iron and sodium from the list of chemicals evaluated in the HHRA.

A1.2.2.2 All other organic compounds and metals (hereafter referred to as “chemicals”) that were detected in the soil samples at AOC 2 were included in the initial screening. The maximum sample concentrations for each chemical were used as the exposure point concentrations (EPC) and were compared to background concentrations. Using maximum concentrations as EPCs provides a conservative (*i.e.* most health-protective) estimate of exposure to that chemical. For each chemical, if the EPC was greater than the background concentration, it was retained for the risk assessment. If the EPC was less than the background concentration, it was assumed not to be site-related, and was not included in the risk assessment. If no background concentration was available for a chemical, the chemical was retained for the risk assessment. If the risk ratio calculations identified an elevated risk for a particular chemical, a 95 percent upper confidence limit (95% UCL) was calculated for that chemical, and the chemical was re-screened against the background concentration. The maximum detected concentration or the 95% UCL concentration for each chemical as compared to background concentrations are provided for AOC 2 in Table A1.1.

A1.2.2.3 NYSDEC soil criteria were qualitatively used in the risk ratio approach but were not used as the final risk ratio calculations. The NYSDEC soil criteria are not specifically derived for cancer and non-cancer risk assessments. Therefore, the NYSDEC soil criteria were only used for comparison purposes, in part because they had been used to develop cleanup criteria for the site remediation. For each chemical retained after screening against the background value, the EPC was compared to the NYSDEC criteria, shown in Table A1.2. For completeness, the USEPA residential risk-based values are also included on Table A1.2.

A1.2.3 RISK RATIO APPROACH

A1.2.3.1 All chemicals that were retained during the screening steps are considered COPCs. This quantitative HHRA uses a risk ratio approach to quantify potential cancer risk and non-cancer hazard for each COPC in soil. The risk ratio method considers risk averaged across an entire exposure area (*e.g.*, surface soil across AOC 2) and follows a tiered approach. For the site-wide HHRA, all confirmatory sample data were combined into a single data set, and analyses were performed on this single data set for AOC 2.

A1.2.3.2 Initially, maximum chemical concentrations were used as the exposure point concentrations (EPCs). Use of maximum concentrations provides a conservative (*i.e.*, most health-protective) estimate of exposure to that chemical. If an unacceptable risk is calculated using maximum concentrations, then the 95% UCL was calculated and used in the risk ratio approach. The 95% UCLs were calculated using the percentile bootstrap method assuming a non-parametric distribution for all chemicals. This method was performed using USEPA’s ProUCL Version 3.0 software (USEPA, 2004b). A minimum of 10 samples is needed for the purposes of calculating the 95% UCL. The confirmatory soil sample data that were used to calculate UCLs are presented in Attachment A1.A. The ProUCL calculations for each UCL are shown in Attachment A1.B. For cases where an analyte was reported as “not detected” in a sample, one half of the detection limit was used in the 95% UCL calculations.

A1.2.3.3 In the risk ratio procedure, the ratio of the EPC (either the maximum concentration or the 95% UCL) was divided by the appropriate screening level for soils. As discussed above, the primary criteria used for the risk ratio analysis was USEPA Region 6 residential MSSLs.

A1.2.3.4 After calculating the risk ratios for individual chemicals using the USEPA MSSLs, the ratios for the individual chemicals were then summed to calculate the cumulative risk. Risk ratios greater than 1 (one) for non-carcinogenic chemicals indicate a potentially unacceptable risk. For carcinogenic chemicals, the acceptable target risk range for carcinogenic risk is one in ten thousand (1×10^{-4}) to one in one million (1×10^{-6}). In the first tier, all carcinogenic chemicals were evaluated together, as were all non-carcinogenic chemicals. There was no unacceptable non-carcinogenic risk identified in this HHRA. However, if the non-carcinogenic chemicals had indicated an unacceptable risk, they would have been evaluated using specific target organs or organ groupings. To estimate the risk associated with multiple non-carcinogenic chemicals, the risks are considered cumulative if the chemicals affect the same target organ. Therefore, if necessary, the target organs would have been identified for all non-carcinogenic chemicals. Because there was no unacceptable non-carcinogenic risk identified in this HHRA, the use of target organ groupings was not necessary in this assessment.

A1.2.3.5 In addition to the chemicals that were screened out by comparison to background concentrations, another chemical that was not quantified using the risk ratio approach was lead. According to USEPA guidance, lead is to be evaluated based on blood lead levels and not the potential for cancer or non-cancer risks. Therefore, lead concentrations detected at the site were directly compared to the treatment technique action level. A detailed discussion of the development of the soil lead values is discussed in the USEPA Region 6 *Human Health Medium-Specific Screening Levels* user's guide (USEPA, 2006a). If lead concentrations at the site exceed the criteria, then unacceptable risk may occur. If lead concentrations are lower than the criteria, then there is no unacceptable risk.

A1.2.3.6 USEPA guidance also allows elimination of COPCs if they are detected in fewer than 5 percent of the samples in a particular medium. This would require a sample set of at least 20 samples. However, detection frequency was only qualitatively reviewed on a case by case basis in this HHRA and only after the risk ratio analysis was performed (e.g., infrequently detected chemicals that are driving an unacceptable risk are identified). Thus, chemicals were not screened from the HHRA based on detection frequency. In summary, all COPCs, except essential nutrients and those chemicals with a maximum concentration less than the background concentration were evaluated in this HHRA.

A1.2.3.7 The risk ratio calculations for AOC 2 soils are presented in Table A1.3.

SECTION A1.3

EXPOSURE ASSESSMENT

A1.3.1 OBJECTIVE

A1.3.1.1 The objective of the exposure assessment is to estimate the type and magnitude of potential exposures to COPCs at the site. The exposure assessment includes identification of potential exposure pathways, receptors, and exposure scenarios, as well as quantification of exposure. Characterization of the exposure setting and identification of all potentially exposed receptors and exposure pathways are discussed in this section. A conceptual site model (CSM) showing results of the exposure assessment is shown on Figure A1.3. Quantification of exposure involves quantifying the magnitude, frequency, and duration of exposure for the receptors and exposure pathways of concern.

A1.3.1.2 Surface soil (that is, the soil exposed at the surface at the time of the confirmatory sampling) has been evaluated as the environmental medium of concern at AOC 2. The exposure pathways relevant to the site are described in this exposure assessment of the HHRA and shown in the CSM.

A1.3.2 CONCEPTUAL SITE MODEL

A1.3.2.1 A CSM is an effective tool for defining site dynamics, streamlining risk assessments, establishing exposure hypotheses, and developing appropriate corrective actions. The CSM for AOC 2 is provided graphically on Figure A1.3, and in further detail in matrix form on Figure A1.4. CSMs are useful for identifying completed exposure pathways between the contaminated media and potential receptors. The purpose of the CSM is to aid in understanding and describing a site and presents the assumptions regarding:

- Suspected sources and types of contaminants present;
- Contaminant release and transport mechanisms;
- Affected media;
- Potential receptors that could come in contact with site-related contaminants in affected media under current and future land use scenarios; and
- Potential routes of exposure.

A1.3.2.2 Descriptions of contaminant sources, release mechanisms, and affected media were provided in Sections A1.1 and A1.2. The potential receptors and completed exposure pathways are discussed in the following subsections. Further description of site characterization information is described in Sections 2 and 3 of this RI report.

A1.3.3 POTENTIAL RECEPTORS AND EXPOSURE PATHWAYS

A1.3.3.1 Potential human receptors are defined as individuals who may be exposed to site-related contaminants in environmental media. Consistent with USEPA (1989) guidance, current and reasonably anticipated land uses were considered in the receptor selection process.

A1.3.3.2 USEPA (1989) defines an exposure pathway as: “The course a chemical or physical agent takes from a source to an exposed organism. An exposure pathway describes a unique mechanism by which an individual or population is exposed to chemicals or physical agents at or originating from a site. Each exposure pathway includes a source or release from a source, an exposure point, and an exposure route. If the exposure point differs from the source, a transport/exposure medium (*e.g.*, air) or media (in cases of intermedia transfer) is also included.”

A1.3.3.3 A review of potential exposure pathways links the sources, locations, and types of environmental releases with receptor locations and activity patterns to determine the significant pathways of concern.

A1.3.3.4 Based on the previous investigations and the site visit by the project team performing the risk assessment for the site, the observations and reasonable assumptions for the potential human receptors for AOC 2 are listed below.

- **Current Receptors** – AOC 2 is currently a residential property. One house is located within AOC 2 and is approximately 1000 feet from the remediated areas.
- **Future Receptors** – AOC 2 is expected to remain a residential property. There are no known plans to build additional houses on the property.
- **Current and Future Residential Exposure to Groundwater** – The site is currently a residential property. There was a water supply well on the property, but drinking water for the property is now supplied by the Town of Guilderland public water supply. There are two private wells located on adjacent property that are also no longer in use.

Groundwater has been used at the Guilderland Central School for irrigation of school grounds/athletic fields. The school, former SADVA, and most residences in the vicinity of AOC 2 are now on the Town of Guilderland public water supply (Town of Guilderland, 2000). The public water supply system was developed after SADVA operations ended. The public used domestic wells before the water system was installed.

The exposure pathway of concern is the domestic use of groundwater in the area. Although site groundwater is not currently used as a water supply at AOC 2, homes northwest, west, and southwest of AOC 2 currently use private wells. In addition, future groundwater use at, or downgradient of, the site is unknown.

Groundwater was not evaluated for this HHRA, because planning for post-remediation groundwater sampling is ongoing, and onsite, post-remediation groundwater data are not yet available.

A1.3.4 EXPOSURE PATHWAYS

A1.3.4.1 Soil Exposure Pathway

Exposure to soil may occur via direct contact and wind dispersion of contaminated soil. The receptors and pathways evaluated for soil are listed below:

- Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a current resident. This provides the most conservative risk assessment (*i.e.*, most health protective evaluation).
- Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a future outdoor worker. This is a potentially complete exposure pathway but is not included separately in the risk ratio analysis because it is assumed to be conservatively evaluated under the current resident scenario.
- Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a future resident. This is a potentially complete exposure pathway but is not included separately in the risk ratio analysis because it is assumed to be conservatively evaluated under the current resident scenario.

A1.3.4.2 Groundwater Exposure Pathway

As mentioned, AOC 2 is currently residential and is expected to remain residential in the future. Although the site drinking water wells are no longer in use, there is still a possibility that ingestion of groundwater as drinking water could occur in the future. However, because post-remediation groundwater data is not yet available, this exposure pathway has not been evaluated.

SECTION A1.4

RISK RATIO AND SCREENING CRITERIA ASSESSMENT

A1.4.1 SCREENING AND COMPARISON CRITERIA ASSESSMENT

A1.4.1.1 The screening criteria assessment considers that, if the EPC is less than the background value, there is no risk from that chemical that is attributable to site activities. In addition to essential nutrients being eliminated from this HHRA, the following chemicals were screened from further analysis. In surface soil, the following chemicals were eliminated from analyses:

- Anthracene
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Chrysene
- Fluoranthene
- Phenanthrene
- Pyrene
- Arsenic
- Lead
- Manganese
- Zinc

Table A1.2 shows the qualitative comparison of the EPCs for each analyte to the NYSDEC screening criteria, as well as the USEPA Region 6 residential soil MSSLs. This table is presented for informational purposes.

A1.4.2 RISK RATIO ASSESSMENT

A1.4.2.1 The risk ratio method considers risk averaged across an entire exposure area (*e.g.*, soil across AOC 2) and follows a tiered approach. For the risk ratio assessment, the maximum chemical concentrations were initially used as EPCs to calculate risk. Use of maximum concentrations provides the most health-protective estimate of exposure to a particular chemical. When an unacceptable risk was calculated using the maximum detected concentration, then the 95% UCL was calculated and used as the EPC in the risk ratio approach. The 95% UCLs were calculated using the percentile bootstrap method, assuming a non-parametric distribution of the particular chemical concentrations. This method was performed using USEPA's ProUCL Version 3.0 software (USEPA, 2004b). A minimum of 10 samples is needed to calculate the 95% UCL. A 95% UCL was only calculated for chemicals that have been detected in more than

one sample. One-half the sample quantitation limit (SQL) was used as the concentration value for samples in which the chemical was not detected. The ProUCL calculations are provided for each chemical where a 95% UCL was calculated in Attachment A1.B.

A1.4.2.2 In the risk ratio analysis, the EPC is divided by the appropriate screening level for the environmental medium. The EPC is either the maximum detected concentration or the 95% UCL. The initial screening criteria are the background concentrations. If the EPC did not exceed the background range for a particular chemical, the risk ratio was not calculated for that chemical. Background concentrations were available for PAHs, pesticides/PCBs, metals, and other miscellaneous volatile or semivolatile chemicals that are sometimes found in the environment from anthropogenic sources (*e.g.*, acetone, carbazole, *bis*(2-ethylhexyl)phthalate [BEHP], dibenzofuran).

A1.4.2.3 Following calculation of the risk ratios for individual chemicals, the ratios were summed to determine the cumulative risk. Risk ratios greater than 1 (one) for non-carcinogenic chemicals or greater than 1×10^{-4} for carcinogenic chemicals indicate a potential unacceptable risk. In the first tier, all carcinogenic chemicals were evaluated together, as were all non-carcinogenic chemicals. If the non-carcinogenic chemicals had indicated an unacceptable risk, they would have been evaluated using specific target organs or organ groupings. To estimate the risk associated with multiple non-carcinogenic chemicals, the risks are considered cumulative if the chemicals affect the same target organ. Therefore, if necessary, the target organs would have been identified for all non-carcinogenic chemicals. However, because an unacceptable risk was not present for AOC 2, this step was not necessary.

A1.4.3 SOIL SCREENING CRITERIA

A1.4.3.1 The confirmatory soil sample results were compared to NYSDEC soil criteria, background concentrations, and USEPA soil screening levels (*i.e.*, USEPA soil MSSLs). The NYSDEC recommended soil cleanup criteria for metals include provisions for using site-specific background concentrations, as well as reference concentrations for eastern U.S. soils. The background metals concentrations were integrated into the NYSDEC soil criteria using the guidance provided by NYSDEC (1994). Thus, the NYSDEC criteria for metals were derived by integrating the reference concentrations for eastern U.S. soils with the site-specific background concentrations and using the higher of the two concentrations (NYSDEC, 1994). The higher of the reference eastern U.S. soil concentrations and the site-specific background concentration for each metal was accepted as the “NYSDEC soil criterion” for comparison purposes in the data assessment during the RI (see section 3 of the RI report).

A1.4.3.2 The exposure assessment determined that the site should be considered residential for current and future land use. The residential soil risk-based levels from USEPA Region 6 (*i.e.*, the soil MSSLs) were used to evaluate the site data. This provides the most conservative (*i.e.*, most health protective) evaluation.

A1.4.3.3 One screening value (*i.e.*, the soil MSSL) was derived for the combined exposure routes. Thus, incidental ingestion of soil, inhalation of volatiles from soil, and dermal contact with soil are included in the combined exposure route.

A1.4.4 RISK RATIO EQUATIONS

A1.4.4.1 Cancer risks were estimated using an equation that uses either the maximum concentration or the 95% UCL (in cases where the maximum concentration has resulted in unacceptable risk):

$$\text{Cumulative Risk} = \sum (TR) \frac{(EPC_i)}{MSSL_{c-i}}$$

where:

Cumulative Risk = Cumulative risk for all carcinogenic COPCs (unitless), where $(TR) \frac{(EPC_i)}{MSSL_{c-i}}$ is the chemical-specific cancer risk for chemical “i”;

TR = Target lifetime excess cancer risk of 1E-06 (unitless);

EPC_i = Exposure point concentration for chemical “i” (mg/kg); and

MSSL_{c-i} = USEPA Region 6 (2006a) residential cancer-based medium-specific screening level (in mg/kg) for chemical “i”.

A1.4.4.2 Non-cancer risks were estimated using an equation that uses either the maximum concentration or the 95% UCL (in cases where the maximum concentration has resulted in unacceptable risk):

$$HI = \sum (THQ) \frac{(EPC_i)}{MSSL_{nc-i}}$$

where:

HI = Cumulative hazard index for non-cancer all COPCs (unitless), where $(THQ) \frac{(EPC_i)}{MSSL_{nc-i}}$ is the chemical-specific non-cancer hazard quotient (HQ) for chemical “i”;

THQ = Target hazard quotient of one (unitless);

EPC_i = Exposure point concentration for chemical “i” (mg/kg); and

MSSL_{nc-i} = USEPA Region 6 (2006a) residential cancer-based medium-specific screening level (mg/kg) for chemical “i”.

SECTION A1.5

RISK ASSESSMENT RESULTS AND UNCERTAINTIES

A1.5.1 OBJECTIVE

The primary objective of this HHRA was to quantitatively characterize the human health risk associated with current and reasonably expected future exposure to soil following the remedial action at AOC 2. All potentially complete exposure pathways for the site were evaluated or were assumed to be evaluated based on more protective exposure scenarios (*e.g.*, the residential scenarios provide very conservative estimates for outdoor worker scenarios). The exposure pathways were outlined in Section A1.3 and were also shown on the CSM (Figure A1.3). The results of the risk ratio quantification are presented in this section.

A1.5.2 SUMMARY OF CARCINOGENIC AND NON-CARCINOGENIC RISK

The calculated risk ratios for each COPC in surface soil are shown in Table A1.3. No unacceptable risks were calculated for the non-carcinogenic or carcinogenic chemicals detected in the soils at AOC 2. The cumulative non-carcinogenic and carcinogenic risk ratio results are 0.84 and 8.0×10^{-7} , respectively, for residential receptors. These results are below the threshold cumulative risk ratios of 1 (one) for non-carcinogenic chemicals and 1×10^{-4} for carcinogenic chemicals, indicating no unacceptable risks are expected at AOC 2.

A1.5.3 UNCERTAINTIES

These risk estimates are designed to be very conservative and likely overestimate potential risk. The risk estimate assumes residential exposure at the exposure point concentration. While this land is residential, the only house on the property is approximately 1000 feet from the location where samples were collected. It is unlikely that residents will be exposed to soil at this location for 350 days/year for 30 years.

