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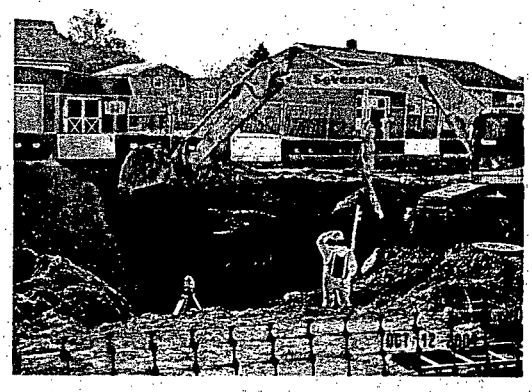
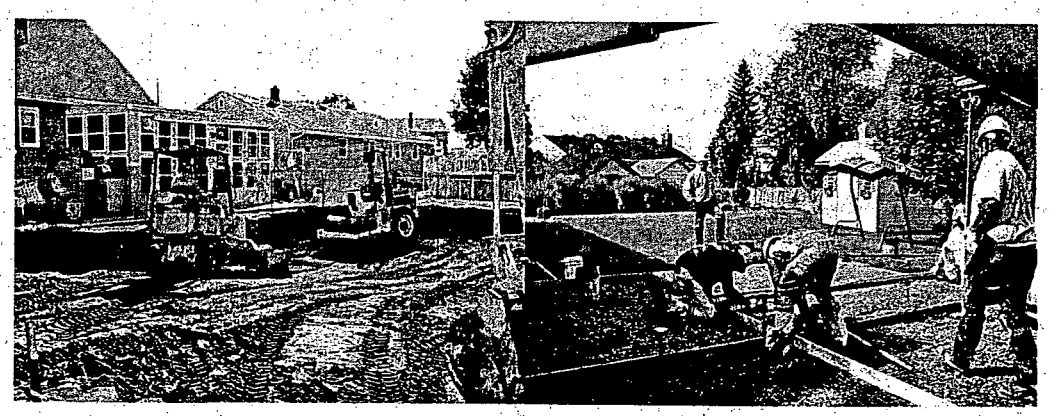
U. S. Army Corps of Engineers
Kansas City District

Federal Creosote Superfund Site
OU2 Phase 2
Final Remedial Action Report

August 2006





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REMEDIAL ACTION REPORT

OU2 PHASE 2 REMEDIAL ACTION
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY

CONTRACT NO.: DACW41-01-D-0001

PREPARED FOR

USACE - KC DISTRICT
601 East 12th Street
Kansas City, MO 64106

PREPARED BY

CDM FEDERAL PROGRAMS CORPORATION
RARITAN PLAZA I, RARITAN CENTER
EDISON, NEW JERSEY 08818

August 2006

REMEDIAL ACTION REPORT
RECORD OF PREPARATION, REVIEW, AND APPROVAL
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
OU2 PHASE 2 REMEDIAL ACTION

Prepared by:

Organization: CDM Federal Programs Corporation
Name: Michael Popper
Title: Project Manager
Signature:
Date:

Approved by:

Organization: EPA Region II
Name: Rich Puvogel
Title: Remedial Project Manager
Signature:
Date:

Approved by:

Organization: USACE Kansas City District
Name: Todd Daniels
Title: Project Manager
Signature:
Date:

This report has been prepared in accordance with EPA OSWER 9320.2-09A and will be used as a basis for development of the site Project Closure Report.

Contents

501192

Contents

Section 1 Introduction **1-1**
1.1 Remedial Action Report Objectives 1-2
1.2 Site Description 1-2
1.3 Site History 1-2
1.4 USACE and EPA Project Management 1-5

Section 2 Operable Unit Background **2-1**
2.1 Geology 2-2
2.1.1 Regional Geology 2-2
2.1.2 Site Geology 2-3
2.2 Hydrogeology 2-5
2.2.1 Regional Hydrogeology 2-5
2.2.2 Site Hydrogeology 2-5
2.3 Summary of Field Investigation Data 2-5
2.3.1 Surface Soil Samples 2-7
2.3.2 Shallow and Deep Soil Boring Program 2-7
2.3.2.1 Shallow Soil Borings 2-8
2.3.2.2 Deep Soil Borings 2-8
2.3.3 Geophysical Survey 2-9
2.3.4 Topographic Survey 2-9
2.4 Design Criteria 2-9
2.5 Remedial Design Documents 2-9
2.5.1 Site Specific Plans 2-10

Section 3 Remedial Construction Activities **3-1**
3.1 Site Preparation 3-1
3.1.1 Site Survey 3-1
3.1.2 Temporary Facilities 3-1
3.1.3 Soil Erosion and Sediment Control 3-2
3.1.4 Site Security 3-2
3.2 Property Access 3-2
3.3 Resident Temporary Relocation 3-3
3.4 Deed Notice Properties 3-3
3.5 Site Clearing 3-4
3.6 Excavation 3-4
3.7 Odor Control 3-7
3.8 Excavation Support System 3-7
3.9 Backfilling 3-8
3.10 Waste Disposal 3-9
3.10.1 Wastewater 3-11