SECTION A1.6

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SECTION A1.7

FIGURES, SITE PHOTOGRAPHS, AND TABLES (DATA AND RISK CALCULATION TABLES)

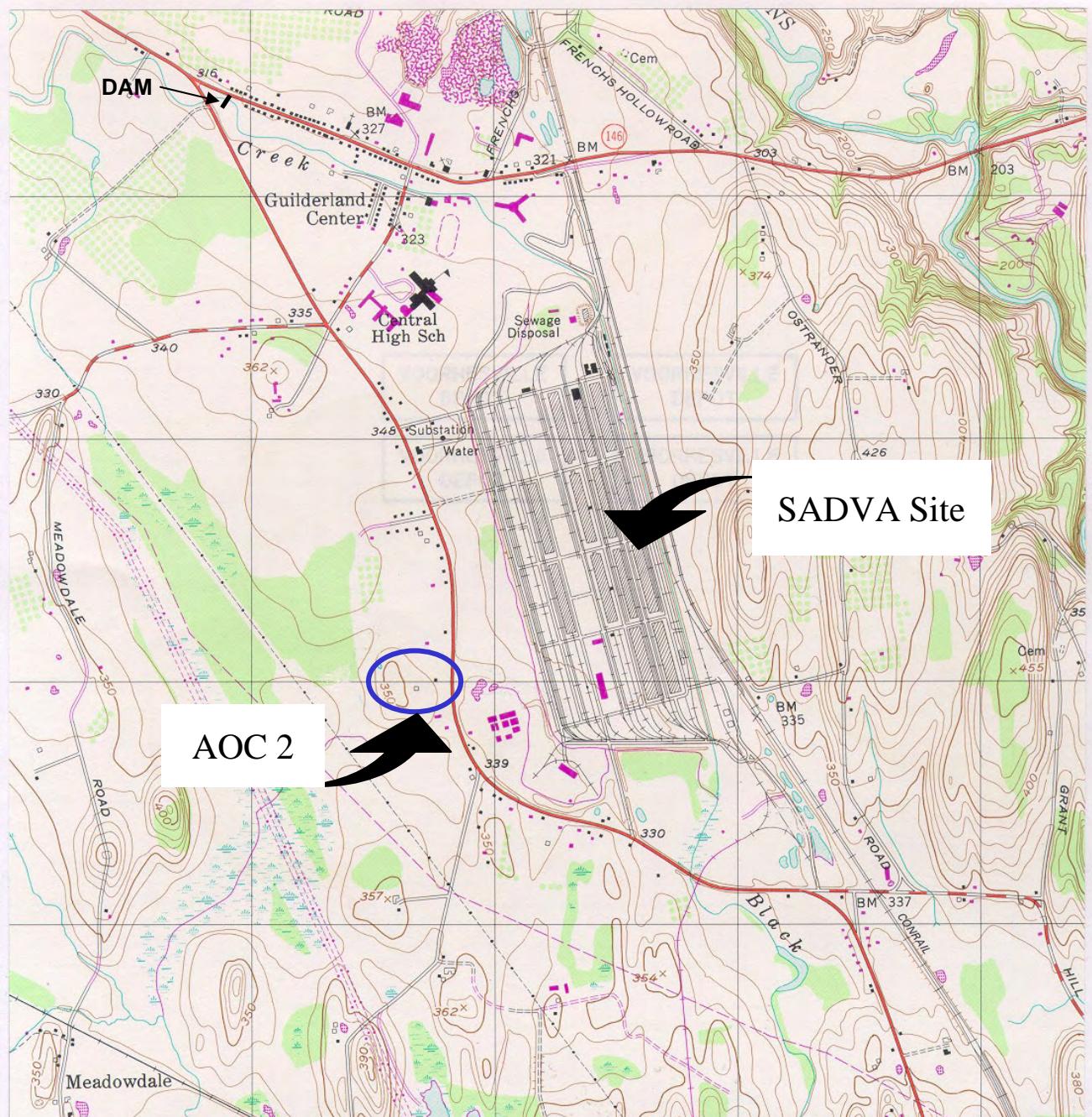
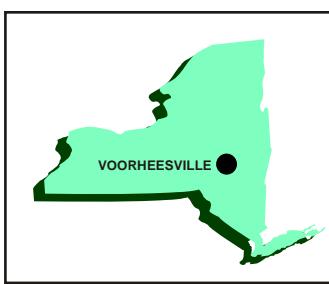


FIGURE A1.1

SADVA
GUILDERLAND, NEW YORK

SITE VICINITY



New York
Quadrangle



LATITUDE: N42° 15' 20"
LONGITUDE: W75° 14' 38"

2000 1000 0
Approximate Scale in Feet

PARSONS

290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, NY 13088 PHONE: (315) 451-9560

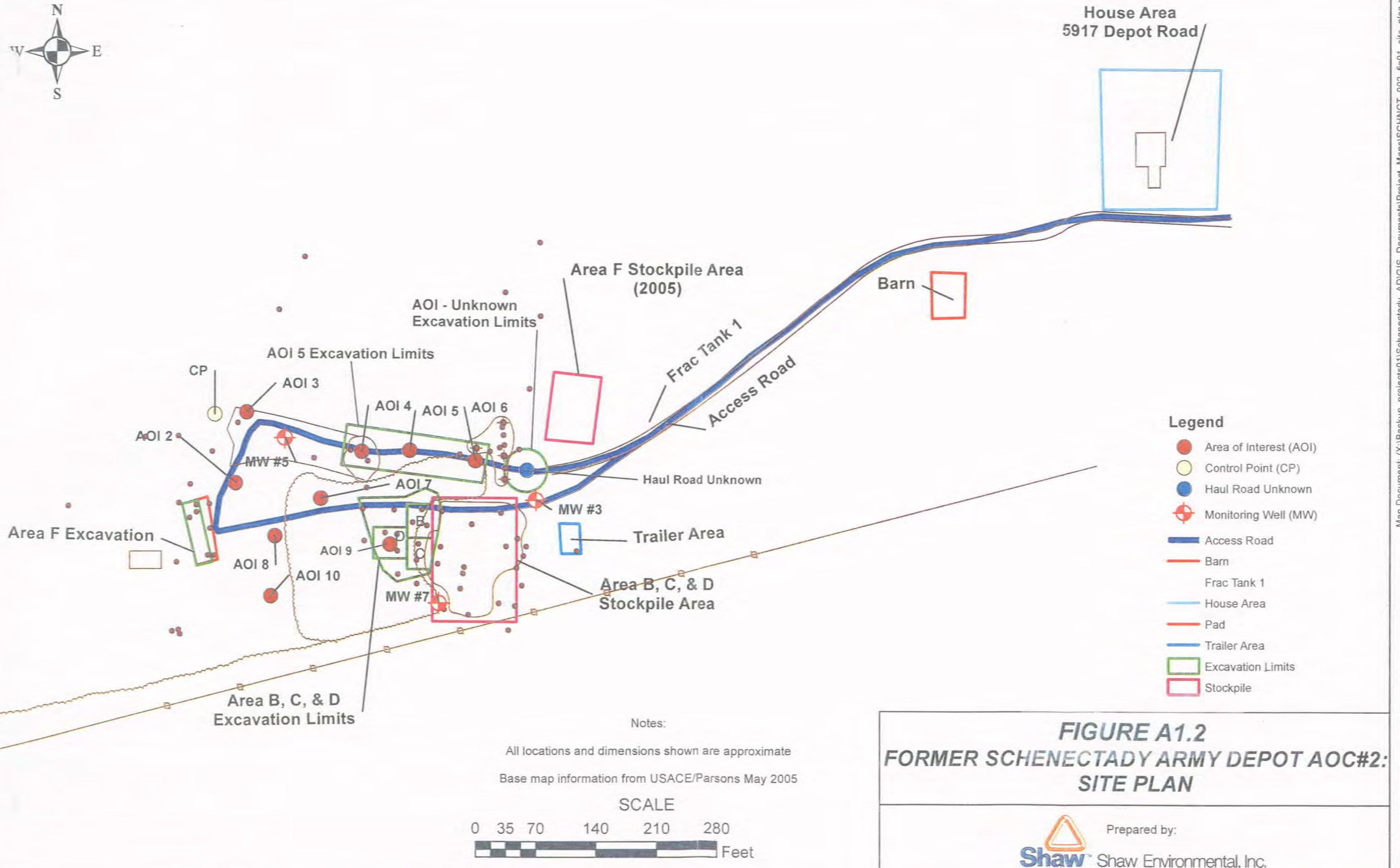


FIGURE A1.2
FORMER SCHENECTADY ARMY DEPOT AOC#2:
SITE PLAN

Photo A1.1 Facing Southwest at AOC 2 – Pill Bottle Area and Former Paint Residue Area



Photo A1.2 Facing Northeast from AOC 2 – Barn in Background



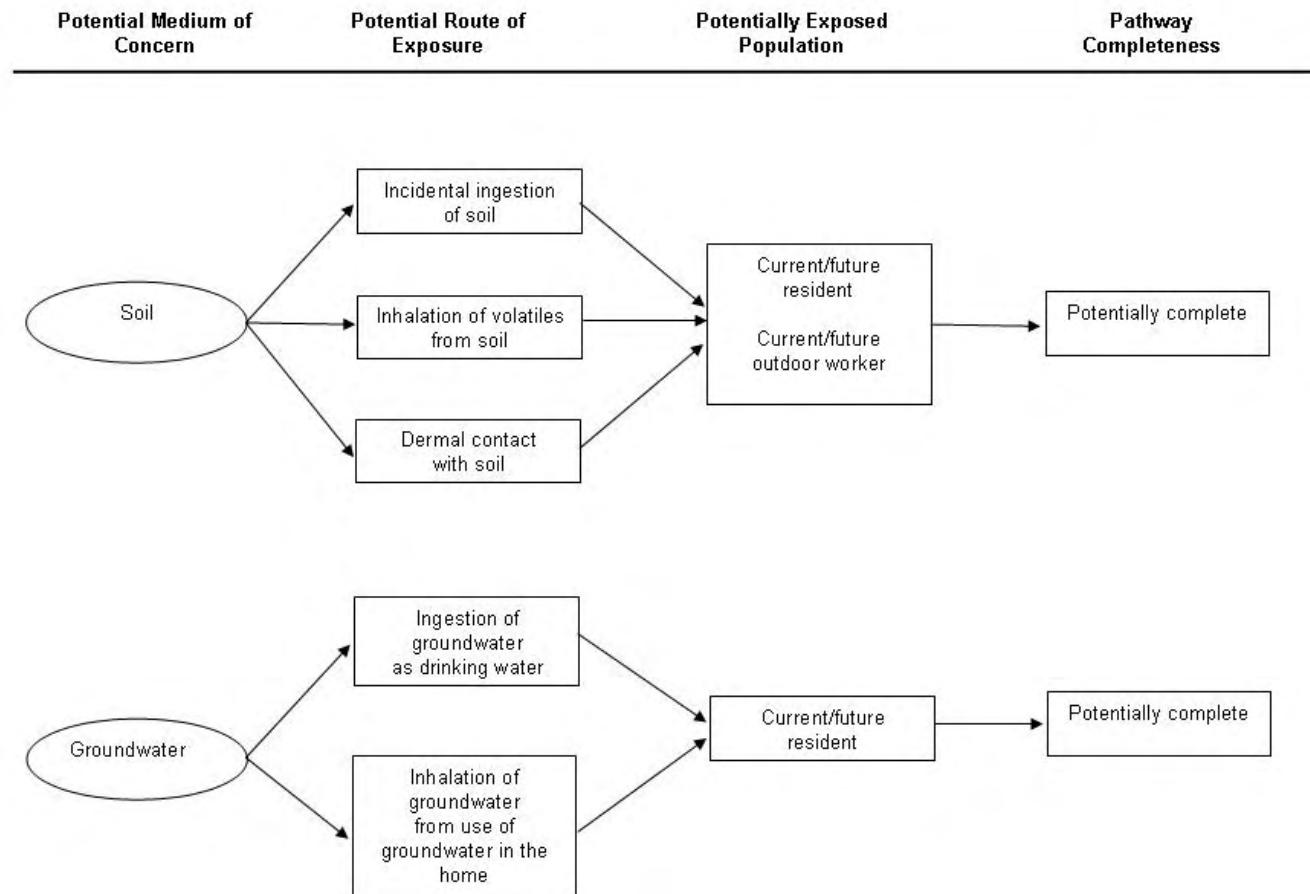
Figure A1.3 Human Health Conceptual Site Model

Figure A1.4 Human Health Conceptual Site Model Exposure Pathway Completeness and Assumptions

| Potential Medium of Concern | Potential Route of Exposure | Potentially Exposed Population | Pathway Completeness and Assumptions |
|-----------------------------|--|--|---|
| Soil | <ul style="list-style-type: none"> • Incidental ingestion of soil • Inhalation of volatiles from soil • Dermal contact with soil | <ul style="list-style-type: none"> • Current/future resident • Current/future outdoor worker | <ul style="list-style-type: none"> • Current and/or future resident is a potentially complete pathway. The residential pathway is the most conservative risk assessment (<i>i.e.</i>, most health protective evaluation) and is used throughout the AOC 2 HHRA. • Current and/or future outdoor worker is a potentially complete pathway. Exposure for the outdoor worker will be less than for a resident (<i>i.e.</i>, shorter duration of exposure over fewer days per year). This pathway is not included in the risk ratio analysis because it is assumed to be conservatively evaluated under the residential scenario. |
| Groundwater | <ul style="list-style-type: none"> • Ingestion of groundwater as drinking water • Inhalation of groundwater from use of groundwater in the home (<i>e.g.</i>, showering, laundering, and dish washing) | <ul style="list-style-type: none"> • Current/future resident | <ul style="list-style-type: none"> • Current and/or future resident is a potentially complete pathway. Additional groundwater sampling at the site is underway. Pending additional data, groundwater is not evaluated in the HHRA. |

Table A1.1
Comparison of Exposure Point Concentrations to Background - AOC 2 Soils
Former Schenectady Army Depot - Voorheesville Area

| CAS number ¹ | Compound | Exposure Point Concentration (units) | EPC Max or UCL? | Site Background Range (units) | EPC Exceeds background? |
|-------------------------|-----------------------------|--------------------------------------|-----------------|-------------------------------|-------------------------|
| Volatiles | | | | | |
| | | | | | |
| 79-00-5 | 1,1,2-Trichloroethane | 55 µg/kg | max | | yes |
| 156-60-5 | trans-1,2 Dichloroethene | 120 µg/kg | max | | yes |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 16 µg/kg | max | | yes |
| 67-64-1 | Acetone | 150 µg/kg | max | ND - 3.1 µg/kg | yes |
| 71-43-2 | Benzene | 12 µg/kg | UCL | | yes |
| 75-15-0 | Carbon Disulfide | 15 µg/kg | max | | yes |
| 67-66-3 | Chloroform | 5 µg/kg | max | | yes |
| 74-87-3 | Chloromethane | 6 µg/kg | max | | yes |
| 100-41-4 | Ethylbenzene | 1,100 µg/kg | max | | yes |
| 76-13-1 | Freon 113 | 11 µg/kg | max | | yes |
| 75-09-2 | Methylene Chloride | 33 µg/kg | max | | yes |
| 100-42-5 | Styrene | 30 µg/kg | max | | yes |
| 108-88-3 | Toluene | 240 µg/kg | max | | yes |
| 75-01-4 | Vinyl Chloride | 10 µg/kg | UCL | | yes |
| 1330-20-7 | Xylenes (total) | 1,030 µg/kg | max | | yes |
| Semivolatiles | | | | | |
| | | | | | |
| 91-57-6 | 2-Methylnaphthalene | 310 µg/kg | max | | yes |
| 120-12-7 | Anthracene | 51 µg/kg | max | ND - 61 µg/kg | no |
| 56-55-3 | Benz(a)anthracene | 54 µg/kg | max | ND - 410 µg/kg | no |
| 50-32-8 | Benzo(a)pyrene | 350 µg/kg | max | ND - 550 µg/kg | no |
| 205-99-2 | Benzo(b)fluoranthene | 56 µg/kg | max | ND - 620 µg/kg | no |
| 218-01-9 | Chrysene | 56 µg/kg | max | ND - 680 µg/kg | no |
| 206-44-0 | Fluoranthene | 62 µg/kg | max | ND - 940 µg/kg | no |
| 86-73-7 | Fluorene | 37 µg/kg | max | ND - 23 µg/kg | yes |
| 78-59-1 | Isophorone | 76 µg/kg | max | | yes |
| 91-20-3 | Naphthalene | 1,200 µg/kg | max | | yes |
| 85-01-8 | Phenanthrene | 240 µg/kg | max | ND - 480 µg/kg | no |
| 129-00-0 | Pyrene | 85 µg/kg | max | ND - 750 µg/kg | no |
| 117-81-7 | bis(2-ethylhexyl) phthalate | 9,205 µg/kg | UCL | | yes |
| 84-74-2 | di-n-Butyl Phthalate | 260 µg/kg | max | | yes |
| 117-84-0 | di-n-Octyl Phthalate | 62 µg/kg | max | | yes |
| Pesticides | | | | | |
| | | | | | |
| 72-54-8 | 4,4'-DDD | 12 µg/kg | UCL | ND - 1.2 µg/kg | yes |
| 72-55-9 | 4,4'-DDE | 52 µg/kg | max | ND - 9.4 µg/kg | yes |
| 50-29-3 | 4,4'-DDT | 20 µg/kg | UCL | 0.61 - 15 µg/kg | yes |
| 58-89-9 | Gamma-BHC (Lindane) | 1 µg/kg | max | | yes |
| Metals | | | | | |
| | | | | | |
| 7429-90-5 | Aluminum | 15,103 mg/kg | UCL | 7,080 - 12,800 mg/kg | yes |
| 7440-36-0 | Antimony | 1 mg/kg | UCL | 0.2 - 0.59 mg/kg | yes |
| 7440-38-2 | Arsenic | 13 mg/kg | max | 4.3 - 16.4 mg/kg | no |
| 7440-39-3 | Barium | 246 mg/kg | max | 33 - 104 mg/kg | yes |
| 7440-41-7 | Beryllium | 1 mg/kg | max | 0.38 - 0.67 mg/kg | yes |
| 7440-43-9 | Cadmium | 1 mg/kg | max | 0.21 - 0.52 mg/kg | yes |
| 7440-47-3 | Chromium | 22 mg/kg | UCL | 9.3 - 17.5 mg/kg | yes |
| 7440-48-4 | Cobalt | 41 mg/kg | max | 5.3 - 12.2 mg/kg | yes |
| 7440-50-8 | Copper | 50 mg/kg | max | 13.4 - 26.9 mg/kg | yes |
| 7439-92-1 | Lead | 40 mg/kg | max | 16.5 - 60.8 mg/kg | no |
| 7439-96-5 | Manganese | 543 mg/kg | UCL | 197 - 875 mg/kg | no |
| 7439-97-6 | Mercury | 0 mg/kg | max | 0.039 - 0.095 mg/kg | yes |
| 7440-02-0 | Nickel | 45 mg/kg | max | 10.6 - 24.8 mg/kg | yes |
| 7782-49-2 | Selenium | 2 mg/kg | max | 0.44 - 1.2 mg/kg | yes |
| 7440-22-4 | Silver | 2 mg/kg | max | 0.16 - 0.17 mg/kg | yes |
| 7440-28-0 | Thallium | 1 mg/kg | UCL | ND - 0.67 mg/kg | yes |
| 7440-62-2 | Vanadium | 25 mg/kg | UCL | 13.7 - 24 mg/kg | yes |
| 7440-66-6 | Zinc | 111 mg/kg | max | 46 - 134 mg/kg | no |

ND non-detect

UCL 95% Upper Confidence Limit

Table A1.2
Comparison of Exposure Point Concentrations to NYSDEC Screening Criteria - AOC 2 Soils
Former Schenectady Army Depot - Voorheesville Area

| CAS number | Compound | Exposure Point Concentration (units) | EPC Max or UCL? | NYSDEC Recommended Soil Cleanup Objective (units) | EPC Exceed NYSDEC? | Residential USEPA Region 6 Risk-Based Screening Level (units) | EPC Exceed USEPA? |
|----------------------|-----------------------------|--------------------------------------|-----------------|---|--------------------|---|-------------------|
| Volatiles | | | | | | | |
| 79-00-5 | 1,1,2-Trichloroethane | 55 µg/kg | max | -- | no | 840 µg/kg | no |
| 156-60-5 | trans-1,2 Dichloroethene | 120 µg/kg | max | 300 µg/kg | no | 63,000 µg/kg | no |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 16 µg/kg | max | 1,000 µg/kg | no | 5,800,000 µg/kg | no |
| 67-64-1 | Acetone | 150 µg/kg | max | 200 µg/kg | no | 14,000,000 µg/kg | no |
| 71-43-2 | Benzene | 12 µg/kg | UCL | 60 µg/kg | no | 660 µg/kg | no |
| 75-15-0 | Carbon Disulfide | 15 µg/kg | max | 2,700 µg/kg | no | 720,000 µg/kg | no |
| 67-66-3 | Chloroform | 5 µg/kg | max | 300 µg/kg | no | 250 µg/kg | no |
| 74-87-3 | Chloromethane | 6 µg/kg | max | -- | no | 1,300 µg/kg | no |
| 100-41-4 | Ethylbenzene | 1,100 µg/kg | max | 5,500 µg/kg | no | 230,000 µg/kg | no |
| 76-13-1 | Freon 113 | 11 µg/kg | max | 6,000 µg/kg | no | 5,600,000 µg/kg | no |
| 75-09-2 | Methylene Chloride | 33 µg/kg | max | 100 µg/kg | no | 8,900 µg/kg | no |
| 100-42-5 | Styrene | 30 µg/kg | max | -- | no | 1,700,000 µg/kg | no |
| 108-88-3 | Toluene | 240 µg/kg | max | 1,500 µg/kg | no | 520,000 µg/kg | no |
| 75-01-4 | Vinyl Chloride | 10 µg/kg | UCL | 200 µg/kg | no | 43 µg/kg | no |
| 1330-20-7 | Xylenes (total) | 1,030 µg/kg | max | 1,200 µg/kg | no | 210,000 µg/kg | no |
| Semivolatiles | | | | | | | |
| 91-57-6 | 2-Methylnaphthalene | 310 µg/kg | max | 36,400 µg/kg | no | 120,000 µg/kg | no |
| 86-73-7 | Fluorene | 37 µg/kg | max | 50,000 µg/kg | no | 2,600,000 µg/kg | no |
| 78-59-1 | Isophorone | 76 µg/kg | max | 4,400 µg/kg | no | 510,000 µg/kg | no |
| 91-20-3 | Naphthalene | 1,200 µg/kg | max | 13,000 µg/kg | no | 120,000 µg/kg | no |
| 117-81-7 | bis(2-ethylhexyl) phthalate | 9,205 µg/kg | UCL | 50,000 µg/kg | no | 35,000 µg/kg | no |
| 84-74-2 | di-n-Butyl Phthalate | 260 µg/kg | max | 8,100 µg/kg | no | 3,100,000 µg/kg | no |
| 117-84-0 | di-n-Octyl Phthalate | 62 µg/kg | max | 50,000 µg/kg | no | 2,400,000 µg/kg | no |
| Pesticides | | | | | | | |
| 72-54-8 | 4,4'-DDD | 12 µg/kg | UCL | 2900 µg/kg | no | 2,400 µg/kg | no |
| 72-55-9 | 4,4'-DDE | 52 µg/kg | max | 2100 µg/kg | no | 1,700 µg/kg | no |
| 50-29-3 | 4,4'-DDT | 20 µg/kg | UCL | 2100 µg/kg | no | 1,700 µg/kg | no |
| 58-89-9 | Gamma-BHC (Lindane) | 1 µg/kg | max | 60 µg/kg | no | 440 µg/kg | no |
| Metals | | | | | | | |
| 7429-90-5 | Aluminum | 15,103 mg/kg | UCL | -- mg/kg | no | 76,000 mg/kg | no |
| 7440-36-0 | Antimony | 1 mg/kg | UCL | -- mg/kg | no | 31 mg/kg | no |
| 7440-39-3 | Barium | 246 mg/kg | max | 300 mg/kg | no | 16,000 mg/kg | no |
| 7440-41-7 | Beryllium | 1 mg/kg | max | 0.16 mg/kg | yes | 150 mg/kg | no |
| 7440-43-9 | Cadmium | 1 mg/kg | max | 1 mg/kg | no | 39 mg/kg | no |
| 7440-47-3 | Chromium | 22 mg/kg | UCL | 10 mg/kg | yes | 210 mg/kg | no |
| 7440-48-4 | Cobalt | 41 mg/kg | max | 30 mg/kg | yes | 900 mg/kg | no |
| 7440-50-8 | Copper | 50 mg/kg | max | 25 mg/kg | yes | 2,900 mg/kg | no |
| 7439-97-6 | Mercury | 0 mg/kg | max | 0.1 mg/kg | yes | 23 mg/kg | no |
| 7440-02-0 | Nickel | 45 mg/kg | max | 13 mg/kg | yes | 1,600 mg/kg | no |
| 7782-49-2 | Selenium | 2 mg/kg | max | 2 mg/kg | no | 390 mg/kg | no |
| 7440-22-4 | Silver | 2 mg/kg | max | -- mg/kg | no | 290 mg/kg | no |
| 7440-28-0 | Thallium | 1 mg/kg | UCL | -- mg/kg | no | 5.5 mg/kg | no |
| 7440-62-2 | Vanadium | 25 mg/kg | UCL | 150 mg/kg | no | 78 mg/kg | no |

ND non-detect

UCL 95% Upper Confidence Limit

-- Criteria not available

Table A1.3
Risk Ratio Calculations - AOC 2 Soils
Former Schenectady Army Depot - Voorheesville Area

| CAS number | Compound | Exposure Point Concentration (units) | EPC Max or UCL? | Residential USEPA Region 6 Risk-Based Screening Level (units) | Carcino-genic? | Residential Non-Carc Risk Ratio (EPC/USEPA) | Residential Carc Risk Ratio (EPC/USEPA) |
|----------------------|-----------------------------|--------------------------------------|-----------------|---|----------------|---|---|
| Volatiles | | | | | | | |
| 79-00-5 | 1,1,2-Trichloroethane | 55 µg/kg | max | 840 µg/kg | yes | -- | 6.5E-08 |
| 156-60-5 | trans-1,2 Dichloroethene | 120 µg/kg | max | 63,000 µg/kg | no | 1.9E-03 | -- |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 16 µg/kg | max | 5,800,000 µg/kg | no | 2.8E-06 | -- |
| 67-64-1 | Acetone | 150 µg/kg | max | 14,000,000 µg/kg | no | 1.1E-05 | -- |
| 71-43-2 | Benzene | 12 µg/kg | UCL | 660 µg/kg | yes | -- | 1.8E-08 |
| 75-15-0 | Carbon Disulfide | 15 µg/kg | max | 720,000 µg/kg | no | 2.1E-05 | -- |
| 67-66-3 | Chloroform | 5 µg/kg | max | 250 µg/kg | yes | -- | 1.9E-08 |
| 74-87-3 | Chloromethane | 6 µg/kg | max | 1,300 µg/kg | yes | -- | 4.5E-09 |
| 100-41-4 | Ethylbenzene | 1,100 µg/kg | max | 230,000 µg/kg | no | 4.8E-03 | -- |
| 76-13-1 | Freon 113 | 11 µg/kg | max | 5,600,000 µg/kg | no | 2.0E-06 | -- |
| 75-09-2 | Methylene Chloride | 33 µg/kg | max | 8,900 µg/kg | yes | -- | 3.7E-09 |
| 100-42-5 | Styrene | 30 µg/kg | max | 1,700,000 µg/kg | no | 1.8E-05 | -- |
| 108-88-3 | Toluene | 240 µg/kg | max | 520,000 µg/kg | no | 4.6E-04 | -- |
| 75-01-4 | Vinyl Chloride | 10 µg/kg | UCL | 43 µg/kg | yes | -- | 2.3E-07 |
| 1330-20-7 | Xylenes (total) | 1,030 µg/kg | max | 210,000 µg/kg | no | 4.9E-03 | -- |
| Semivolatiles | | | | | | | |
| 91-57-6 | 2-Methylnaphthalene | 310 µg/kg | max | 120,000 µg/kg | no | 2.6E-03 | -- |
| 86-73-7 | Fluorene | 37 µg/kg | max | 2,600,000 µg/kg | no | 1.4E-05 | -- |
| 78-59-1 | Isophorone | 76 µg/kg | max | 510,000 µg/kg | yes | -- | 1.5E-10 |
| 91-20-3 | Naphthalene | 1,200 µg/kg | max | 120,000 µg/kg | no | 1.0E-02 | -- |
| 117-81-7 | bis(2-ethylhexyl) phthalate | 9,205 µg/kg | UCL | 35,000 µg/kg | yes | -- | 2.6E-07 |
| 84-74-2 | di-n-Butyl Phthalate | 260 µg/kg | max | 3,100,000 µg/kg | no | 8.4E-05 | -- |
| 117-84-0 | di-n-Octyl Phthalate | 62 µg/kg | max | 2,400,000 µg/kg | no | 2.6E-05 | -- |
| Pesticides | | | | | | | |
| 72-54-8 | 4,4'-DDD | 12 µg/kg | UCL | 2,400 µg/kg | yes | -- | 5.0E-09 |
| 72-55-9 | 4,4'-DDE | 52 µg/kg | max | 1,700 µg/kg | yes | -- | 3.1E-08 |
| 50-29-3 | 4,4'-DDT | 20 µg/kg | UCL | 1,700 µg/kg | yes | -- | 1.2E-08 |
| 58-89-9 | Gamma-BHC (Lindane) | 1 µg/kg | max | 440 µg/kg | yes | -- | 1.5E-09 |
| Metals | | | | | | | |
| 7429-90-5 | Aluminum | 15,103 mg/kg | UCL | 76,000 mg/kg | no | 2.0E-01 | -- |
| 7440-36-0 | Antimony | 1 mg/kg | UCL | 31 mg/kg | no | 3.2E-02 | -- |
| 7440-39-3 | Barium | 246 mg/kg | max | 16,000 mg/kg | no | 1.5E-02 | -- |
| 7440-41-7 | Beryllium | 1 mg/kg | max | 150 mg/kg | no | 9.3E-03 | -- |
| 7440-43-9 | Cadmium | 1 mg/kg | max | 39 mg/kg | no | 2.3E-02 | -- |
| 7440-47-3 | Chromium | 22 mg/kg | UCL | 210 mg/kg | yes | -- | 1.1E-07 |
| 7440-48-4 | Cobalt | 41 mg/kg | max | 900 mg/kg | yes | -- | 4.6E-08 |
| 7440-50-8 | Copper | 50 mg/kg | max | 2,900 mg/kg | no | 1.7E-02 | -- |
| 7439-97-6 | Mercury | 0 mg/kg | max | 23 mg/kg | no | 1.7E-02 | -- |
| 7440-02-0 | Nickel | 45 mg/kg | max | 1,600 mg/kg | no | 2.8E-02 | -- |
| 7782-49-2 | Selenium | 2 mg/kg | max | 390 mg/kg | no | 4.4E-03 | -- |
| 7440-22-4 | Silver | 2 mg/kg | max | 290 mg/kg | no | 6.2E-03 | -- |
| 7440-28-0 | Thallium | 1 mg/kg | UCL | 5.5 mg/kg | no | 1.4E-01 | -- |
| 7440-62-2 | Vanadium | 25 mg/kg | UCL | 78 mg/kg | no | 3.2E-01 | -- |

Cumulative Risk Ratio 0.84 8.00E-07

UCL 95% Upper Confidence Limit

ATTACHMENT A1.A

CONFIRMATORY SOIL SAMPLE DATA (FROM SHAW ENVIRONMENTAL)

VOCS

(SHADED DATA HAVE BEEN USED IN THE HHRA CALCULATIONS)

AREA B SAMPLES

AREA C SAMPLES

| Compound | NYDEC RSCO (mg/kg) | NYDEC RSCO (mg/kg) Comparison | | | | | | | | | | | |
|-----------------------------|--------------------------|-------------------------------|----------|---------|----------|---------|----------|----------|----------|----------|----------|---------|---------|
| | | EX-C-1 | EX-C-2 | EX-C-3 | EX-C-4 | EX-C-5 | EX-C-6 | EX-C-7 | EX-C-8 | EX-C-9 | EX-C-10 | EX-C-11 | |
| 1,1,1-Trichloroethane | 0.8 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,1,2,2-Tetrachloroethane | 0.6 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,1,2-Trichloroethane | NS | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,1-Dichloroethane | 0.2 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,1-Dichloroethene | | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,2-Dichlorobenzene | 7.9 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,2-Dichloroethane | | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,3-Dichlorobenzene | 1.6 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,3-Dichloropropane | | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 1,4-Dichlorobenzene | 8.5 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| trans-1,2-Dichloroethene | 0.3 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| 2-Butanone (MEK) | 0.3 | <0.012 | <0.012 | <0.011 | <0.011 | <0.012 | <0.011 | <0.011 | <0.012 | <0.013 | <0.012 | <0.011 | |
| 4-Methyl-2-Pentanone (MIBK) | 1 | <0.012 | <0.012 | <0.011 | <0.011 | <0.012 | <0.011 | <0.011 | <0.012 | <0.013 | <0.012 | <0.011 | |
| Acetone | 0.2 | <0.012 | <0.012 | <0.011 | <0.011 | <0.012 | <0.011 | <0.011 | <0.012 | <0.013 | <0.012 | <0.011 | |
| Benzene | 0.06 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Bromomethane | NS | <0.012 | <0.012 | <0.011 | <0.011 | <0.012 | <0.011 | <0.011 | <0.012 | <0.013 | <0.012 | <0.011 | |
| Carbon Disulfide | 2.7 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Carbon Tetrachloride | 0.6 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Chlorobenzene | 1.7 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Chloroethane | 1.9 | <0.012 | <0.012 | <0.011 | <0.011 | <0.012 | <0.011 | <0.011 | <0.012 | <0.013 | <0.012 | <0.011 | |
| Chloroform | 0.3 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Chloromethane | NS | <0.012 | <0.012 | <0.011 | <0.011 | <0.012 | <0.011 | <0.011 | <0.012 | <0.013 | <0.012 | <0.011 | |
| Dibromochloromethane | NS | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Ethylbenzene | 5.5 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Freon 113 | 6 | <0.0059 | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Methylene Chloride | 0.1 | 0.0034-J | 0.0027-J | 0.0058 | 0.0046-J | 0.005-J | 0.0046-J | 0.0032-J | 0.0027-J | 0.0033-J | 0.0037-J | 0.0054 | |
| Styrene | NS | <5.9-U | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Tetrachloroethene | 1.4 | <5.9-U | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Toluene | 1.5 | <5.9-U | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Trichloroethene | 0.7 | <5.9-U | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 | |
| Vinyl Chloride | 0.2 | <0.012 | <0.012 | <0.011 | 0.012 | 0.013 | 0.016 | 0.013 | 0.012 | 0.012-J | 0.012 | 0.014 | |
| Xylenes | | 1.2 | <5.9-U | <0.0058 | <0.0056 | <0.0053 | <0.0057 | <0.0055 | <0.0054 | <0.006 | <0.0065 | <0.0058 | <0.0054 |

AREA D SAMPLES

AREA F SAMPLES, 2005

AREA F SAMPLES, 2006 DATA

AREA OF INTEREST 5

SVOCS

(SHADED DATA HAVE BEEN USED IN THE HHRA CALCULATIONS)