3.11 Site Restoration 3-11
3.12 As-Built Survey 3-13
3.13 Soil Sampling and Analysis 3-13
3.13.1 Post Excavation Sampling 3-13
3.13.2 Backfill Material Sampling 3-14
3.14 Ambient Air Monitoring 3-14

Section 4 Chronology of Events 4-1

Section 5 Performance Standards and Construction Quality Control 5-1
5.1 Project QA/QC Organization 5-1
5.2 Construction QA/QC Implementation 5-1
5.3 Sampling and Analysis 5-1
5.3.1 Field Duplicates 5-1
5.3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD) 5-1
5.3.3 USACE QA Sampling 5-2
5.3.4 Data Review/Validation 5-2
5.3.5 Sample Numbering 5-2
5.4 In-Place Soil Moisture and Density Testing 5-2
5.5 Health and Safety 5-2
5.5.1 Personnel Exposure Air Monitoring 5-3
5.5.2 Personnel Decontamination 5-3
5.5.3 Equipment Decontamination 5-3

Section 6 Inspection and Certification 6-1
6.1 Inspections 6-1
6.1.1 Pre-Final Inspection 6-1
6.1.2 Final Inspection 6-1

Section 7 Operation and Maintenance 7-1
7.1 Warranty 7-1

Section 8 Summary of Project Cost 8-1
8.1 Remedial Construction Cost 8-1

Section 9 Observations and Lessons Learned 9-1

Section 10 Contact Information 10-1

Section 11 References 11-1

List of Tables

Table 2-1 - Analytical Cleanup Goals
Table 3-1 - OU2 Phase 2 Waste Categories
Table 3-2 - Universal Treatment Standards for F034 Waste

Table 3-3 - LDR Treatment and Disposal Requirements
Table 3-4 - OU2 Phase 2 Material Disposal Summary
Table 3-5 - OU2 Phase 2 Wastewater Treatment Plant Effluent Permit Requirements
Table 3-6 - OU2 Phase 2 Wastewater Treatment Plant Sampling Requirements
Table 3-7 - OU2 Phase 2 Respirable Dust Monitoring Requirements
Table 3-8 - OU2 Phase 2 VOCs and PAHs Air Monitoring Requirements
Table 8-1 - OU2 Phase 2 Remedial Action Construction Contract Modifications Summary
Table 10-1 - OU2 Phase 2 Key Project Contacts

List of Figures

Figure 1-1 - General Site Overview
Figure 4-1 - Chronology of Events
Figure 5-1 - Project Organizational Chart

Appendices

Appendix A - Soil Erosion and Sediment Control Plan
Appendix B - Wastewater Discharge Permit
Appendix C - Wastewater Treatment Plant Construction Permit
Appendix D - Remedial Construction As-Built Drawings
Appendix E - Property Closure Reports
Appendix F - Health and Safety Inspection Reports
Appendix G - Property Punch Lists
Appendix H - Final Inspection Memorandum

Section 1

1 Section One

501196

Section 1
Introduction

The Federal Creosote Superfund site, which includes a 137-property residential community known as the Claremont Development and a commercial area known as the Rustic Mall, is located in the Borough of Manville, Somerset County, New Jersey. The site is over 50 acres and is bordered to the north by the Norfolk Southern Railroad, to the southeast by the CSX Railroad, to the south by East Camplain Road, and to the west by South Main Street.

U.S. Army Corps of Engineers (USACE) Kansas City provided technical support to the U.S. Environmental Protection Agency (EPA) during the Operable Unit (OU) 2 Phase 2 remediation at the Federal Creosote Superfund site. In support of these efforts, the USACE contracted with Sevenson Environmental Services, Inc. (SES) to perform the remedial construction in accordance with the project design documents. The work was performed under Pre-Placed Remedial Action Contract (PRAC) DACW41-01-D-0001.

The objective of the project was to remediate the Daycare Center in Rustic Mall, 20 properties on Louise Drive, 25 properties on Valerie Drive, and four properties on Clare Court and segments of Valerie Road, Valerie Drive, and Clare court roadways that contain soil contaminated to levels greater than the analytical cleanup goals (ACGs) and that may pose risks to human health. In addition, creosote product encountered was removed in accordance with the stated purpose of the OU2 Record of Decision (ROD).

USACE retained the services of CDM Federal Programs Corporation (CDM) to perform the remedial design and to prepare the remedial action report. The design was performance-based. Minimum requirements were presented to allow the contractor to develop the methods and procedures for accomplishing the design objectives. All work was performed in accordance with site-specific project plans prepared by the remedial action contractor. Each plan was submitted to USACE for approval prior to commencement of field activities.