AREA B SAMPLES

| Compound | NYDEC RSCO (mg/kg) | EX-B-1 | EX-B-2 | EX-B-3 | EX-B-4 | EX-B-5 | EX-B-6 | EX-B-7 | EX-B-8 | EX-B-9 | EX-B-10 | EX-B-11 | EX-B-12 | EX-B-13 | EX-B-14 | EX-B-15 | EX-B-16 | EX-B-DUP |
|-------------------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|----------|
| 2,4,5-Trichlorophenol | 0.1<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.390 | <0.460 | <0.390 | |
| 2,4-Dichlorophenol | 0.4<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.390 | <0.460 | <0.390 | |
| 2,4-Dinitrophenol | 0.200<0.900 | <0.780 | <0.740 | <0.770 | <0.740 | <0.770 | <0.790 | <0.770 | <0.760 | <0.730 | <0.750 | <0.740 | <0.780 | <0.770 | <0.790 | <0.920 | <0.770 | |
| 2,6-Dinitrotoluene | 1.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 2-Chlorophenol | 0.8<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 2-Methylnaphthalene | 36.4<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 2-Nitroaniline | 0.430<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 2-Nitrophenol | 0.330<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 2-methylphenol | 0.100<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 3-Nitroaniline | 0.500<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 4-Chloroaniline | 0.220<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 4-Nitroaniline | NS<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 4-Nitrophenol | 0.100<0.900 | <0.780 | <0.740 | <0.770 | <0.740 | <0.790 | <0.770 | <0.760 | <0.730 | <0.750 | <0.740 | <0.780 | <0.770 | <0.790 | <0.920 | <0.770 | | |
| 4-chloro-3-methylphenol | 0.240<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| 4-methylphenol | 0.9<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Acenaphthene | 50.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Acenaphthylene | 41.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Aniline (Phenylamine, Aminobenzene) | 0.1<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Anthracene | 50.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Benz(a)anthracene | 0.224<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Benz(a)pyrene | 0.061<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Benz(b)fluoranthene | 1.1<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Benzyl Butyl Phthalate | 50.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Chrysene | 0.4<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Dibenz(a,h) Anthracene | 0.014<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Dibenzofuran | 6.2<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Diethyl Phthalate | 7.1<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Dimethyl Phthalate | 2.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Fluoranthene | 50.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Fluorene | 50.0<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Hexachlorobenzene | 0.41<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Indeno(1,2,3-c,d) Pyrene | 3.2<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0.400 | <0.390 | <0.380 | <0.360 | <0.370 | <0.370 | <0.390 | <0.390 | <0.460 | <0.390 | | |
| Isophorone | 4.40<0.450 | <0.390 | <0.370 | <0.370 | <0.390 | <0.370 | <0. | | | | | | | | | | | |

AREA D SAMPLES

| Compound | NYDEC RSCO (mg/kg) | EX-D- Duplicate | | | | | | | | | | | | | | | | | | | | EX-D- Duplicate | | | |
|-------------------------|--------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|--------------------|--------------------|---------|---------|
| | | EX-D-1 | EX-D-2 | EX-D-3 | EX-D-4 | EX-D-5 | EX-D-6 | EX-D-7 | EX-D-8 | EX-D-9 | EX-D-10 | EX-D-11 | EX-D-12 | EX-D-13 | EX-D-14 | EX-D-15 | EX-D-16 | EX-D-17 | EX-D-18 | EX-D-19 | EX-D-20 | EX-D- Duplicate | EX-D- Duplicate | | |
| 2,4,5-Trichlorophenol | 0.1-ADL | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 2,4-Dichlorophenol | 0.4 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 2,4-Dinitrophenol | 0.200-ADL | <0.780 | <0.790 | <0.770 | <0.750 | <0.790 | <0.800 | <0.810 | <0.820 | <0.790 | <0.810 | <0.790 | <0.770 | <0.390 | <1.2 | <0.760 | <0.750 | <0.740 | <0.760 | <0.840 | <0.830 | <0.770 | <0.750 | <0.820 | |
| 2,6-Dinitrotoluene | 1.0 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 2-Chlorophenol | 0.8 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 2-Methylnaphthalene | 36.4 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | 0.310-J | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | 0.120-J | <0.380 | 0.052-J | <0.420 | <0.380 | 0.091-J | 0.044-J |
| 2-Nitroaniline | 0.430 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 2-Nitrophenol | 0.330 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 2-methylphenol | 0.100-ADL | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 3-Nitroaniline | 0.500 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 4-Chloroaniline | 0.220-ADL | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 4-Nitroaniline | NS | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 4-Nitrophenol | 0.100-ADL | <0.780 | <0.790 | <0.770 | <0.750 | <0.790 | <0.800 | <0.810 | <0.820 | <0.790 | <0.810 | <0.790 | <0.770 | <0.390 | <1.2 | <0.760 | <0.750 | <0.740 | <0.760 | <0.840 | <0.830 | <0.770 | <0.750 | <0.820 | |
| 4-chloro-3-methylphenol | 0.240-ADL | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| 4-methylphenol | 0.9 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| Acenaphthene | 50.0 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| Acenaphthylene | 41.0 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| Aniline | 0.1-ADL | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | | |
| Anthracene | 50.0 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | 0.051-J | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.410 | |
| Benz(a) anthracene | 0.224-ADL | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | 0.041-J | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | 0.054-J | |
| Benz(a) pyrene | 0.061-ADL | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | <0.40-J | | | |
| Benz(b) fluoranthene | 1.1 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380 | <0.380 | <0.370 | <0.380 | <0.420 | <0.420 | <0.380 | <0.370 | 0.056-J | | |
| Benzyl Butyl Phthalate | 50.0 | <0.390 | <0.390 | <0.380 | <0.370 | <0.400 | <0.400 | <0.410 | <0.410 | <0.390 | <0.410 | <0.400 | <0.390 | <0.580 | <0.380</ | | | | | | | | | | |

AREA F SAMPLES

| Compound | NYDEC RSCO (mg/kg) | EX-F-1 | EX-F-2 | EX-F-3 | EX-F-4 | EX-F-5 | EX-F-6 | EX-F-7 | EX-F-8 | EX-F-9 | EX-F-10 | EX-F-11 | EX-F-12 | EX-F-13 |
|-----------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 2,4,5-Trichlorophenol | 0.1-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2,4-Dichlorophenol | 0.4 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2,4-Dinitrophenol | 0.200 | <0.760 | <0.760 | <0.910 | <0.780 | <0.750 | <0.790 | <0.780 | <0.750 | <0.820 | <0.790 | <0.810 | <0.790 | <0.780 |
| 2,6-Dinitrotoluene | 1.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2-Chlorophenol | 0.8 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2-Methylnaphthalene | 36.4 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2-Nitroaniline | 0.430 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2-Nitrophenol | 0.330 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 2-methylphenol | 0.100-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 3-Nitroaniline | 0.500 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 4-Chloroaniline | 0.220-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 4-Nitroaniline | NS | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 4-Nitrophenol | 0.100-ADL | <0.760 | <0.760 | <0.910 | <0.780 | <0.750 | <0.790 | <0.780 | <0.750 | <0.820 | <0.790 | <0.810 | <0.790 | <0.780 |
| 4-chloro-3-methylphenol | 0.240-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| 4-methylphenol | 0.9 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Acenaphthene | 50.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Acenaphthylene | 41.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Aniline | 0.1-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Anthracene | 50.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Benz(a)anthracene | 0.224-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Benz(a) pyrene | 0.061-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Benz(b) fluoranthene | 1.1 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Benzyl Butyl Phthalate | 50.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Chrysene | 0.4 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Dibenzo(a,h) Anthracene | 0.014-ADL | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Dibenzofuran | 6.2 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Diethyl Phthalate | 7.1 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Dimethyl Phthalate | 2.0 | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.400 | <0.390 | <0.380 |
| Fluoranthene | 50.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Fluorene | 50.0 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Hexachlorobenzene | 0.41 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Indeno(1,2,3-c,d) Pyrene | 3.2 | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| Isophorone | 4.40 | <0.380 | <0.380 | <0.460 | <0.390 | <0.370 | <0.400 | <0.390 | <0.370 | <0.410 | <0.400 | <0.410 | <0.400 | <0.390 |
| Naphthalene | 13.0 | <0.380 | <0.410 | 4 | <0.370 | <0.390 | <0.360 | <0.390 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| Nitrobenzene | 0.200-ADL | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| Pentachlorophenol | 1.0 | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| Phenanthrene | 50.0 | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| Phenol | 0.03-ADL | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| Pyrene | 50 | <0.380 | <0.410 | <0.370 | <0.390 | <0.360 | <0.390 | <0.380 | <0.370 | <0.400 | <0.390 | <0.410 | <0.400 | <0.390 |
| bis(2-ethylhexyl) phthalate | 50.0 | <0.380 | <0.410 | <0.370 | <0.390 | <0.3 | | | | | | | | |

PESTICIDES/HERBICIDES/PCBS

(SHADED DATA HAVE BEEN USED IN THE HHRA CALCULATIONS)

AREA B SAMPLES

| Compound | NYDEC RSCO (ug/kg) | EX-B-10 | | | | | | | | | | | | | | | EX-B-15 | | | |
|---------------------|--------------------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|------|---------|---------|---------|---------|---------|---------|---------|----------|--|
| | | EX-B-1 | EX-B-2 | EX-B-3 | EX-B-4 | EX-B-5 | EX-B-6 | EX-B-7 | EX-B-8 | EX-B-9 | DL | EX-B-10 | EX-B-11 | EX-B-12 | EX-B-13 | EX-B-14 | DL | EX-B-16 | EX-B-DUP | |
| 4,4-DDD | 2900 | 6.8<2.0 | <1.9 | <1.9 | 2.0 | <1.9 | <2.0 | 0.84-J | 0.29-J | 57 | <1.9 | 0.60-J | 4.2 | <1.9 | 240 | 0.71-J | <1.9 | | | |
| 4,4-DDE | 2100 | 33.050-J | <1.9 | | 0.21 | 1.9-J | <1.9 | <2.0 | <1.9 | 0.74-J | 52 | <1.9 | 4.6 | 1.2-J | <1.9 | 40 | 3.2 | <1.9 | | |
| 4,4-DDT | 2100 | 21.028-J | <1.9 | <1.9 | | 2.1 | <1.9 | <2.0 | <1.9 | 2.0 | 160 | <1.9 | 14 | 5.2 | 0.39-J | 390 | 4.2 | <1.9 | | |
| Aldrin | 41.0<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Alpha-BHC | 110<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Beta-BHC | 200<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Chlordane | 540<45 | <39 | <37 | <37 | <39 | <37 | <40 | <39 | <38 | <360 | <37 | <37 | <39 | <38 | <39 | <46 | <39 | <39 | | |
| Delta-BHC | 300<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Dieldrin | 44.0<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Endosulfan I | 900<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Endosulfan II | 900<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Endosulfan Sulfate | 1000<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Endrin | 100<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Gamma-BHC (Lindane) | 60.0<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Heptachlor | 100<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Heptachlor Epoxide | 20.0<2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| Methoxychlor | NS | <2.3 | <2.0 | <1.9 | <1.9 | <1.9 | <2.0 | <1.9 | <1.9 | <18 | <1.9 | <1.9 | <1.9 | <1.9 | <1.9 | <20 | <2.3 | <1.9 | | |
| PCB-1016 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| PCB-1221 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| PCB-1232 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| PCB-1242 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| PCB-1248 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| PCB-1254 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| PCB-1260 | 1000<23 | <19 | <19 | <19 | <19 | <18 | <20 | <19 | <19 | <18 | <19 | <19 | <19 | <19 | <19 | <20 | <23 | <19 | | |
| 2,4,5-T | 1900<140 | <120 | <110 | <110 | <120 | <110 | <120 | <110 | <110 | <110 | <110 | <110 | <110 | <110 | <110 | <120 | <140 | <120 | | |
| 2,4,5-TP (Silvex) | 700<140 | <120 | <110 | <110 | <120 | <110 | <120 | <110 | <110 | <110 | <110 | <110 | <110 | <110 | <110 | <120 | <140 | <120 | | |
| 2,4-D | 500<140 | <120 | <110 | <110 | <120 | <110 | <120 | <110 | <110 | <110 | <110 | <110 | <110 | <110 | <110 | <120 | <140 | <120 | | |

AREA C SAMPLES

| Compound | NYDEC RSCO (ug/kg) | EX-C-1 | | | | | | | | | | | | | EX-C-10 | | | EX-C-11 | | | EX-C-12 | | |
|----------|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|--|
| | | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | | |
| 4,4-DDD | 2900 | 0.30 | 0.29 | 0.84 | <1.8 | 0.50 | 2.0 | <1.8 | <2.0 | <2.2 | <1.9 | <1.8 | <2.0 | | | | | | | | | 0.76 | |
| 4,4-DDE | 2100 | <2.0 | <1.9 | 0.82 | <1.8 | <1.9 | 1.7 | | | | | | | | | | | | | | | | |

AREA D SAMPLE

| Compound | NYDEC RSCO (ug/kg) | EX-D- Duplicate | | | | | | | | | | | | | | | | | | | | EX-D- Duplicate 2 | | |
|---------------------|--------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------------|------|------|
| | | EX-D-1 | EX-D-2 | EX-D-3 | EX-D-4 | EX-D-5 | EX-D-6 | EX-D-7 | EX-D-8 | EX-D-9 | EX-D-10 | EX-D-11 | EX-D-12 | EX-D-13 | EX-D-14 | EX-D-15 | EX-D-16 | EX-D-17 | EX-D-18 | EX-D-19 | EX-D-20 | | | |
| 4,4-DDD | 2900 | 1.1-J | 3.3 | <1.9 | <1.9 | <2.0 | <2.0 | 0.41-J | 0.67-J | <2.0 | <2.0 | 1.2-J | 0.86-J | <2.9 | <1.9 | <1.9 | 1.2-J | 1.2-J | <1.9 | 3 | <2.1 | <1.9 | <1.9 | |
| 4,4-DDE | 2100 | 0.61-J | 1.3-J | <1.9 | 0.27-J | 0.64-J | <2.0 | <2.0 | 0.47-J | 0.46-J | <2.0 | <2.0 | <1.9 | 0.58-J | <2.9 | <1.9 | 0.36-J | <1.8 | 0.69-J | <1.9 | <2.1 | <1.9 | <2.1 | |
| 4,4-DDT | 2100 | 2.5 | 0.82-J | <1.9 | <1.9 | 0.51-J | <2.0 | <2.0 | 0.36-J | <2.0 | <2.0 | 0.72-J | 2.3 | <2.9 | <1.9 | <1.9 | <1.8 | 0.66-J | <1.9 | <2.1 | <1.9 | <2.1 | <1.9 | <2.1 |
| Aldrin | 41.0 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Alpha-BHC | 11.0 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Beta-BHC | 200 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Chlordane | 540 | <39 | <39 | <40 | <38 | <37 | <39 | <40 | <41 | <41 | <39 | <41 | <39 | <39 | <57 | <38 | <38 | <37 | <38 | <38 | <42 | <42 | <39 | <41 |
| Delta-BHC | 300 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Dieldrin | 44.0 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Endosulfan I | 900 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Endosulfan II | 900 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Endosulfan Sulfate | 1000 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Endrin | 100 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Gamma-BHC (Lindane) | 60.0 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Heptachlor | 100 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Heptachlor Epoxide | 20.0 | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| Methoxychlor | NS | <2.0 | <2.0 | <1.9 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.9 | <2.0 | <2.9 | <1.9 | <1.9 | <1.8 | <1.9 | <1.9 | <2.1 | <2.1 | <1.9 | <2.1 | |
| PCB-1016 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| PCB-1221 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| PCB-1232 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| PCB-1242 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| PCB-1248 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| PCB-1254 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| PCB-1260 | 1000 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <20 | <20 | <19 | <20 | <29 | <19 | <19 | <18 | <19 | <19 | <21 | <21 | <19 | <21 | |
| 2,4,5-T | 1900 | <120 | <120 | <120 | <110 | <120 | <120 | <120 | <120 | <120 | <120 | <120 | <120 | <170 | <110 | <110 | <110 | <130 | <130 | <120 | <110 | <120 | | |
| 2,4,5-TP (Silvex) | 700 | <120 | <120 | <120 | <110 | <120 | <120 | <120 | <120 | <120 | <120 | <120 | <120 | <170 | <110 | <110 | <110 | <130 | <130 | <120 | <110 | <120 | | |
| 2,4-D | 500 | <120 | <120 | <120 | <110 | <120 | <120 | <120 | <120 | <120 | <120 | <120 | <120 | <170 | <110 | <110 | <110 | <130 | <130 | <120 | <110 | <120 | | |

AREA F SAMPLE

| Compound | NYDEC RSCO (ug/kg) | | | | | | | | | | | | | |
|---------------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| | | EX-F-1 | EX-F-2 | EX-F-3 | EX-F-4 | EX-F-5 | EX-F-6 | EX-F-7 | EX-F-8 | EX-F-9 | EX-F-10 | EX-F-11 | EX-F-12 | EX-F-13 |
| 4,4-DDD | 2900 | 2.3 | 0.83 | 0.46 | <2.0 | 8.8 | 0.53 | 3.6 | 0.92 | <2.0 | 3.6 | 6.1 | 6.6 | 1 |
| 4,4-DDE | 2100 | 2 | 2.1 | <2.3 | <2.0 | 2.9 | <2.0 | 0.53 | 3.3 | 0.27 | 4.8 | 1.4 | 1.4 | 0.4 |
| 4,4-DDT | 2100 | 2.6 | 3.1 | <2.3 | <2.0 | 63 | 0.39 | 0.58 | 3.4 | <2.0 | 2.3 | 0.54 | 0.4 | <2. |
| Aldrin | 41 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Alpha-BHC | 110 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Beta-BHC | 200 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Chlordane | 540 | <38 | <38 | <46 | <39 | <37 | <40 | <39 | <37 | <41 | <40 | <41 | <40 | <3 |
| Delta-BHC | 300 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Dieldrin | 44 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Endosulfan I | 900 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Endosulfan II | 900 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Endosulfan Sulfate | 1000 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Endrin | 100 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Gamma-BHC (Lindane) | 60 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Heptachlor | 100 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Heptachlor Epoxide | 20 | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| Methoxychlor | NS | <1.9 | <1.9 | <2.3 | <2.0 | <1.9 | <2.0 | <2.0 | <1.9 | <2.0 | <2.0 | <2.0 | <2.0 | <2. |
| PCB-1016 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| PCB-1221 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| PCB-1232 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| PCB-1242 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| PCB-1248 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| PCB-1254 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| PCB-1260 | 1000 | <19 | <19 | <23 | <19 | <19 | <20 | <19 | <19 | <20 | <20 | <20 | <20 | <2 |
| 2,4,5-T | 1900 | <110 | <110 | <140 | <120 | <110 | <120 | <120 | <110 | <120 | <120 | <120 | <120 | <12 |
| 2,4,5-TP (Silvex) | 700 | <110 | <110 | <140 | <120 | <110 | <120 | <120 | <110 | <120 | <120 | <120 | <120 | <12 |
| 2,4-D | 500 | <110 | <110 | <140 | <120 | <110 | <120 | <120 | <110 | <120 | <120 | <120 | <120 | <12 |

AREA OF INTEREST 5 SAMPLES

| Compound | NYDEC RSCO (ug/kg) | TP-AOI-1/Area F | DS-AOI5-001 | EX-AOI6-001* | EX-AO15-001 | EX-AO15-002 | EX-AO15-003 | EX-AO15-003A | EX-AO15-004 | EX-AO15-005 | EX-AO15-006 | EX-AO15-007 | EX-AO15-008 | EX-AO15-009 | EX-AO15-010 |
|---------------------|--------------------------|-----------------|-------------|--------------|-------------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | 12/5/2005 | 9/11/2006 | 9/12/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 10/6/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 |
| 4,4-DDD | 2900 | <3.8 | | 270 | <3.7 | | 3.2 | <1.8 | | 12 | <1.8 | <1.9 | 0.38-J | <1.8 | <1.8 |
| 4,4-DDE | 2100 | <3.8 | | <21 | <3.7 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.9 | <1.8 | <1.9 |
| 4,4-DDT | 2100 | <3.8 | | <21 | <3.7 | | 0.52 | <1.8 | | 34 | <1.8 | <1.9 | 1.4-J | | <1.9 |
| Aldrin | 41 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Alpha-BHC | 110 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Beta-BHC | 200 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Chlordane | 540 | <200 | | <410 | <1.9 ¹ | | <39 | <36 | <38 | | <37 | <38 | <37 | <37 | <38 |
| Delta-BHC | 300 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Dieldrin | 44 | <3.8 | | <21 | <3.7 | | <2.0 | <1.8 | | 14 | <1.8 | <1.9 | <1.9 | <1.8 | <1.9 |
| Endosulfan I | 900 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Endosulfan II | 900 | <3.8 | | <21 | <3.7 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Endosulfan Sulfate | 1000 | <3.8 | | <21 | <3.7 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Endrin | 100 | <3.8 | | <21 | <3.7 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Gamma-BHC (Lindane) | 60 | <2.0 | | <21 | <1.9 | | <2.0 | 0.64-J | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Heptachlor | 100 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Heptachlor Epoxide | 20 | <2.0 | | <21 | <1.9 | | <2.0 | <1.8 | <1.9 | | <1.8 | <1.9 | <1.8 | <1.9 | <1.9 |
| Methoxychlor | NS | <20 | | <21 | <20 | | <2.0 | <1.8 | | 7.9 | <1.8 | <1.9 | <1.9 | <1.8 | <1.9 |
| Toxaphene | NS | | | NR | <190 | | | | | | | | | | |
| PCB-1016 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| PCB-1221 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| PCB-1232 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| PCB-1242 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| PCB-1248 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| PCB-1254 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| PCB-1260 | 1000 | | <38 | <21 | <37 | | | | | | | | | | |
| 2,4,5-T | 1900 | | <230 | <120 | <225 | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 700 | | <230 | <120 | 4-J | | | | | | | | | | |
| 2,4-D | 500 | | <230 | <120 | <225 | | | | | | | | | | |

METALS

(SHADED DATA HAVE BEEN USED IN THE HHRA CALCULATIONS)

AREA B SAMPLES

| Metal | NYDEC (mg/kg) | East US BG | Site BG (mg/kg) | EX-B-1 | EX-B-2 | EX-B-3 | EX-B-4 | EX-B-5 | EX-B-6 | EX-B-7 | EX-B-8 | EX-B-9 | EX-B-10 | EX-B-11 | EX-B-12 | EX-B-13 | EX-B-14 | EX-B-15 | EX-B-16 | EX-B-DUP | EX-B-1RE | EX-B-5RE | EX-B-15RE | EX-B-15RE3 | EX-B-1-RE 3 | | |
|-----------|------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|------------|-------------|--------|------|
| Aluminum | SB | 33000 | 7080-12800 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/4/2005 | 10/13/2005 | 10/13/2005 | 10/13/2005 | 12/6/2005 | 12/6/2005 | | | |
| Antimony | SB | NA | 0.2-0.59 | 0.50-J | <1.6 | <1.7 | <1.6 | <1.6 | <1.7 | <1.7 | <1.4 | <1.3 | <1.6 | <1.5 | <1.7 | <1.6 | <1.7 | <2.0 | <2.1 | <1.6 | <1.8 | <1.8 | <1.4 | <3.00 | <3.00 | | |
| Arsenic | 7.5-3-12 | 4.3-16.4 | | 7.8 | 9.4 | 8.6 | 8.4 | 8.1 | 8.8 | 8.6 | 6.4 | 7.8 | 8.3 | 7.2 | 6.8 | 8.5 | 9.7 | 9.8 | 4.6 | 9.5 | 8.3 | 8.6 | 7.6 | <0.25 | <0.25 | | |
| Barium | 300-15-600 | 33-104 | | 74.3 | 82.7 | 80.5 | 72.9 | 67.9 | 75.6 | 58.5 | 60.2 | 67 | 79.3 | 81.4 | 58.3 | 81.5 | 70.7 | 88.8 | 79.6 | 77.9 | 65.1 | 71.4 | 61.2 | 22.3 | 22.3 | | |
| Beryllium | 0.16-0.1-7.5 | 0.38-0.67 | | 0.82 | 0.91 | 0.78 | 0.76 | 0.67 | 0.78 | 0.76 | 0.89 | 0.78 | 0.68 | 0.83 | 0.78 | 0.90 | 0.85 | 0.83 | 0.84 | 0.9 | 0.73 | 0.73 | 0.6 | 0.6 | | | |
| Cadmium | 10-1.75 | 0.21-0.52 | | 0.062-J | <0.49 | <0.52 | <0.48 | <0.48 | <0.5 | <0.43 | <0.4 | <0.48 | <0.46 | <0.49 | <0.52 | <0.52 | <0.59 | 0.056-J | <0.47 | <0.55 | <0.53 | <0.43 | <0.25 | <0.25 | | | |
| Calcium | SB | 130-35000 | 1280-46600 | 4300 | 10100 | 16200 | 28100 | 2400 | 36700 | 922 | 20600 | 20300 | 2410 | 30600 | 1780 | 24900 | 24100 | 3100 | 1730 | 21900 | 2150 | 2510 | 2240 | 1280 | 1280 | | |
| Chromium | 10-1.5-40 | 9.3-17.5 | | 53.1 | 26 | 22.3 | 22.6 | 23.0 | | 21.7 | 24.6 | 19.7 | 22.9 | 23.4 | 22.6 | 25.5 | 23.5 | 22.2 | 35.4 | 25.3 | 23.6 | 25.8 | 26.2 | 24 | 21.8 | 21.8 | |
| Cobalt | 30-2.5-60 | 5.3-12.2 | | 13.3 | 15.3 | 12.8 | 13.4 | 12.3 | | 13.1 | 11.4 | 13.7 | 13.6 | 15.2 | 10.5 | 10.5 | 15.2 | 14.2 | 14.9 | 13.2 | 16.4 | 12.6 | 13.1 | 9.83 | 9.83 | | |
| Copper | 25-1-50 | 13.4-26.9 | | 38.5 | 49.5 | 45.7 | 42.7 | 40.1 | | 42.6 | 43 | 37.3 | 41.1 | 40 | 37.4 | 26 | 45.2 | 41.4 | 40.9 | 34.3 | 47.8 | 34.8 | 40.7 | 29.1 | 35.7 | 35.7 | |
| Iron | 2000-2000-550000 | 14100-25700 | | 33000 | 38000 | 33000 | 32400 | 31100 | | 31700 | 35000 | 30300 | 33600 | 33000 | 31100 | 30000 | 34200 | 33900 | 34500 | 29300 | 34800 | 34300 | 34000 | 31000 | 33200 | 33200 | |
| Lead | SB | NA | 16.5-60.8 | 204 | 17.5 | 14.7 | 14 | 19.1 | 14.4 | 15.3 | 13.7 | 14.4 | 16.5 | 13.1 | 39.9 | 16.1 | 14.5 | 489 | 24.7 | 17 | 24.6 | 19 | 47.8 | 18.9 | 18.9 | | |
| Magnesium | SB | 100-5000 | 2150-13100 | 6470 | 7980 | 8290 | 8070 | 5350 | 8440 | 5920 | 7610 | 8080 | 5730 | 8760 | 4880 | 8760 | 7800 | 5960 | 5670 | 8340 | 5400 | 5500 | 5100 | 5090 | 5090 | | |
| Manganese | SB | 50-5000 | 197-875 | 30.5 | 636 | 415 | 552 | 443 | | 521 | 349 | 605 | 610 | 717 | 415 | 484 | 599 | 603 | 607 | 335 | 830 | 525 | 461 | 507 | 331 | 331 | |
| Mercury | 0.1-0.001-0.2 | 0.039-0.095 | | 0.22 | 0.05 | <0.034 | | 0.023 | 0.20 | | 0.031 | 0.024 | 0.034 | 0.057 | 0.030 | 0.022 | 0.043 | 0.036 | 0.026 | 0.042 | 0.035 | 0.27 | 0.1 | 0.05 | <0.020 | <0.020 | |
| Nickel | 13-0.5-25 | 10.6-24.8 | | 30.5 | 37.7 | 30.9 | 31.3 | 26.4 | 30.9 | | 27.4 | 31.0 | 32.0 | | 31.7 | 28.2 | 23.5 | 36.1 | 33.4 | 33.6 | 29.2 | 37.2 | 25.6 | 29.1 | 24.1 | 21.5 | 21.5 |
| Potassium | SB | 8500-43000 | 443-1660 | 1850 | 1990 | 1900 | 2060 | 1700 | 1780 | 1720 | 1990 | 1770 | 2330 | 1350 | 2300 | 2300 | 2160 | 2170 | 1770 | 2140 | 1590 | 1790 | 1410 | 552 | 552 | | |
| Selenium | 20-1.3-9 | 0.44-1.2 | | 0.25-J | <1.6 | <1.7 | <1.6 | <1.6 | 0.34-J | <1.7 | 0.30-J | <1.3 | <1.6 | <1.5 | <1.7 | 0.50-J | <1.6 | <1.7 | 0.24-J | 0.44-J | <1.6 | 0.79-J | 0.64-J | 0.47-J | <0.25 | <0.25 | |
| Silver | SB | NA | 0.16-0.17 | <0.27 | <0.25 | <0.26-J | <0.24 | <0.24 | <0.25 | <0.21 | <0.2 | <0.24 | <0.23 | <0.26 | <0.25 | <0.24 | <0.26 | <0.3 | <0.31 | <0.23 | <0.27 | <0.22 | <1.00 | <1.00 | | | |
| Thallium | SB | NA | D-0.67 | 0.33-J | 0.60-J | 0.48-J | 0.77-J | <2.4 | 0.58-J | 0.35-J | 0.43-J | 0.31-J | 0.53-J | <2.6 | 0.37-J | 0.45-J | <2.6 | <3.0 | 0.38-J | 0.52-J | 1.3-J | 0.97-J | 0.93-J | 0.50 | <0.50 | <0.50 | |
| Vanadium | 150-1-300 | 13.7-24 | | 29.3 | 30.2 | 25.4 | 26.5 | 28.8 | 26.1 | 29.8 | 22.9 | 27.4 | 29 | 26.6 | 29.4 | 28 | 27.6 | 31.6 | 35.3 | 28.2 | 33.5 | 31.6 | 28.8 | 23.6 | 23.6 | | |
| Zinc | 20-9-50 | 46-134 | | 96.8 | 81.4 | 75.5 | 95.1 | 84.8 | 80.1 | 88.6 | 81.8 | 82.9 | 84.7 | 89.1 | 81.6 | 83.0 | 85.6 | 84.4 | 80.2 | 88.3 | 80.2 | 85.6 | 70.6 | 52.0 | 88.4 | | |

AREA C SAMPLES

| Metal | NYDEC (mg/kg) | East US BG | Site BG (mg/kg) | EX-C-1 | EX-C-2 | EX-C-3 | EX-C-4 | EX-C-5 | EX-C-6 | EX-C-07 | EX-C-8 | EX-C-9 | EX-C-10 | EX-C-11 | EX-C-12 | EX-C-13 | EX-C-1RE | EX-C-2RE | EX-C-7RE | EX-C-8RE | EX-C-9RE | EX-C-10RE | EX-C-1RE2 | |
|----------|------------------|------------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------|
| Aluminum | SB | 33000 | 7080-12800 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 9/28/2005 | 10/13/2005 | 10/13/2005 | 10/13/2005 | 10/13/2005 | 10/13/2005 | 10/13/2005 | 10/13/2005 | |
| Antimony | SB | NA | 0.2-0.59 | <1.9 | <1.6 | <1.8 | <1.6 | <1.5 | <1.8 | <1.7 | <1.7 | <1.8 | <1.4 | <1.5 | <1.7 | <1.6 | <1.7 | <1.7 | 0.41 | <1.9 | <1.7 | <1.7 | <1.7 | <1.5 |
| Arsenic | | | | | | | | | | | | | | | | | | | | | | | | |

AREA D SAMPLES

| Metal | NYDEC | Site BG | (mg/kg) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|------------|-------------|-------------|--------|--------|--------|---------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------|-------------|---------|---------|---------|---------|---------|---------|-------------|
| | East US BG | | | EX-D-1 | EX-D-2 | EX-D-3 | EX-D-4 | EX-D-5 | EX-D-6 | EX-D-7 | EX-D-8 | EX-D-9 | EX-D-10 | EX-D-11 | EX-D-12 | EX-D-13 | EX-D-14 | EX-D-15 | EX-D-16 | EX-D-17 | EX-D-18 | EX-D-19 | Duplicate | EX-D-20 | EX-D-21 | EX-D-22 | Duplicate 2 | EX-D-23 | EX-D-24 | EX-D-25 | EX-D-26 | EX-D-27 | EX-D-28 | Duplicate 3 |
| Aluminum | SB | 33000 | 7080-12800 | 18600 | 16700 | 17100 | 18300 | 16200 | 15700 | 15600 | 15800 | 14500 | 17400 | 17100 | 17300 | 19600 | 16300 | 15800 | 15400 | 15200 | 17900 | 18600 | 15700 | 15700 | 14700 | 17100 | 7470 | 9070 | 9270 | 7310 | 7560 | 8770 | 9970 | |
| Antimony | SB | NA | 0.2-0.59 | <1.8 | <1.7 | <1.7 | <1.5 | <1.8 | <1.4 | <1.7 | <1.6 | <1.6 | <1.7 | <1.8 | <1.7 | <1.8 | <2.4 | <1.5 | <1.7 | <1.8 | <1.6 | <1.7 | <1.5 | <1.7 | <1.5 | <1.8 | 3.76 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | |
| Arsenic | 7.5 | 3-12 | 43-16.4 | 10.3 | 6.5 | 9.3 | 9.4 | 6.2 | 5.8 | 5.9 | 5.1 | 7.8 | 6.5 | 6.5 | 11.1 | 11.1 | 6.4 | 9.3 | 8.6 | 8.4 | 9.3 | 7.9 | 6.1 | 9.3 | 8.1 | 5.7 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | 0.71 | <0.25 | |
| Barium | 300 | 15-600 | 33-104 | 68.2 | 61.8 | 120 | 47.6 | 51.9 | 81.7 | 51.6 | 60.6 | 55.2 | 75.5 | 63.1 | 72.2 | 111 | 90 | 78.7 | 82.3 | 74.6 | 72.6 | 129 | 83.4 | 77 | 73.8 | 76.9 | 82 | 33.7 | 43.9 | 32.5 | 44 | 43.9 | 40.1 | 46.1 |
| Beryllium | 0.16 | 0-1.75 | 0.38-0.67 | 1 | 0.73 | 0.93 | 0.7 | 0.69 | 0.69 | 0.66 | 0.7 | 0.63 | 0.86 | 0.73 | 0.8 | 1.4 | 0.86 | 0.87 | 0.79 | 0.77 | 0.97 | 0.82 | 0.72 | 0.83 | 0.74 | 0.77 | 0.39 | 0.53 | 0.45 | 0.61 | 0.41 | 0.46 | 0.57 | |
| Cadmium | 1 | 0-1.75 | 0.21-0.52 | 0.48-J | 0.45-J | 0.66 | 0.42-J | 0.45-J | 0.37-J | 0.38-J | 0.42-J | 0.40-J | 0.5 | 0.44-J | 0.48-J | 0.4-J | 0.46-J | 0.53 | 0.56 | 0.58 | 0.59 | 0.52 | 0.42-J | 0.35-J | 0.53 | 0.6 | 0.39-J | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | |
| Calcium | SB | 130-35000 | 1280-46000 | 1600 | 3230 | 2720 | 1260 | 1360 | 1580 | 1170 | 1040 | 1390 | 1600 | 3430 | 2210 | 1860 | 2240 | 2780 | 27400 | 28700 | 30500 | 2160 | 5560 | 1840 | 18800 | 50100 | 3750 | 1150 | 1300 | 906 | 2650 | 10100 | 13800 | 2190 |
| Chromium | 10 | 1.5-40 | 9.3-17.5 | 26.8 | 21.3 | 25.1 | 26.3 | 20.8 | 19 | 19.4 | 19 | 17.8 | 23.4 | 21.4 | 26.7 | 26.9 | 35.1 | 24.8 | 23.7 | 23 | 22.8 | 25.7 | 26.7 | 20.3 | 24 | 21.8 | 25.3 | 11.4 | 14.5 | 15.1 | 21.6 | 15.4 | 18.5 | 19.3 |
| Cobalt | 30 | 2.5-60 | 5.3-12.2 | 14.3 | 11.6 | 13.8 | 8.8 | 11 | 9.4 | 8.7 | 11.4 | 8.8 | 14.7 | 10.6 | 14.2 | 41.1 | 15.2 | 13.7 | 17.4 | 15.9 | 14.6 | 14.9 | 13.8 | 10.4 | 14.7 | 13.4 | 13.5 | 5.33 | 8.57 | 6.02 | 9.36 | 8.79 | 8.99 | 9.45 |
| Copper | 25 | 1-50 | 13.4-26.9 | 40.6 | 24.1 | 42.5 | 37.1 | 17.1 | 17.5 | 17.6 | 17.5 | 17.8 | 30.8 | 22.7 | 61.5 | 48.7 | 42.9 | 43.8 | 45.3 | 44.1 | 37.6 | 41.7 | 71 | 23.5 | 47.5 | 40.3 | 80.2 | 8.41 | 11.4 | 11.4 | 27.8 | 28.7 | 30.5 | |
| Iron | 2000 | 2000-550000 | 14100-25700 | 42500 | 31300 | 37700 | 39300 | 30000 | 26000 | 26800 | 27600 | 23500 | 34000 | 29300 | 30300 | 40600 | 49600 | 34300 | 35400 | 34600 | 34300 | 36600 | 36000 | 28000 | 35300 | 32600 | 31400 | 9080 | 18000 | 14100 | 17400 | 12200 | 18800 | 20700 |
| Lead | SB | NA | 16.5-60.8 | 18.4 | 19.8 | 16.9 | 17.5 | 18.1 | 12.5 | 13.4 | 18.4 | 14.8 | 18 | 15 | 39 | 18.4 | 20.9 | 15.7 | 17.9 | 16.4 | 15.3 | 44.6 | 13.3 | 19.6 | 15.3 | 57.2 | 6.57 | 9.38 | 6.94 | 25.7 | 7.1 | 12.9 | 11.1 | |
| Magnesium | SB | 100-5000 | 2150-13100 | 6580 | 5030 | 6750 | 6070 | 4360 | 4020 | 4000 | 4060 | 3870 | 5340 | 4870 | 5230 | 6900 | 7820 | 7490 | 9030 | 8860 | 8740 | 6930 | 6120 | 4830 | 8450 | 8660 | 5660 | 2370 | 2940 | 3240 | 4820 | 5470 | 6240 | 4620 |
| Manganese | SB | 50-5000 | 197-875 | 444 | 540 | 583 | 292 | 560 | 425 | 365 | 686 | 598 | 763 | 435 | 503 | 880 | 709 | 387 | 829 | 668 | 639 | 705 | 379 | 462 | 753 | 612 | 311 | 325 | 657 | 223 | 224 | 385 | 372 | 440 |
| Mercury | 0.1 | 0.001-0.2 | 0.039-0.095 | 0.074 | 0.082 | 0.038 | 0.028-J | 0.047 | 0.04 | 0.069 | 0.052 | 0.079 | 0.17 | 0.04 | 7.7 | 0.38-J | 0.086 | 0.21 | 0.037 | 0.11 | 0.030-J | 0.049 | 0.72 | 0.034-J | 0.079 | 0.046 | 1.2 | 0.03 | 0.071 | 0.02 | 0.074 | 0.028 | 0.086 | |
| Nickel | 13 | 0.5-25 | 10.6-24.8 | 31.3 | 22.2 | 43.7 | 25.6 | 19.5 | 19 | 17.4 | 17.8 | 17.7 | 27.2 | 21.9 | 26.4 | 40.3 | 34.8 | 37.9 | 35 | 34.5 | 45 | 28.8 | 22.8 | 33.7 | 32.6 | 26.8 | <2.50 | <2.50 | <2.50 | <2.50 | <2.50 | <2.50 | | |
| Potassium | SB | 8500-43000 | 443-1660 | 1850 | 1080 | 1770 | 1530 | 1040 | 1120 | 1060 | 877 | 958 | 1370 | 1240 | 1510 | 1710 | 1900 | 1880 | 2200 | 2070 | 1990 | 1910 | 1650 | 1310 | 2010 | 2060 | 1510 | 320 | 464 | 420 | 602 | 680 | 878 | 511 |
| Selenium | 2 | 0.1-3.9 | 0.44-1.2 | 1.5-J | 0.95-J | 0.13-J | 1.4-J | 0.90-J | 1.1-J | 1.2-J | 0.86-J | 1.0-J | 1.2-J | 1.1-J | 0.98-J | <3.6 | 1.7-J | 0.97-J | 0.82-J | 0.80-J | 0.75-J | 1.2-J | 1.2-J | 0.87-J | 0.86-J | 0.48-J | 1.0-J | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | |
| Silver | SB | NA | 0.16-0.17 | <0.45 | <0.42 | <0.43 | <0.39 | 1.8 | <0.36 | <0.42 | <0.4 | <0.39 | <0.42 | <0.42 | <0.9 | <0.61 | <0.43 | <0.45 | 0.051-J | <0.43 | <0.38 | <0.44 | <0.44 | <0.39 | <0.44 | <1.0 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | | |
| Thallium | SB | NA | ND-0.67 | 0.67-J | <2.5 | 0.50-J | 0.50-J | <2.7 | <0.21 | <2.5 | <2.4 | <2.3 | <2.5 | 1.3-J | 0.67-J | 0.58-J | 0.62-J | 0.55-J | <2.7 | 0.84-J | 0.48-J | <2.3 | 0.51-J | <2.7 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | | | |
| Vanadium | 150 | 1-300 | 13.7-24 | 31.4 | 28.7 | 29 | 29.8 | 30.3 | 27.8 | 28.3 | 29.2 | 25.4 | 29.8 | 29.4 | 29.2 | 31.7 | 45.2 | 27.4 | 27.1 | 26 | 25.8 | 29.5 | 30.3 | 27 | 26.8 | 25.3 | 29.2 | 8.53 | 10.7 | 11.2 | 13.5 | 9.93 | 11.2 | 11.5 |
| Zinc | 20 | 9-50 | 46-134 | 91.7 | 70.8 | 91.8 | 81.6 | 61.2 | 60.7 | 57.5 | 56.8 | 58.6 | 77.4 | 67.2 | 74.5 | 106 | 101 | 89.4 | 94.1 | 85 | 81.3 | 92.9 | 77.4 | 68.5 | 88.7 | 79.6 | 77.2 | 34.3 | 42.9 | 43.8 | 68.9 | 60.4 | 69.2 | 63.6 |