A pre-construction conference meeting was conducted at the site office on June 13, 2003. Remedial action construction started in June 2003 and was completed in May 2006. On August 3, 2006, upon correction of all construction deficiencies and submittal of outstanding project documents, representatives of EPA, USACE, NJDEP, and SES attended a final inspection.

1.1 Remedial Action Report Objectives

The objectives of this report are summarized below:

- Provide a summary of pertinent background information including site description, history, and discussion of OUs
- Present a detailed chronology of events for the remedial action effort
- Present an extended summary of the project performance and construction quality control standards instituted by SES to ensure the successful completion of the remedial action
- Present summary of pre-remedial and remedial action activities completed over the course of the project
- Present a summary of unusual events encountered during the completion of site activities
- Present a summary of lessons learned
- Present a summary of the project final inspection
- Present a summary of SES's operation and maintenance obligations relative to site restoration
- Present a summary of the project costs

1.2 Site Description

The Federal Creosote site is located on a topographic high within the Raritan River watershed system. The Raritan River passes approximately 2,000 feet north and east of the site, and the Millstone River, a tributary of the Raritan, is located approximately 1,200 feet to the southeast. The confluence of the two rivers lies approximately one mile east of the site.

1.3 Site History

The Federal Creosote site was the site of the former American/Federal Creosote Wood Treatment facility, which operated from approximately the 1910s to 1957. The plant operated as a wood (e.g., railroad ties) treatment facility that used creosote as a preservative. Historic aerial photographs indicate that the main wood treatment facility was located in the southwest corner of the site, where the Rustic Mall is currently located. The wood treatment facility included several large buildings, a pressure cylinder, and five vertical storage tanks.

Two lagoons and associated canals that serviced the facility were located in the north central and southeast sections of the site. The lagoons and canals are believed to have contained liquid waste generated from the creosote wood preservation operation. The lagoon in the north central section of the site and its associated canal are referred to as Lagoon A and Canal A, respectively. The lagoon and canal in the south portion of the site are referred to as Lagoon B and Canal B, respectively. Additionally, several impoundments, standing liquid areas, and stained areas were identified northeast of the main treatment facility. Figure 1-1 shows the lagoons and canals superimposed on a map of the present development.

According to historic aerial photographs, the central portion of the site was mainly an open lumber storage yard, containing stacks of wood material such as untreated lumber, poles, beams, and railroad ties. Darker-toned, apparently treated wood was located in an area referred to as the drip area, which occupied the northern portion of the open lumber storage yard, and along the northern rail spurs and loading platform.

Beginning in 1962, the 137 residential unit Claremont Development was constructed in the areas of this site that were the lagoons, canals, drip areas and lumber storage areas. The lagoons and the canals were reportedly filled in, without removing the waste from the lagoons, during the residential community development. The southwestern portion of the site was developed into the Rustic Mall.

In April 1996, the New Jersey Department of Environmental Protection (NJDEP) responded to an incident involving the discharge of an unknown liquid from a sump located at one of the Claremont Development residences on Valerie Drive. A thick, tarry substance was observed flowing from the sump to the street. In January 1997, the Borough of Manville responded to a complaint that a sinkhole had developed around a sewer pipe in the Claremont Development along East Camplain Road. Excavation of the soil around the pipe identified a black tar-like material in the soil. Subsequent investigations of these areas revealed elevated levels of contaminants consistent with creosote.

In October 1997, EPA's Environmental Response Team (ERT) initiated a site investigation limited to properties believed to contain creosote contamination based on analysis of historic aerial photographs as well as input from residents. This investigation included the collection of surface and subsurface soil samples at select locations within the residential development. The result of this investigation indicated that the contamination was extensive, uncontrolled, and had impacted sediment, soil and groundwater in the area.

From February through April 1998, EPA collected over 1,350 surface soil samples on 133 properties in and adjacent to the Claremont Development in order to determine if an immediate health risk existed. EPA identified some properties with surface soil in yards containing elevated levels of creosote posing a long-term health risk. As a result, EPA applied topsoil, mulch, seed and sod to 11 of the properties that contained elevated levels of creosote in surface soils, to limit the potential for exposure.

In November 1998, EPA initiated a remedial investigation and feasibility study (RI/FS) to more fully characterize the nature and extent of contamination at the site. Subsurface soil sampling started in December 1998 and was completed in March 1999.

The site was proposed for the National Priorities List (NPL) on July 27, 1998, and was formally placed on the NPL on January 19, 1999.

The data from the 1997/1998 investigation conducted by ERT indicated that the canal and lagoon areas are the major sources of soil and groundwater contamination in the Claremont Development. EPA then prepared an Engineering Evaluation/Cost Analysis (EE/CA) and a focused EE/CA, to evaluate remediation options for the lagoon and canal source materials. The focused EE/CA concentrated on the preferred remedy of demolition of structures and excavation of the lagoon and canal material, with off-site treatment and disposal.