AREA F SAMPLES, 2005 DATA

| Metal | NYDEC | | | Area-F | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|---------|---------------|-----------------|-------------|---------|--------|--------|--------|--------|---------|--------|--------|---------|---------|---------|---------|---------|-------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|------|
| | (mg/kg) | East US BG | Site BG (mg/kg) | EX-F-1 | EX-F-2 | EX-F-3 | EX-F-4 | EX-F-5 | EX-F-6 | EX-F-07 | EX-F-8 | EX-F-9 | EX-F-10 | EX-F-11 | EX-F-12 | EX-F-13 | Comp | EX-F-Supp 1 | EX-F-Supp 2 | EX-F-14 | EX-F-15 | EX-F-16 | EX-F-17 | EX-F-18 | EX-F-19 | EX-F-20 | EX-F-21 | EX-F-22 | | |
| Aluminum | SB | 33000 | 7080-12800 | 14400 | 15700 | 20200 | 14200 | 13000 | 21200 | 15800 | 14800 | 19200 | 16300 | 17100 | 17800 | 15000 | 11900 | 9470 | 6240 | 10100 | 8920 | 7870 | 5820 | 11900 | 7700 | 9980 | 7540 | 8850 | | |
| Antimony | SB | NA | 0.2-0.59 | 0.45-J | <1.8 | <2.1 | <1.6 | <1.7 | <1.8 | <1.8 | <1.6 | <1.8 | <1.6 | <1.8 | <1.8 | <1.8 | <3.0 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | <3.00 | | | |
| Arsenic | | 7.5-12 | 4.3-16.4 | | 7.4 | 6.7 | 3.5 | 4.5 | 4 | 3.1 | 6.3 | 6.2 | 6.3 | 3.6 | 5.2 | 4.7 | 5 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | | | |
| Barium | | 300 | 15-600 | 33-104 | 728 | 170 | 232 | 5740 | 4800 | 2200 | 179 | 67.3 | 102 | 72.9 | 189 | 115 | 76.6 | 326 | 458 | 210 | 22.8 | 395 | 23 | 16.8 | 79.5 | 43.6 | 58.2 | 60.3 | | |
| Beryllium | | 0.16-0.175 | 0.38-0.67 | | 0.77 | 0.87 | 0.78 | 0.67 | 0.62 | 0.64 | 0.84 | 0.8 | 0.8 | 0.68 | 0.8 | 0.7 | 0.76 | 0.69 | 0.42 | 0.28 | 0.72 | 0.57 | 0.39 | 0.33 | 0.97 | 0.42 | 0.56 | 0.42 | 0.4 | |
| Cadmium | | 10-1.75 | 0.21-0.52 | 0.63 | 0.44-J | 0.36-J | | 0.64 | 0.85 | 0.40-J | 0.49-J | | 0.52 | 0.35-J | | 0.55 | 0.47-J | 0.45 | 0.41-J | <0.25 | <0.25 | 0.7 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | |
| Calcium | SB | 130-35000 | 1280-46600 | 5690 | 17100 | 2530 | 5780 | 3610 | 2210 | 3300 | 41900 | 1940 | 3420 | 2360 | 2310 | 2310 | 2080 | 6510 | 1710 | 1000 | 3240 | 1420 | 1340 | 2650 | 18400 | 15500 | 12300 | 13300 | | |
| Chromium | | 10 | 1.5-40 | 9.3-17.5 | | 27.1 | 19.3 | 18.8 | 16.5 | 15.4 | 18.5 | 18.9 | 18.9 | 22.9 | 18.3 | 19.2 | 18.2 | 18 | 13 | 12.6 | 6.32 | 18.1 | 14.4 | 14.7 | 10.8 | 17.1 | 14.4 | 18.9 | 14.2 | 17.9 |
| Cobalt | | 30 | 2.5-60 | 5.3-12.2 | | 10.6 | 9.9 | 6.6 | 7 | 6.8 | 4.1 | 10 | 13 | 5.2 | 6.5 | 7.5 | 5.5 | 6.8 | 5.17 | 4.56 | <2.50 | 7.82 | 7.63 | 7.55 | 5.45 | 13.5 | 7.87 | 9.67 | 7.46 | 9.9 |
| Copper | | 25-1.50 | 13.4-26.9 | | 38.4 | 28.9 | 17.9 | 25.5 | 22.6 | 11.9 | 24 | 26.3 | 13.8 | 20.2 | 21.6 | 13.7 | 20.7 | 19.5 | 26.5 | 11.5 | 27.1 | 19.8 | 23.1 | 15.4 | 22.9 | 22.7 | 30.7 | 22 | 27.7 | |
| Iron | | 2000 | 2000-550000 | 14100-25700 | 43700 | 27400 | 15900 | 21100 | 18500 | 18200 | 27200 | 27500 | 24200 | 19100 | 25300 | 21100 | 22400 | 24000 | 18700 | 9950 | 15900 | 13000 | 17900 | 10400 | 13400 | 16200 | 20500 | 13600 | 18000 | |
| Lead | SB | NA | 16.5-60.8 | | 33.1 | 15.2 | 16.5 | 38.2 | 54.6 | 18 | 16.3 | 16.1 | 10.4 | 21 | 16.9 | 17.2 | 12.7 | 8.73 | 43.3 | 11.2 | 7.89 | 10.7 | 7.05 | 5.12 | 8.05 | 6.2 | 7.75 | 4.97 | 11 | |
| Magnesium | SB | 100-5000 | 2150-13100 | 4640 | 4870 | 3400 | 4480 | 3500 | 2730 | 4480 | 4910 | 3750 | 3710 | 3470 | 3050 | 3570 | 2790 | 5260 | 1800 | 4260 | 3550 | 3190 | 2620 | 3820 | 6720 | 8350 | 6660 | 8440 | | |
| Manganese | SB | 50-5000 | 197-875 | | 234 | 284 | 135 | 260 | 187 | 115 | 225 | 459 | 93.6 | 202 | 157 | 127 | 156 | 133 | 206 | 95.2 | 130 | 203 | 124 | 126 | 225 | 365 | 440 | 360 | 466 | |
| Mercury | | 0.1-0.001-0.2 | 0.039-0.095 | 0.029-J | 0.030-J | | 0.054 | 0.035 | 0.06 | 0.049 | 0.043 | 0.053 | 0.046 | 0.072 | 0.034-J | 0.037 | 0.033-J | <0.020 | 0.015 | <0.010 | <0.020 | 0.03 | 0.028 | 0.02 | 0.024 | 0.024 | 0.025 | 0.022 | 0.028 | |
| Nickel | | 13-0.5-25 | 10.6-24.8 | | 34.8 | 25.1 | 16.9 | 21.5 | 19.2 | 13.7 | 24.4 | 25.6 | 15.6 | 17.9 | 20.2 | 15.7 | 20.4 | 15.6 | 20.4 | 9.77 | 4.14 | <2.50 | <2.50 | <2.50 | 8.63 | 3.8 | 6.12 | 3.45 | 7.11 | |
| Potassium | SB | 8500-43000 | 443-1660 | | 1640 | 1640 | 1370 | 1630 | 1490 | 1200 | 1500 | 1540 | 1490 | 1430 | 1290 | 1270 | 1280 | 439 | 913 | 729 | 408 | 492 | 488 | 336 | 589 | 951 | 1130 | 872 | 841 | |
| Selenium | | 2-0.1-3.9 | 0.44-1.2 | 0.81-J | 0.30-J | 0.55-J | 0.64-J | 0.41-J | 0.46-J | 0.70-J | 0.36-J | 0.47-J | 0.52 | 0.57-J | 0.63-J | <0.25 | 3.73 | 7.97 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | | |
| Silver | SB | NA | 0.16-0.17 | | <0.27 | <0.28 | <0.31 | <0.24 | <0.25 | <0.27 | <0.23 | <0.28 | <0.24 | <0.23 | <0.22 | <0.27 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | | |
| Thallium | SB | NA | ND-0.67 | <2.7 | <2.8 | <3.1 | <2.4 | 0.31-J | <2.7 | <2.8 | <2.4 | <2.3 | <2.8 | <2.4 | <2.3 | <2.2 | <2.7 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | | | |
| Vanadium | | 150-1-300 | 13.7-24 | | 26.3 | 29.1 | 30.7 | 23.5 | 22.7 | 29.8 | 29.4 | 34.1 | 27.4 | 28.9 | 29.3 | 26.5 | 20 | 16.7 | 10.3 | 14 | 11.6 | 11.2 | 8.29 | 16.5 | 9.95 | 12.7 | 9.67 | 10.9 | | |
| Zinc | | 20-9-50 | 46-134 | | 328 | 86.1 | 103 | 7010 | 10200 | 598 | 107 | 74.5 | 47 | 80 | 94 | 70.2 | 63.2 | 302 | 10100 | 25400 | 58 | 398 | 50 | 40.7 | 50.5 | 50.6 | 64.8 | 48 | 53.9 | |

AREA F SAMPLES, 2006 DATA

| Metal | NYDEC (mg/kg) | East US BG | Site BG (mg/kg) | EX-F-23 | EX-F-24 | EX-F-24A | EX-F-25 | EX-F-25A | EX-F-26 | EX-F-27 | EX-F-27A | EX-F-28 | EX-F-29 | EX-F-30 | EX-F-30A | EX-F-31 | EX-F-31A | EX-F-32 | EX-F-32A |
|-----------|------------------|-------------|-----------------|-----------|---------|-----------|---------|-----------|---------|---------|----------|-----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|
| Aluminum | SB | 33000 | 7080-12800 | 8500 | 11300 | 11800 | 10400 | 5340 | 11700 | 7090 | 9790 | 12000 | 11200 | 7950 | 7320 | 9350 | 11200 | 14900 | 12700 |
| Antimony | SB | NA | 0.2-0.59 | <13.0/0.2 | 85.3 | <13.0/0.2 | 34.4 | <13.5/0.2 | 24.5 | 16.5 | 0.26-J | <14.7/0.2 | <15.2/0.2 | <13.6/0.2 | <13.1/0.2 | 6.9-J | <13.2/0.2 | <14.9/0.2 | <14.3/0.2 |
| Arsenic | 7.5 | 3-12 | 4.3-16.4 | <1.08 | <1.28 | 1.66 | <1.13 | 1.76 | <1.18 | <1.11 | 0.18 | 1.44 | <1.27 | <1.13 | <1.10 | 2.19 | 0.52-J | <1.24 | 0.12-J |
| Barium | 300 | 15-600 | 33-104 | 42.9 | 3070 | 103 | 721 | 42.4 | 46.5 | 52.6 | 29.5 | 111 | 53.2 | 669 | 246 | 454 | 113 | 511 | 62.3 |
| Beryllium | 0.16 | 0-1.75 | 0.38-0.67 | <1.08 | <1.28 | 0.55 J | <1.13 | 0.28 J | <1.18 | <1.11 | 0.54 J | <1.22 | <1.27 | <1.13 | 0.35 J | 0.43 J | 0.60 J | 0.67 J | 0.99 J |
| Cadmium | 1 | 0-1.75 | 0.21-0.52 | <1.08 | <1.28 | <1.08 | <1.13 | <1.12 | <1.18 | <1.11 | <1.20 | <1.22 | <1.27 | <1.13 | <1.10 | <1.11 | <1.10 | <1.24 | <1.19 |
| Calcium | SB | 130-35000 | 1280-46600 | 19900 | 3860 | 23800 | 19800 | 10400 | 2630 | 14600 | 2500 | 1450 | 1440 | 27000 | 20000 | 19500 | 23500 | 4300 | 3320 |
| Chromium | 10 | 1.5-40 | 9.3-17.5 | 14.3 | 25.9 | 21.6 | 19.3 | 10.2 | 19.8 | 12.1 | 18 | 18.8 | 19.8 | 13.6 | 13.2 | 16.6 | 19.9 | 20.9 | 21 |
| Cobalt | 30 | 2.5-60 | 5.3-12.2 | 12.7 | 316 | 23.9 | 81.7 | 11.3 | 17.3 | 11.8 | 33 | 15.8 | 19.2 | 73.9 | 32.1 | 54.8 | 24.0 | 58.8 | 14.9 |
| Copper | 25 | 1-50 | 13.4-26.9 | 23 | 32.7 | 35.5 | 28.3 | 19.8 | 34.3 | 18.8 | 42.2 | 25.3 | 19.4 | 16.4 | 22.8 | 19.5 | 32.4 | 19.3 | 42.4 |
| Iron | 2000 | 2000-550000 | 14100-25700 | 15900 | 20600 | 32600 | 17000 | 14700 | 17000 | 12700 | 27100 | 19400 | 20000 | 16000 | 16600 | 16400 | 28400 | 18600 | 24900 |
| Lead | SB | NA | 16.5-60.8 | <1.08 | <1.28 | <1.08 | <1.13 | <1.12 | <1.18 | <1.11 | <1.20 | <1.22 | <1.27 | <1.13 | <1.10 | <1.11 | <1.10 | <1.24 | <1.19 |
| Magnesium | SB | 100-5000 | 2150-13100 | 7490 | 5790 | 9770 | 8530 | 4660 | 5230 | 5960 | 4680 | 3630 | 4230 | 7230 | 7080 | 6620 | 9190 | 4720 | 5380 |
| Manganese | SB | 50-5000 | 197-875 | 444 | 287 | 548 | 497 | 334 | 130 | 371 | 222 | 97.4 | 91.9 | 360 | 397 | 487 | 520 | 228 | 117 |
| Mercury | 0.1 | 0.001-0.2 | 0.039-0.095 | <0.217 | <0.257 | <0.108 | <0.226 | <0.112 | <0.236 | <0.222 | <0.120 | <0.244 | <0.253 | <0.226 | <0.110 | <0.111 | <0.110 | <0.124 | <0.119 |
| Nickel | 13 | 0.5-25 | 10.6-24.8 | <10.8 | <12.8 | <10.8 | <11.3 | <11.2 | <11.8 | <11.1 | 6.7 J | <12.2 | <12.7 | <11.3 | <11.0 | <11.1 | 0.23 J | <12.4 | <11.9 |
| Potassium | SB | 8500-43000 | 443-1660 | 1230 | 925 | 1320 | 1590 | 545 | 1040 | 995 | 710 | 518 | 1080 | 822 | 791 | 1380 | 1280 | 1380 | 702 |
| Selenium | 2 | 0.1-3.9 | 0.44-1.2 | <1.08 | <1.28 | <1.08 | <1.13 | <1.12 | <1.18 | <1.11 | <1.20 | <1.22 | <1.27 | <1.13 | <1.10 | <1.11 | <1.10 | <1.24 | <1.19 |
| Silver | SB | NA | 0.16-0.17 | <4.33 | <5.13 | <4.33 | <4.52 | <4.50 | <4.50 | <4.72 | <4.44 | <4.80 | <4.89 | <5.06 | <4.52 | <4.36 | <4.46 | <4.39 | <4.75 |
| Thallium | SB | NA | ND-0.67 | <2.17 | <2.57 | <2.16 | <2.26 | <2.25 | <2.36 | <2.22 | <2.40 | <2.44 | <2.53 | <2.26 | <2.19 | <2.23 | <2.20 | <2.48 | <2.38 |
| Vanadium | 150 | 1-300 | 13.7-24 | 10.6 | 15.6 | 13.4 | 14.3 | 5.2 J | 16.3 | <11.1 | 13.8 | 19.3 | 14.4 | <11.3 | 9.1 J | 11.3 | 12.9 | 18.5 | 14.9 |
| Zinc | 20 | 9-50 | 46-134 | 54 | 1040 | 74.1 | 428 | 28.8 | 79.3 | 76.3 | 88.3 | 48.8 | 69.1 | 218 | 45.1 | 160 | 63.8 | 159 | 64 |

AREA OF INTEREST 5

| Metal | NYDEC (mg/kg) | East US BG | Site BG (mg/kg) | TP-AOI-1/Area F | TP-AOI-1 | DS-AOI5-001 | TP-AOI6-1 | EX-AOI6-001* | EX-AOI5-001 | EX-AOI5-001A | EX-AOI5-001B | EX-AOI5-002 | EX-AOI5-002A | EX-AOI5-002B | EX-AOI5-003 | EX-AOI5-003A | EX-AOI5-003B |
|-----------|------------------|-------------|-----------------|-----------------|----------|-------------|-----------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|
| Aluminum | SB | 33000 | 7080-12800 | 8560 | 8550 | 15300 | 10400 | 16200 | 15600 | 16700 | 10200 | 14000 | 16300 | 10300 | 15300 | 15800 | 24300 |
| Antimony | SB | NA | 0.2-0.59 | <3.45 | <3.00 | 0.48-J | <3.00 | 15.6 | 0.33-J | 0.68-J | | 0.31-J | 0.48-J | | 0.51-J | 0.49-J | |
| Arsenic | 7.5 | 3-12 | 4.3-16.4 | <0.29 | <0.25 | 9.5 | <0.25 | 1.57 | 8.0 | 13.2 | | 8.0 | 13.3 | | 6.9 | 11.9 | |
| Barium | 300 | 15-600 | 33-104 | 45.9 | 38.1 | 79.8 | 39.2 | 60.9 | 71.7 | 77.8 | | 92.7 | 72.1 | | 61.8 | 78.2 | |
| Beryllium | 0.16 | 0-1.75 | 0.38-0.67 | 0.41 | 0.44 | 0.77 | 0.54 | 0.55-J | 0.75 | 0.83 | | 0.73 | 0.88 | | 0.77 | 0.84 | |
| Cadmium | 1 | 0-1.75 | 0.21-0.52 | <0.29 | <0.25 | 0.47-J | <0.25 | <1.12 | 0.39-J | 0.65 | | 0.35-J | 0.62 | | 0.30-J | 0.7 | |
| Calcium | SB | 130-35000 | 1280-46600 | 10200 | 18700 | 37800 | 11800 | 22400 | 13800 | 21400 | | 49100 | 3300 | | 20700 | 31300 | |
| Chromium | 10 | 1.5-40 | 9.3-17.5 | 13.7 | 18.8 | 23.8 | 16 | 26.4 | 23.3 | 23.6 | | 21.1 | 23.9 | | 24.0 | 23.1 | |
| Cobalt | 30 | 2.5-60 | 5.3-12.2 | 8.51 | 9.25 | 15.6 | 5.96 | 21.2 | 14.2 | 14.9 | | 13.4 | 17.3 | | 13.7 | 15.1 | |
| Copper | 25 | 1-50 | 13.4-26.9 | 26.3 | 48 | 44.7 | 8.24 | 36.7 | 36.3 | 40 | | 42.3 | 45.4 | | 38.6 | 40.3 | |
| Iron | 2000 | 2000-550000 | 14100-25700 | 14400 | 34600 | 35400 | 23300 | 15800 | 33900 | 35300 | 21500 | 29800 | 337700 | 22000 | 3290 | 35200 | 44700 |
| Lead | SB | NA | 16.5-60.8 | 10 | | | | | | | | | | | | | |

AREA OF INTEREST 5, CONTINUED

| Metal | EX-AOI5-004 | EX-AOI5-004A | EX-AOI5-004B | EX-AOI5-005 | EX-AOI5-005A | EX-AOI5-005B | EX-AOI5-006 | EX-AOI5-006A | EX-AOI5-006B | EX-AOI5-007 | EX-AOI5-007A | EX-AOI5-007B | EX-AOI5-008 | EX-AOI5-008A | EX-AOI5-008B | EX-AOI5-009 | EX-AOI5-010 | DUPE10606 (Dup 003A) | EX-AOI5-012 (Dup 003B) | | |
|-----------|-------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|-------------|-------------|-------------------------|---------------------------|-------------|------------|
| Aluminum | 16500 | 16400 | 18900 | 18600 | 10/6/2006 | 10/18/2006 | 9/18/2006 | 10/6/2006 | 10/18/2006 | 9/18/2006 | 10/6/2006 | 10/18/2006 | 9/18/2006 | 10/6/2006 | 10/18/2006 | 9/18/2006 | 10/6/2006 | 10/18/2006 | 9/18/2006 | 10/6/2006 | 10/18/2006 |
| Antimony | <1.8 | 0.78-J | | 0.41-J | 0.21-J | | 0.47-J | 0.44-J | | <1.8 | 0.63-J | | <1.8 | 0.39-J | | 0.25-J | <1.9 | 0.58-J | 0.88-J | | |
| Arsenic | 9.4 | 11.2 | | 11.4 | 8.7 | | 9.8 | 9.3 | | 10.2 | 9.1 | | 9.0 | 9.9 | | 9.2 | 8.2 | 9.3 | 10 | | |
| Barium | 81.5 | 76.7 | | 110 | 181 | | 75.5 | 78.6 | | 79.6 | 79.3 | | 79.3 | 97.4 | | 76.4 | 73.0 | 133 | 81.7 | | |
| Beryllium | 0.87 | 0.89 | | 1.1 | 0.8 | | 0.82 | 0.79 | | 0.86 | 0.81 | | 0.82 | 0.84 | | 0.81 | 0.80 | 0.8 | 0.83 | | |
| Cadmium | 0.18-J | 0.72 | | 0.27-J | 0.86 | | 0.28 | 0.69 | | 0.26-J | 0.78 | | 0.26 | 0.81 | | 0.31-J | 0.17-J | 0.66 | 0.88 | | |
| Calcium | 8330 | 12500 | | 4390 | 36300 | | 18900 | 28800 | | 24700 | 23600 | | 26800 | 28700 | | 25500 | 8970 | 22900 | 34900 | | |
| Chromium | 26.4 | 24 | | 26.6 | 22.3 | | 24.1 | 21.4 | | 24.3 | 22 | | 24.2 | 23 | | 23.7 | 22.9 | 21.6 | 22.7 | | |
| Cobalt | 15.7 | 16.3 | | 19.4 | 11.8 | | 16.0 | 13.8 | | 18.9 | 15.6 | | 17.3 | 15.4 | | 15.2 | 15.1 | 14.6 | 16.7 | | |
| Copper | 45.2 | 45.3 | | 49.9 | 35.9 | | 44.7 | 39.5 | | 47.5 | 40.3 | | 46.1 | 44 | | 47.3 | 36.3 | 36.3 | 43.2 | | |
| Iron | 36300 | 37100 | 30400 | 38300 | 33700 | 29400 | 35100 | 33900 | 30400 | 35100 | 32700 | 29700 | 34300 | 35300 | 31500 | 34500 | 33200 | 32400 | 18600 | 35000 | 26000 |
| Lead | 23.0 | 17.7 | | 23.9 | 20.4 | | 16.3 | 15 | | 19.9 | 16.2 | | 16.9 | 17.2 | | 15.9 | 19.0 | 16.7 | 16 | | |
| Magnesium | 7920 | 8440 | | 6550 | 6960 | | 8520 | 10100 | | 9320 | 8480 | | 8910 | 9120 | | 91.9 | 3730 | 7120 | 8750 | | |
| Manganese | 703 | 662 | | 916 | 642 | | 581 | 710 | | 898 | 679 | | 724 | 646 | | 648 | 688 | 622 | 945 | | |
| Mercury | 0.039 | 0.029 | | 0.036 | 0.036 | | 0.031-J | 0.031-J | | 0.028-J | 0.041 | | 0.043 | 0.023-J | | 0.032-J | 0.028-J | 0.026-J | 0.045 | | |
| Nickel | 36.8 | 36.2 | 13.1 | 41.8 | 33.2 | 9 | 38.7 | 34.7 | 8.1 | 39.7 | 35.6 | 6.69 | 38.0 | 36.9 | 5.07 | 36.1 | 32.3 | 31.7 | <2.90 | 42.1 | 7.59 |
| Potassium | 2040 | 1990 | | 2040 | 1640 | | 2220 | 2110 | | 2340 | 2150 | | 2320 | 2300 | | 2240 | 1810 | 1870 | 2050 | | |
| Selenium | <0.18 | 1.2-J | | <0.18 | 1.7-J | | <0.18 | 1.3-J | | <0.17 | 1.6-J | | <0.17 | 1.7-J | | <0.18 | 1.7-J | 1.5-J | | | |
| Silver | <0.046 | <0.12 | | <0.047 | <0.12 | | <0.046 | <0.11 | | <0.045 | <0.11 | | <0.045 | <0.12 | | <0.046 | <0.048 | <0.12 | <0.11 | | |
| Thallium | 1.7-J | 0.64-J | | 1.4-J | 0.38-J | | 1.3-J | 0.32-J | | 1.4-J | 0.50-J | | 1.3-J | <0.29 | | 2.0-J | 1.0-J | 0.66-J | 0.44-J | | |
| Vanadium | 28.5 | 26.1 | | 31.0 | 25.6 | | 26.7 | 24.6 | | 27.0 | 24.8 | | 26.9 | 25.7 | | 26.4 | 28.1 | 26 | 25.3 | | |
| Zinc | 95.6 | 103 | | 104 | 111 | | 95.6 | 88.5 | | 102 | 92 | | 97.9 | 92.4 | | 100 | 86.8 | 95.9 | 93.9 | | |

Note: Shaded samples ending in the letter "A" are for all metals except nickel
Shaded samples ending in the letter "B" are for nickel ONLY

ATTACHMENT A1.B

95% UCL CALCULATIONS

VOCS

AOC 2

Variable: Benzene

| Raw Statistics | | |
|----------------------------------|-----------|--|
| Number of Valid Samples | 88 | Lilliefors Test Statistic |
| Number of Unique Samples | 29 | Lilliefors 5% Critical Value |
| Minimum | 0.0015 | Data not normal at 5% significance level |
| Maximum | 0.23 | |
| Mean | 0.006498 | 95% UCL (Assuming Normal Distribution) |
| Median | 0.002925 | Student's-t UCL |
| Standard Deviation | 0.024521 | |
| Variance | 0.000601 | |
| Coefficient of Variation | 3.773393 | Gamma Distribution Test |
| Skewness | 8.929451 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 0.906323 | Data do not follow gamma distribution |
| k star (bias corrected) | 0.883002 | at 5% significance level |
| Theta hat | 0.00717 | |
| Theta star | 0.007359 | 95% UCLs (Assuming Gamma Distribution) |
| nu hat | 159.5129 | Approximate Gamma UCL |
| nu star | 155.4083 | Adjusted Gamma UCL |
| Approx.Chi Square Value (.05) | 127.5847 | |
| Adjusted Level of Significance | 0.047273 | Lognormal Distribution Test |
| Adjusted Chi Square Value | 127.1674 | Lilliefors Test Statistic |
| Log-transformed Statistics | | |
| Minimum of log data | -6.50229 | 95% UCLs (Assuming Lognormal Distribution) |
| Maximum of log data | -1.469676 | 95% H-UCL |
| Mean of log data | -5.68069 | 95% Chebyshev (MVUE) UCL |
| Standard Deviation of log data | 0.648274 | 97.5% Chebyshev (MVUE) UCL |
| Variance of log data | 0.42026 | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use 95% Chebyshev (Mean, Sd) UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

AOC 2

Variable: Vinyl Chloride

| Raw Statistics | | |
|--------------------------------|-----------|---|
| Number of Valid Samples | 88 | Lilliefors Test Statistic |
| Number of Unique Samples | 16 | Lilliefors 5% Critical Value |
| Minimum | 0.0021 | Data not normal at 5% significance level |
| Maximum | 0.07 | |
| Mean | 0.007964 | 95% UCL (Assuming Normal Distribution) |
| Median | 0.006 | Student's-t UCL |
| Standard Deviation | 0.009346 | |
| Variance | 8.73E-05 | |
| Coefficient of Variation | 1.173533 | Gamma Distribution Test |
| Skewness | 5.547532 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 2.629744 | A-D 5% Critical Value |
| k star (bias corrected) | 2.547669 | K-S Test Statistic |
| Theta hat | 0.003028 | K-S 5% Critical Value |
| Theta star | 0.003126 | |
| nu hat | 462.8349 | 95% UCLs (Assuming Gamma Distribution) |
| nu star | 448.3898 | Approximate Gamma UCL |
| Approx.Chi Square Value (.05) | 400.2855 | Adjusted Gamma UCL |
| Adjusted Level of Significance | 0.047273 | |
| Adjusted Chi Square Value | 399.5352 | |
| Log-transformed Statistics | | |
| Minimum of log data | -6.165818 | Lognormal Distribution Test |
| Maximum of log data | -2.65926 | Lilliefors Test Statistic |
| Mean of log data | -5.034889 | Lilliefors 5% Critical Value |
| Standard Deviation of log data | 0.495356 | Data not lognormal at 5% significance level |
| Variance of log data | 0.245378 | |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use Student's-t UCL | | CLT UCL |
| or Modified-t UCL | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

SVOCs

AOC 2

Variable: bis(2-ethylhexyl) phthalate

| Raw Statistics | | |
|------------------------------------|-----------|---|
| Number of Valid Samples | 74 | Lilliefors Test Statistic |
| Number of Unique Samples | 20 | Lilliefors 5% Critical Value |
| Minimum | 0.036 | Data not normal at 5% significance level |
| Maximum | 220 | |
| Mean | 3.265054 | 95% UCL (Assuming Normal Distribution) |
| Median | 0.195 | Student's-t UCL |
| Standard Deviation | 25.54767 | |
| Variance | 652.6836 | |
| Coefficient of Variation | 7.824579 | Gamma Distribution Test |
| Skewness | 8.59451 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 0.260407 | A-D 5% Critical Value |
| k star (bias corrected) | 0.258859 | K-S Test Statistic |
| Theta hat | 12.53825 | K-S 5% Critical Value |
| Theta star | 12.61323 | |
| nu hat | 38.5403 | 95% UCLs (Assuming Gamma Distribution) |
| nu star | 38.31119 | Approximate Gamma UCL |
| Approx.Chi Square Value (.05) | 25.13389 | Adjusted Gamma UCL |
| Adjusted Level of Significance | 0.046757 | |
| Adjusted Chi Square Value | 24.92178 | Lognormal Distribution Test |
| Log-transformed Statistics | | |
| Minimum of log data | -3.324236 | Lilliefors Test Statistic |
| Maximum of log data | 5.393628 | Lilliefors 5% Critical Value |
| Mean of log data | -1.526416 | Data not lognormal at 5% significance level |
| Standard Deviation of log data | 1.033462 | |
| Variance of log data | 1.068044 | 95% UCLs (Assuming Lognormal Distribution) |
| | | 95% H-UCL |
| | | 95% Chebyshev (MVUE) UCL |
| | | 97.5% Chebyshev (MVUE) UCL |
| | | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use 97.5% Chebyshev (Mean, Sd) UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

PESTICIDES/HERBICIDES/PCBS

AOC 2

Variable: 4,4-DDD

| Raw Statistics | | |
|------------------------------------|-----------|---|
| Number of Valid Samples | 74 | Lilliefors Test Statistic |
| Number of Unique Samples | 36 | Lilliefors 5% Critical Value |
| Minimum | 0.29 | Data not normal at 5% significance level |
| Maximum | 240 | |
| Mean | 5.617973 | 95% UCL (Assuming Normal Distribution) |
| Median | 0.95 | Student's-t UCL |
| Standard Deviation | 28.4297 | |
| Variance | 808.2476 | |
| Coefficient of Variation | 5.06049 | Gamma Distribution Test |
| Skewness | 7.968542 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 0.438855 | A-D 5% Critical Value |
| k star (bias corrected) | 0.430072 | K-S Test Statistic |
| Theta hat | 12.80145 | K-S 5% Critical Value |
| Theta star | 13.06286 | |
| nu hat | 64.95047 | 95% UCLs (Assuming Gamma Distribution) |
| nu star | 63.65068 | Approximate Gamma UCL |
| Approx.Chi Square Value (.05) | 46.29339 | Adjusted Gamma UCL |
| Adjusted Level of Significance | 0.046757 | |
| Adjusted Chi Square Value | 45.99983 | |
| Log-transformed Statistics | | |
| Minimum of log data | -1.237874 | Lognormal Distribution Test |
| Maximum of log data | 5.480639 | Lilliefors Test Statistic |
| Mean of log data | 0.248625 | Lilliefors 5% Critical Value |
| Standard Deviation of log data | 1.076391 | Data not lognormal at 5% significance level |
| Variance of log data | 1.158617 | |
| | | 95% UCLs (Assuming Lognormal Distribution) |
| | | 95% H-UCL |
| | | 95% Chebyshev (MVUE) UCL |
| | | 97.5% Chebyshev (MVUE) UCL |
| | | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use 97.5% Chebyshev (Mean, Sd) UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