On September 28, 1999, EPA signed a ROD that selected a remedy to address the principal threats posed by buried lagoon and canal source materials in the residential portion of the site. The ROD designated the remediation of the lagoons and canals as OU1. EPA addressed the remaining site areas under separate Operable Units, according to the following:

OU 2 – Residual Levels of Creosote Contamination in the Claremont Development

OU 3 – Rustic Mall Contaminated Soil, Groundwater, Surface Water, and Sediment

In April 2000, EPA completed a Focused Feasibility Study (FFS) for OU2 based on surface soil sampling performed in 1998 and 1999. The FFS included a summary of the soil investigations and a Baseline Human Health Risk Assessment. The FFS also evaluated the alternatives for OU2 that addressed the surface and subsurface soil of the Claremont Development.

On September 29, 2000, EPA signed a ROD for OU2 addressing the soils contamination in the Claremont Development.

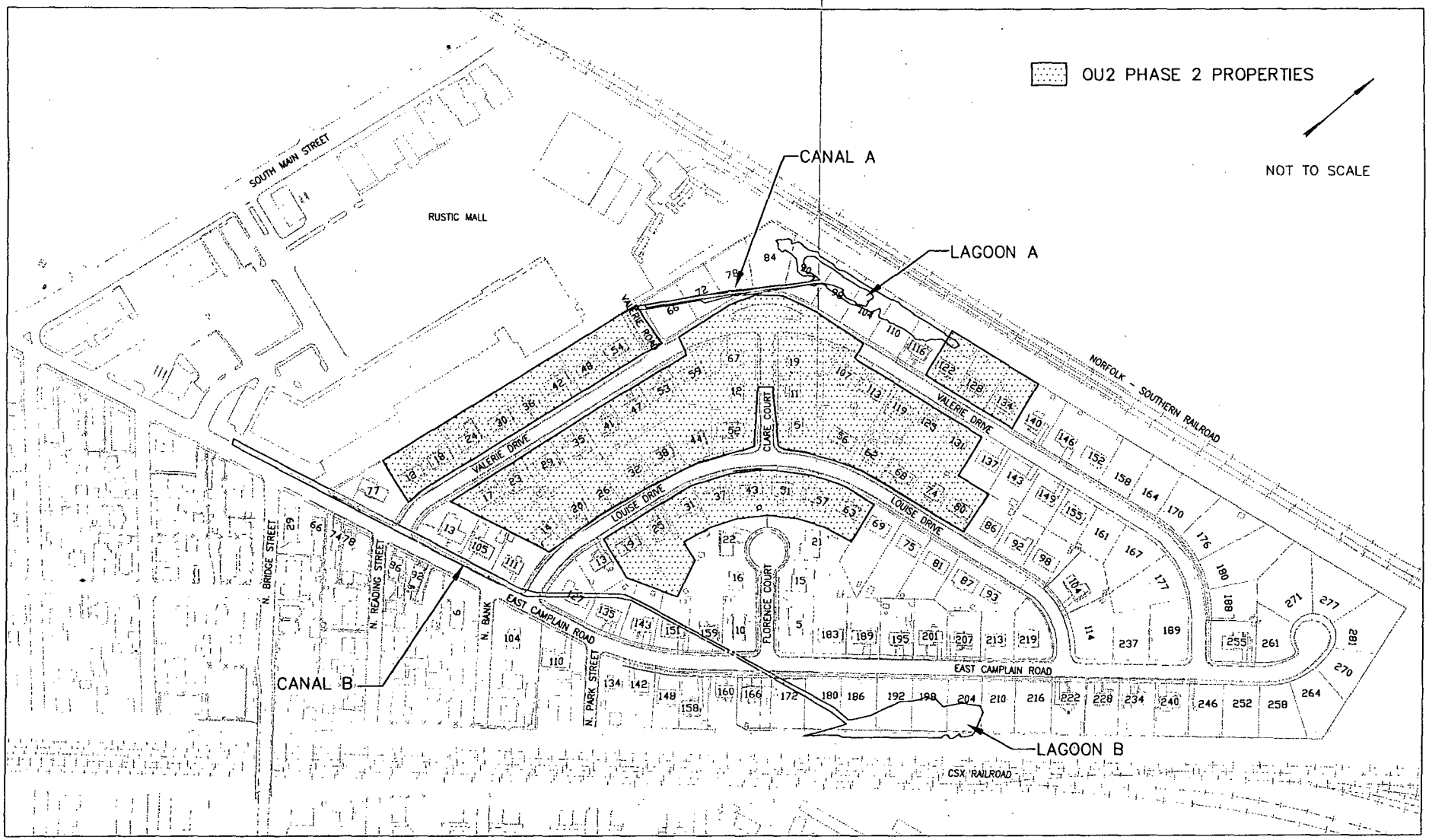
The OU2 properties were divided into two phases. Phase 1 consisted of properties in close proximity to the Lagoon B properties. The remaining OU2 properties and portions of the streets were grouped into Phase 2. This allowed EPA to complete the remediation of properties in one section of the Claremont Development, which minimized the impacts to the residents.

1.4 USACE and EPA Project Management

USACE Kansas City District was responsible for the design and construction. USACE New York District was responsible for construction oversight. USACE provided full-time, on-site technical representative throughout the duration of the project. USACE representatives were responsible for assuring the project was executed in accordance with design documents and site-specific plans. USACE on-site representatives maintained a direct line of communication with SES's project management team and EPA Region II Remedial Project Manager (RPM). Weekly project meetings were held at the site throughout the duration of the field activities. Health and safety, work progress, field observations, problems and conflicts, schedule, submittals, quality control, changes, cost tracking, and community relations were discussed during these meetings.

Key project personnel included:

Rich Puvogel	EPA Region II - Remedial Project Manager
Todd Daniels	USACE - Kansas City District Project Manager
Gene Urbanik	USACE - New York District - New Jersey Area Engineer
Neal Kolb	USACE - New York District - Resident Engineer



FEDERAL CRESOTE SUPERFUND SITE
MANVILLE, NEW JERSEY

FIGURE 1-1
GENERAL SITE OVERVIEW
OU2 PHASE 2

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2 Section Two

Section 2
Operable Unit Background

The OU2 ROD specified excavation and off-site disposal of soils containing PAHs in excess of the ACGs from the Claremont Development. A summary of background information from the historic investigations is presented in this section.

OU2 was divided into two phases, in an effort to complete the work in the portion of the neighborhood near Lagoon B as soon as possible following completion of Lagoon B remediation. This report covers the OU2 Phase 2 remedial action, which includes the following properties and segments of Valerie Road, Valerie Drive, and Clare Court roadways.

5 Clare Court
11 Clare Court
12 Clare Court
19 Clare Court
14 Louise Drive
19 Louise Drive
20 Louise Drive
25 Louise Drive
26 Louise Drive
31 Louise Drive
32 Louise Drive
37 Louise Drive (added during construction)
38 Louise Drive
43 Louise Drive (added during construction)
44 Louise Drive
51 Louise Drive
52 Louise Drive
56 Louise Drive
57 Louise Drive
62 Louise Drive
63 Louise Drive
68 Louise Drive
74 Louise Drive
80 Louise Drive
12 Valerie Drive
17 Valerie Drive
18 Valerie Drive
23 Valerie Drive
24 Valerie Drive

29 Valerie Drive
30 Valerie Drive
35 Valerie Drive
36 Valerie Drive
41 Valerie Drive
42 Valerie Drive
47 Valerie Drive
48 Valerie Drive
53 Valerie Drive
54 Valerie Drive
59 Valerie Drive
67 Valerie Drive
107 Valerie Drive
113 Valerie Drive
119 Valerie Drive
122 Valerie Drive
125 Valerie Drive
128 Valerie Drive
131 Valerie Drive
134 Valerie Drive
Daycare Center
Rustic Mall Parking Lot (Support Zone)
OU1 Phase 2 Properties (Support Zone and Stockpile Area)

2.1 Geology

2.1.1 Regional Geology

The site is underlain by approximately 25 to 35 feet of unconsolidated sediments of glaciofluvial origin, which in turn are underlain by Late Triassic siltstone and shale.

Stanford (1992) has mapped unconsolidated sediments in the vicinity of the site above altitude 50 feet relative to mean sea level (msl) as Upper Raritan Terrace Deposits. These Middle Pleistocene sands and gravels, which form a terrace about 20 to 30 feet above the present Raritan River alluvial plain, were associated with 60 to 100 feet of weathering and down-cutting of bedrock in both main and tributary valleys during the Illinoian glacial event. Regionally, these deposits consist of sand and pebble gravel, with minor silt, clay and cobbles. Total thickness in this unit of up to 50 feet has been reported (Stanford, 1992).

The subsequent Millstone Terrace Deposits (altitude 40 to 50 feet above msl) surround the Upper Raritan Terrace. Stanford correlates the Millstone Terrace

with the Middle to Late Pleistocene Sangamon glacial event. Deposits with lithology similar to the Raritan Terrace have been observed up to 30 feet thick, forming a terrace about 10 to 15 feet above the present floodplain of the Millstone River. Recent alluvial deposits, consisting of up to 20 feet of sand, silt and clay with minor organic material, surround deposits of the Millstone Terrace.

Bedrock beneath the site is the Passaic Formation, one of the sedimentary formations of the Newark Basin of New Jersey, which contains a thick sequence of Late Triassic and Early Jurassic non-marine sedimentary and igneous rocks. The predominant lithology is reddish-brown siltstone, mudstone, shale and occasional sandstone of fluvial origin, although grey to black lacustrine sequences of mappable scale have been observed in the Passaic Formation throughout the central Newark Basin. Faulting is relatively common, particularly in the western portions of the Passaic Formation outcrop. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike.