AOC 2

Variable: 4,4-DDT

| Raw Statistics | | |
|------------------------------------|-----------|---|
| Number of Valid Samples | 74 | Lilliefors Test Statistic |
| Number of Unique Samples | 38 | Lilliefors 5% Critical Value |
| Minimum | 0.24 | Data not normal at 5% significance level |
| Maximum | 390 | |
| Mean | 9.914324 | 95% UCL (Assuming Normal Distribution) |
| Median | 0.95 | Student's-t UCL |
| Standard Deviation | 48.99056 | |
| Variance | 2400.075 | |
| Coefficient of Variation | 4.941392 | Gamma Distribution Test |
| Skewness | 6.992138 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 0.337191 | A-D 5% Critical Value |
| k star (bias corrected) | 0.33253 | K-S Test Statistic |
| Theta hat | 29.40271 | K-S 5% Critical Value |
| Theta star | 29.81483 | |
| nu hat | 49.90425 | 95% UCLs (Assuming Gamma Distribution) |
| nu star | 49.21444 | Approximate Gamma UCL |
| Approx.Chi Square Value (.05) | 34.10627 | Adjusted Gamma UCL |
| Adjusted Level of Significance | 0.046757 | |
| Adjusted Chi Square Value | 33.85658 | |
| Log-transformed Statistics | | |
| Minimum of log data | -1.427116 | Lognormal Distribution Test |
| Maximum of log data | 5.966147 | Lilliefors Test Statistic |
| Mean of log data | 0.287592 | Lilliefors 5% Critical Value |
| Standard Deviation of log data | 1.254731 | Data not lognormal at 5% significance level |
| Variance of log data | 1.574349 | |
| | | 95% UCLs (Assuming Lognormal Distribution) |
| | | 95% H-UCL |
| | | 95% Chebyshev (MVUE) UCL |
| | | 97.5% Chebyshev (MVUE) UCL |
| | | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use 97.5% Chebyshev (Mean, Sd) UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

METALS

AOC 2

Variable: Aluminum

| Raw Statistics | | |
|--|----------|--|
| Number of Valid Samples | 75 | Lilliefors Test Statistic |
| Number of Unique Samples | 57 | Lilliefors 5% Critical Value |
| Minimum | 5340 | Data not normal at 5% significance level |
| Maximum | 27300 | |
| Mean | 14350.93 | 95% UCL (Assuming Normal Distribution) |
| Median | 15600 | Student's-t UCL |
| Standard Deviation | 4020.598 | |
| Variance | 16165209 | |
| Coefficient of Variation | 0.280163 | Gamma Distribution Test |
| Skewness | -0.23123 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 10.98704 | A-D 5% Critical Value |
| k star (bias corrected) | 10.55645 | K-S Test Statistic |
| Theta hat | 1306.169 | K-S 5% Critical Value |
| Theta star | 1359.447 | 95% UCLs (Assuming Gamma Distribution) |
| nu hat | 1648.056 | Approximate Gamma UCL |
| nu star | 1583.467 | Adjusted Gamma UCL |
| Approx.Chi Square Value (.05) | 1492.033 | |
| Adjusted Level of Significance | 0.0468 | Lognormal Distribution Test |
| Adjusted Chi Square Value | 1490.311 | Lilliefors Test Statistic |
| Log-transformed Statistics | | |
| Minimum of log data | 8.582981 | 95% UCLs (Assuming Lognormal Distribution) |
| Maximum of log data | 10.21464 | 95% H-UCL |
| Mean of log data | 9.525372 | 95% Chebyshev (MVUE) UCL |
| Standard Deviation of log data | 0.322752 | 97.5% Chebyshev (MVUE) UCL |
| Variance of log data | 0.104169 | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use Student's-t UCL or Modified-t UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

AOC 2

Variable: Antimony

| Raw Statistics | | | |
|----------------------------------|-----------|---|----------|
| Number of Valid Samples | 75 | Lilliefors Test Statistic | 0.248074 |
| Number of Unique Samples | 22 | Lilliefors 5% Critical Value | 0.102306 |
| Minimum | 0.1 | Data not normal at 5% significance level | |
| Maximum | 3.76 | | |
| Mean | 0.884 | 95% UCL (Assuming Normal Distribution) | |
| Median | 0.85 | Student's-t UCL | 0.986931 |
| Standard Deviation | 0.535153 | | |
| Variance | 0.286389 | Gamma Distribution Test | |
| Coefficient of Variation | 0.605377 | A-D Test Statistic | 4.528745 |
| Skewness | 2.033434 | A-D 5% Critical Value | 0.761532 |
| | | K-S Test Statistic | 0.224446 |
| | | K-S 5% Critical Value | 0.104215 |
| Gamma Statistics | | | |
| k hat | 2.339168 | Data do not follow gamma distribution | |
| k star (bias corrected) | 2.254491 | at 5% significance level | |
| Theta hat | 0.377912 | | |
| Theta star | 0.392106 | 95% UCLs (Assuming Gamma Distribution) | |
| nu hat | 350.8753 | Approximate Gamma UCL | 1.008062 |
| nu star | 338.1736 | Adjusted Gamma UCL | 1.010646 |
| Approx.Chi Square Value (.05) | 296.5547 | Lognormal Distribution Test | |
| Adjusted Level of Significance | 0.0468 | Lilliefors Test Statistic | 0.265502 |
| Adjusted Chi Square Value | 295.7964 | Lilliefors 5% Critical Value | 0.102306 |
| | | Data not lognormal at 5% significance level | |
| Log-transformed Statistics | | | |
| Minimum of log data | -2.302585 | | |
| Maximum of log data | 1.324419 | 95% UCLs (Assuming Lognormal Distribution) | |
| Mean of log data | -0.352022 | 95% H-UCL | 1.169598 |
| Standard Deviation of log data | 0.797041 | 95% Chebyshev (MVUE) UCL | 1.395791 |
| Variance of log data | 0.635274 | 97.5% Chebyshev (MVUE) UCL | 1.583974 |
| | | 99% Chebyshev (MVUE) UCL | 1.953623 |
| RECOMMENDATION | | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs | |
| Use 95% Chebyshev (Mean, Sd) UCL | | CLT UCL | 0.985642 |
| | | Adj-CLT UCL (Adjusted for skewness) | 1.001146 |
| | | Mod-t UCL (Adjusted for skewness) | 0.989349 |
| | | Jackknife UCL | 0.986931 |
| | | Standard Bootstrap UCL | 0.985751 |
| | | Bootstrap-t UCL | 1.001036 |
| | | Hall's Bootstrap UCL | 1.026645 |
| | | Percentile Bootstrap UCL | 0.989467 |
| | | BCA Bootstrap UCL | 1.0016 |
| | | 95% Chebyshev (Mean, Sd) UCL | 1.153355 |
| | | 97.5% Chebyshev (Mean, Sd) UCL | 1.269905 |
| | | 99% Chebyshev (Mean, Sd) UCL | 1.498844 |

AOC 2

Variable: Chromium

| Raw Statistics | | | |
|--------------------------------|-----------|---|----------|
| Number of Valid Samples | 75 | Lilliefors Test Statistic | 0.122258 |
| Number of Unique Samples | 59 | Lilliefors 5% Critical Value | 0.102306 |
| Minimum | 10.2 | Data not normal at 5% significance level | |
| Maximum | 35.1 | | |
| Mean | 21.348 | 95% UCL (Assuming Normal Distribution) | |
| Median | 21.8 | Student's-t UCL | 22.18341 |
| Standard Deviation | 4.343444 | | |
| Variance | 18.8655 | Gamma Distribution Test | |
| Coefficient of Variation | 0.203459 | A-D Test Statistic | 2.194872 |
| Skewness | -0.373594 | A-D 5% Critical Value | 0.749913 |
| | | K-S Test Statistic | 0.151679 |
| | | K-S 5% Critical Value | 0.10279 |
| Gamma Statistics | | | |
| k hat | 21.56123 | Data do not follow gamma distribution | |
| k star (bias corrected) | 20.70767 | at 5% significance level | |
| Theta hat | 0.990111 | | |
| Theta star | 1.030922 | 95% UCLs (Assuming Gamma Distribution) | |
| nu hat | 3234.184 | Approximate Gamma UCL | 22.26945 |
| nu star | 3106.15 | Adjusted Gamma UCL | 22.28772 |
| Approx.Chi Square Value (.05) | 2977.626 | Lognormal Distribution Test | |
| Adjusted Level of Significance | 0.0468 | Lilliefors Test Statistic | 0.165527 |
| Adjusted Chi Square Value | 2975.185 | Lilliefors 5% Critical Value | 0.102306 |
| | | Data not lognormal at 5% significance level | |
| Log-transformed Statistics | | | |
| Minimum of log data | 2.322388 | | |
| Maximum of log data | 3.558201 | 95% UCLs (Assuming Lognormal Distribution) | |
| Mean of log data | 3.037589 | 95% H-UCL | 22.38749 |
| Standard Deviation of log data | 0.226799 | 95% Chebyshev (MVUE) UCL | 23.86039 |
| Variance of log data | 0.051438 | 97.5% Chebyshev (MVUE) UCL | 24.92903 |
| | | 99% Chebyshev (MVUE) UCL | 27.02815 |
| RECOMMENDATION | | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs | |
| Use Student's-t UCL | | CLT UCL | 22.17296 |
| or Modified-t UCL | | Adj-CLT UCL (Adjusted for skewness) | 22.14984 |
| | | Mod-t UCL (Adjusted for skewness) | 22.17981 |
| | | Jackknife UCL | 22.18341 |
| | | Standard Bootstrap UCL | 22.17628 |
| | | Bootstrap-t UCL | 22.16734 |
| | | Hall's Bootstrap UCL | 22.15776 |
| | | Percentile Bootstrap UCL | 22.19067 |
| | | BCA Bootstrap UCL | 22.164 |
| | | 95% Chebyshev (Mean, Sd) UCL | 23.53415 |
| | | 97.5% Chebyshev (Mean, Sd) UCL | 24.4801 |
| | | 99% Chebyshev (Mean, Sd) UCL | 26.33824 |

AOC 2

Variable: Manganese

| Raw Statistics | | |
|--------------------------------|-----------|---|
| Number of Valid Samples | 75 | Lilliefors Test Statistic |
| Number of Unique Samples | 69 | Lilliefors 5% Critical Value |
| Minimum | 91.9 | Data are normal at 5% significance level |
| Maximum | 977 | |
| Mean | 504.204 | 95% UCL (Assuming Normal Distribution) |
| Median | 520 | Student's-t UCL |
| Standard Deviation | 205.2541 | |
| Variance | 42129.23 | |
| Coefficient of Variation | 0.407085 | Gamma Distribution Test |
| Skewness | -0.012867 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 4.64157 | A-D 5% Critical Value |
| k star (bias corrected) | 4.464796 | K-S Test Statistic |
| Theta hat | 108.6279 | K-S 5% Critical Value |
| Theta star | 112.9288 | |
| nu hat | 696.2356 | 95% UCLs (Assuming Gamma Distribution) |
| nu star | 669.7195 | Approximate Gamma UCL |
| Approx.Chi Square Value (.05) | 610.6665 | Adjusted Gamma UCL |
| Adjusted Level of Significance | 0.0468 | |
| Adjusted Chi Square Value | 609.5708 | Lognormal Distribution Test |
| Log-transformed Statistics | | |
| Minimum of log data | 4.520701 | Lilliefors Test Statistic |
| Maximum of log data | 6.884487 | Lilliefors 5% Critical Value |
| Mean of log data | 6.111408 | Data not lognormal at 5% significance level |
| Standard Deviation of log data | 0.529589 | |
| Variance of log data | 0.280465 | 95% UCLs (Assuming Lognormal Distribution) |
| | | 95% H-UCL |
| | | 95% Chebyshev (MVUE) UCL |
| | | 97.5% Chebyshev (MVUE) UCL |
| | | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are normal (0.05) | | 95% Non-parametric UCLs |
| Use Student's-t UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

AOC 2

Variable: Thallium

| Raw Statistics | | |
|----------------------------------|-----------|--|
| Number of Valid Samples | 75 | Lilliefors Test Statistic |
| Number of Unique Samples | 44 | Lilliefors 5% Critical Value |
| Minimum | 0.105 | Data not normal at 5% significance level |
| Maximum | 2.2 | |
| Mean | 0.709867 | 95% UCL (Assuming Normal Distribution) |
| Median | 0.58 | Student's-t UCL |
| Standard Deviation | 0.436885 | |
| Variance | 0.190868 | |
| Coefficient of Variation | 0.615446 | Gamma Distribution Test |
| Skewness | 0.707853 | A-D Test Statistic |
| Gamma Statistics | | |
| k hat | 2.55982 | Data do not follow gamma distribution |
| k star (bias corrected) | 2.466316 | at 5% significance level |
| Theta hat | 0.277311 | |
| Theta star | 0.287825 | 95% UCLs (Assuming Gamma Distribution) |
| nu hat | 383.973 | Approximate Gamma UCL |
| nu star | 369.9475 | Adjusted Gamma UCL |
| Approx.Chi Square Value (.05) | 326.3624 | |
| Adjusted Level of Significance | 0.0468 | Lognormal Distribution Test |
| Adjusted Chi Square Value | 325.566 | Lilliefors Test Statistic |
| Log-transformed Statistics | | |
| Minimum of log data | -2.253795 | 95% UCLs (Assuming Lognormal Distribution) |
| Maximum of log data | 0.788457 | 95% H-UCL |
| Mean of log data | -0.55054 | 95% Chebyshev (MVUE) UCL |
| Standard Deviation of log data | 0.677156 | 97.5% Chebyshev (MVUE) UCL |
| Variance of log data | 0.45854 | 99% Chebyshev (MVUE) UCL |
| RECOMMENDATION | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs |
| Use 95% Chebyshev (Mean, Sd) UCL | | CLT UCL |
| | | Adj-CLT UCL (Adjusted for skewness) |
| | | Mod-t UCL (Adjusted for skewness) |
| | | Jackknife UCL |
| | | Standard Bootstrap UCL |
| | | Bootstrap-t UCL |
| | | Hall's Bootstrap UCL |
| | | Percentile Bootstrap UCL |
| | | BCA Bootstrap UCL |
| | | 95% Chebyshev (Mean, Sd) UCL |
| | | 97.5% Chebyshev (Mean, Sd) UCL |
| | | 99% Chebyshev (Mean, Sd) UCL |

AOC 2

Variable: Vanadium

| Raw Statistics | | | |
|--------------------------------|-----------|---|----------|
| Number of Valid Samples | 75 | Lilliefors Test Statistic | 0.212628 |
| Number of Unique Samples | 63 | Lilliefors 5% Critical Value | 0.102306 |
| Minimum | 5.2 | Data not normal at 5% significance level | |
| Maximum | 45.2 | | |
| Mean | 23.4516 | 95% UCL (Assuming Normal Distribution) | |
| Median | 26.1 | Student's-t UCL | 25.08866 |
| Standard Deviation | 8.51134 | | |
| Variance | 72.44291 | | |
| Coefficient of Variation | 0.362932 | Gamma Distribution Test | |
| Skewness | -0.472783 | A-D Test Statistic | 5.253667 |
| Gamma Statistics | | | |
| k hat | 5.860239 | A-D 5% Critical Value | 0.753682 |
| k star (bias corrected) | 5.634718 | K-S Test Statistic | 0.253715 |
| Theta hat | 4.001817 | K-S 5% Critical Value | 0.103266 |
| Theta star | 4.161983 | 95% UCLs (Assuming Gamma Distribution) | |
| nu hat | 879.0358 | Approximate Gamma UCL | 25.45385 |
| nu star | 845.2077 | Adjusted Gamma UCL | 25.49443 |
| Approx.Chi Square Value (.05) | 778.7221 | | |
| Adjusted Level of Significance | 0.0468 | Lognormal Distribution Test | |
| Adjusted Chi Square Value | 777.4825 | Lilliefors Test Statistic | 0.269671 |
| Log-transformed Statistics | | | |
| Minimum of log data | 1.648659 | Lilliefors 5% Critical Value | 0.102306 |
| Maximum of log data | 3.811097 | Data not lognormal at 5% significance level | |
| Mean of log data | 3.067198 | | |
| Standard Deviation of log data | 0.458124 | 95% UCLs (Assuming Lognormal Distribution) | |
| Variance of log data | 0.209878 | 95% H-UCL | 26.29074 |
| | | 95% Chebyshev (MVUE) UCL | 29.56364 |
| | | 97.5% Chebyshev (MVUE) UCL | 32.04818 |
| | | 99% Chebyshev (MVUE) UCL | 36.92858 |
| RECOMMENDATION | | | |
| Data are Non-parametric (0.05) | | 95% Non-parametric UCLs | |
| Use Student's-t UCL | | CLT UCL | 25.06817 |
| or Modified-t UCL | | Adj-CLT UCL (Adjusted for skewness) | 25.01084 |
| | | Mod-t UCL (Adjusted for skewness) | 25.07972 |
| | | Jackknife UCL | 25.08866 |
| | | Standard Bootstrap UCL | 25.05411 |
| | | Bootstrap-t UCL | 24.99749 |
| | | Hall's Bootstrap UCL | 24.97202 |
| | | Percentile Bootstrap UCL | 24.98667 |
| | | BCA Bootstrap UCL | 25.00573 |
| | | 95% Chebyshev (Mean, Sd) UCL | 27.73555 |
| | | 97.5% Chebyshev (Mean, Sd) UCL | 29.58921 |
| | | 99% Chebyshev (Mean, Sd) UCL | 33.23039 |