2.1.2 Site Geology

The deposits underlying the site, particularly in the areas of Lagoons A and B were described as silt, which was then underlain by sandy gravel that extended to bedrock (Weston, 1998).

The lithology of the deposits has been characterized in detail during the Focused Feasibility Study (FFS). The lithologic descriptions suggested the following sequence (from ground surface to bedrock) of deposits to be typical at the site:

- Fill
- Sand and Gravel
- Silt and Clay
- Sand and Gravel (with some silt and clay layers and seams
- Shales (bedrock)

The fill varies in composition across the site and predominantly contains a poorly sorted mixture of gravel, sand, silt and clay that varies in color from yellowish brown to brown to reddish brown. The unit also contains lesser amounts of coal/ashes, asphalt, concrete, and brick fragments. The fill unit fluctuates in thickness across the site from a minimum of approximately two feet to a maximum of approximately five feet, but typically the thickness does not exceed four feet. Topsoil, which is part of this unit, is commonly found to be six to eight inches thick. The fill unit appears to be continuous underneath the Claremont Development.

Underlying the fill unit is a sand and gravel deposit. The deposit may generally be described as a fine to coarse sand with little to some fine to medium gravel and trace amounts of silt. The color is typically brown or reddish brown. The typical thickness reported for the unit range from three to six feet, and rarely does the thickness exceed seven feet. This sand and gravel unit appears to be continuous within the boundaries of the Claremont Development. Immediately south and southeast of the development in the Lost Valley residential area, this unit is not present, due to a decrease in topographic elevation.

A deposit of silt and clay underlies the sand and gravel unit. The unit is best described as a dark yellowish brown silt layer that is two feet thick with an underlying reddish-brown clay layer that is one foot thick. In many instances the silt layer is mottled or gleyed (additionally, the lower reaches of the overlying sand and gravel deposit are also sometimes gray). Within the boundaries of the Claremont Development, the thickness of the unit fluctuates from a minimum of four inches to a maximum of nine and one half feet. Additionally, both grain sizes (silt overlying clay) were not encountered at every boring location, however the deposit of silt and clay is believed to be relatively continuous beneath the development.

A second sand and gravel unit lies beneath the fine-grained unit. The unit is generally described as a reddish-brown fine to coarse sand with a trace to some fine to medium gravel, and trace amounts of silt; occasional seams and layers of well-sorted sand are encountered. Within the unit a discontinuous layer of silt and clay can be traced. Referenced to depth, the fine-grained layer occurs near the mid-section of the sand and gravel unit. Additionally, at the base of the unit a discontinuous layer (consisting of grain sizes from clay to cobbles) that is believed to be till has been identified. The thickness of the sand and gravel deposit (including the fine-grained layer and the basal till) fluctuates across the site from approximately 15 feet to 25 feet, with the typical thickness in the range of 19 to 23 feet. The basal till (which has been identified based on grain size, grain angularity and penetration rate increase) is approximately one foot thick and is likely not continuous.

The bedrock color is typically reddish brown and shows lithologies typical of the Passaic Formation, with alternating red-brown siltstone, sandstone and shale. The rock was described as highly to moderately weathered, friable and soft. The bedrock surface varies in altitude beneath the development from approximately 12 to 17 feet above msl, with most of the altitudes near 15 feet below ground surface (bgs). No site-wide slope trends of the bedrock surface are apparent.

2.2 Hydrogeology

2.2.1 Regional Hydrogeology

The Passaic Formation has been extensively developed for groundwater supplies. Wells capable of yielding tens to hundreds of gallons per minute have been completed throughout much of the formation, generally at depths of 200 to 500 feet (Vecchioli, 1965). The rocks have little primary permeability. Virtually all groundwater movement occurs through the intersecting fracture sets. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike. It has long been recognized that the Passaic (Brunswick) aquifer is strongly anisotropic, with the axis of maximum hydraulic conductivity generally parallel to bedding strike. Although the origin of the anisotropy is clearly related to the fractured nature of the aquifer, there has not been universal agreement over the immediate cause.

No uses of groundwater from the unconsolidated unit in the immediate vicinity of the site are known and, with the limited available drawdown, it is unlikely that a usable quantity of water could be obtained from the unit. Fluvial gravel deposits along the Raritan River have been used for water production, including potable water use. The Borough of Manville owns gravel wells near the Raritan River, which were formerly used for potable water.

2.2.2 Site Hydrogeology

The site hydrogeology is described in detail in the Groundwater, Surface Water and Sediment Draft Remedial Investigation Report, September 2000. An unconfined (water table) aquifer with a saturated thickness of 10 to 14 feet was observed in the unconsolidated sediments at depths from about 14 to 21 feet below grade. Locally, isolated perched water zones have been identified at depths of 6 to 10 feet below grade. Beneath the site, the groundwater surface occurs in the deep sand and gravel unit. It appears likely that groundwater in the uppermost zone of the bedrock is in direct hydraulic connection with the saturated zone in the unconsolidated sediments.

2.3 Summary of Field Investigation Data

CDM conducted a pre-design field investigation for OU 2 under Base Contract DACW41-99-D-9009 with the USACE. Prior to the beginning of field activities, CDM developed a sampling program, which was approved by USACE and EPA following implementation of NJDEP comments. The program detailed sampling and analysis rationale for the OU2 Phase 2 remediation. The purpose of the

sampling program was to delineate the contamination in accordance with NJDEP post-excavation sampling requirements to the extent possible.

Whenever possible, the sample locations and depths were configured so that the samples could serve as post-excavation data if the results were less than the ACGs. As such, the samples were collected in locations so that NJDEP requirements for post-excavation sampling criteria were met. The criteria required the collection of a sidewall sample at a frequency of one per 30 feet, and a bottom sample at a minimum frequency of one sample per 900 ft^2. The rationale behind collecting these samples prior to excavation was that, once the clean limits of excavation were determined, the Contractor would excavate to those limits and backfill immediately, which would reduce the scheduled duration of work at each residence. The Contractor would collect and analyze post-excavation soil samples to supplement the data collected during the pre-design investigation, in cases where the number and location of pre-design samples were insufficient to characterize the excavations in accordance with NJDEP requirements.

As with previous phases of pre-design investigation, CDM defined the difference between free product and residual product in the boring logs during the pre-design investigation. For the purposes of the pre-design investigation, free product, referred to as "product" in the boring logs, was defined as material that contained 30% and greater creosote. Residual product, referred to as "stain" in the boring logs, was defined as material that contained less than 30% creosote. The definitions were further divided into various degrees of contamination, as described below. The definitions were utilized consistently in the pre-design investigation, and correspond to the boring log descriptions. Boring logs are included in Appendix B of the OU2 Phase 2 specifications.

1-3% There is a creosote odor and/or low HNu hits. There is some creosote sheen on the grains, but the concentration is not high enough to discolor the grains. (SHEEN)

10% There is enough creosote on the soil grains to almost completely cover the grains and mask their original color. There is no creosote in the pore spaces. (STAIN)

15% There is enough creosote on the soil grains to completely cover the soil grains and mask their original color. There is no creosote in the pore spaces. (STAIN)

20% The creosote thickly covers the soil grains, completely masking the original color and begins to fill the pore spaces. (STAIN)

25% The creosote thickly covers the soil grains, completely masking their original color and product is evident in the pore spaces. If you hold the sample, the creosote will not flow out of the pore spaces. (STAIN)

30% The creosote thickly cover the soil grains, completely masking their original color and the pore spaces are half full of creosote. If you hold the sample, the creosote will not flow out of the pore spaces. (PRODUCT)

40% The creosote thickly covers the soil grains, completely masking their original color and the pore spaces are almost full of creosote. If you hold the sample, the creosote will flow out of the pore spaces. (PRODUCT)

50% The creosote has completely covered the grains and filled the pore spaces, but the core is still matrix supported. If you hold the sample, the creosote will flow out of the pore spaces. (PRODUCT)

70% There is more creosote than matrix. The creosote is free flowing, but there is still 30% debris in the creosote. (PRODUCT)

85% There is significantly more creosote then matrix. The creosote is free flowing. There is almost no matrix in these areas. (PRODUCT)

2.3.1 Surface Soil Samples

Surface soil samples (0 - 0.5 foot) were collected to supplement the soil sampling from previous investigation phases. The samples were analyzed for semi-volatiles by EPA method 8270. In addition, samples collected at 41 Valerie Drive Road were also analyzed for arsenic by EPA method 6010B due to arsenic exceedance noted during the RI within this property. Soil sample analytical results are summarized in Appendix B of the OU2 Phase 2 specifications (CDM, February 2003).

2.3.2 Shallow and Deep Soil Boring Program

The objective of the soil boring program was to characterize the horizontal and vertical extent of the contamination. To achieve this objective, CDM, working closely with USACE and EPA, identified a series of shallow and deep borings locations. The boring locations were chosen to supplement previously collected data. The shallow and deep soil boring logs for the OU2 Phase 2 properties are included in Appendix B of the specifications.

The soil borings were installed using a trailer-mounted hollow stem auger rig, a truck-mounted hollow stem auger rig, a tripod, or a bucket auger. The choice of

method was governed by the location of the boring, the depth of the boring and rig access.

For the purpose of the pre-design investigation, shallow borings generally extended to a depth of 14 feet or shallower, and deep borings extended to bedrock surface, approximately 30 to 35 feet bgs.

In addition to defining locations of visibly contaminated material during the soil boring program, samples were collected for analytical testing, and tested for PAHs using EPA Method 8270.

2.3.2.1 Shallow Soil Borings

Approximately 460 shallow soil borings were advanced into the subsurface at the OU2 Phase 2 properties during the site pre-design investigation. Split-spoon samples were collected continuously at two-foot intervals and the lithology was recorded. The depth of the borings and the sampling intervals were determined for each location based on data from the pre-design investigation and previous investigations. Each borehole was grouted closed with a cement-bentonite mixture after removing the drilling tools from the subsurface. The locations were restored to pre-existing conditions. The locations of the pre-design borings were also surveyed and are shown on the excavation plans included in the design drawings.

2.3.2.2 Deep Soil Borings

A total of 26 deep soil borings were drilled to bedrock during the OU2 Phase 2 properties pre-design investigation. The deep borings were advanced with four and one quarter-inch (nominal) inner diameter (I.D.) hollow stem augers. The sampling intervals were determined for each location based on data from previous investigations. Each borehole was grouted closed with a cement-bentonite mixture after removing the drilling tools from the subsurface, and the locations were restored to pre-existing conditions. The locations of the pre-design borings were also surveyed and are shown on the excavation plans included in the design drawings.

To provide the geotechnical information required for the design of temporary earth retaining structures, Shelby tubes and composite geotechnical samples were also collected from D1018 at 110 Valerie Drive, D1006 at 198 East Camplain Road, and D1007 at 42 Valerie Drive. Atterberg limits, standard proctor, and two point CU triaxial shear test series were performed following ASTM D4318, D698, and D4767 respectively. Of these borings, D1007 is located at an OU2 Phase 2 property. The composite geotechnical samples were collected during boring installation in a 5-gallon plastic bucket. An attempt was made to segregate the

contaminated material from the samples. The Shelby tubes were collected from the silt and clay layer. The tubes were collected immediately after the borings were completed from a separate hole within 5 feet of the boring location. All the Shelby tubes had complete recovery.

2.3.3 Geophysical Survey

Prior to initiating the drilling program, a geophysical utility location and feature survey was conducted within a ten foot radius of each proposed soil boring location by NAEVA Geophysics, Inc. (NAEVA) of Tappan, New York, under subcontract to CDM. NAEVA used a comprehensive suite of geophysical tools to identify and locate the presence of underground utilities or buried objects.

The survey was used to identify buried utilities and objects so that they were not struck or punctured with the drilling tools. The results of the surveys were marked on individual property maps. CDM performed field oversight and health and safety monitoring during all geophysical survey field activities.

2.3.4 Topographic Survey

Site topographic base map was prepared by GEOD Corporation (REAC and RI/FS borings). Zambrana Engineering Inc. utilized the base map and its own field survey to prepare individual 1":10' scale mapping of the OU2 Phase 2 properties. The locations of the pre-design borings, which are shown on the contract drawings, were surveyed and added to the map. Both firms were licensed New Jersey land surveyors.

2.4 Design Criteria

The OU2 ROD specified excavation and transportation for off-site disposal of soils containing PAHs in excess of the ACGs from the Claremont Development to maximum depth of 14 feet bgs. The ROD also specified that if encountered, isolated creosote waste would be removed and disposed of in accordance with the OU1 ROD, which specified removal and shipment of creosote waste to a treatment, storage and disposal facility (TSDF) for treatment prior to final disposal. Table 2-1 contains the site-specific ACGs, which were used as the basis for the design and remediation. In addition to the PAH contamination, defined by the OU2 ROD ACG criteria, arsenic contamination was found in surface soil at 41 Valerie Drive. For this property, the New Jersey Residential Direct Contact Soil Cleanup Criteria (NJRDCSCC) for arsenic of 20 mg/kg was applied during the design.

2.5 Remedial Design Documents

Based on the investigation data and established design criteria, CDM developed the design documents, including design analysis report (DAR), drawings,

specifications, and cost estimate. The design documents were performance-based, that is, minimum excavation horizontal limits and depths were presented on the design drawings, with the exception of the following:

- Detailed design for the excavation support system and excavation sloping
- Grid system for post-excavation sampling
- Utility relocation

2.5.1 Site Specific Plans

For the most part, work plans developed for the Lagoon B (OU1 Phase 1) remediation were utilized in addressing all major project elements. Several work plans were amended to reflect OU 2 Phase 2 property-specific conditions and to ensure compliance with the project design documents. USACE reviewed and approved all plan addenda prior to implementation. The following plans were amended and/or submitted for approval:

- Excavation and Handling Plan Addendum – approved July 15 and 19, 2003
- Traffic Control and Transportation Plan Addendum – approved July 15, 2003
- Perimeter Air Monitoring Plan Addendum – approved June 13, 2003
- Soil Erosion and Sediment Control Plan Addendum – approved June 19, 2003
- Waste Management Plan Addendum – approved June 5, 2003
- Wastewater Treatment Plan Addendum – approved July 2, 2003

Table 2-1
OU2 Phase 2 Analytical Cleanup Goals

Chemical Parameter	Action Level (ppm)
Benzo(a)Pyrene	0.66
Benzo(a)anthrancene	0.9
Chrysene	90
Benzo(b)fluoranthene	0.9
Benzo(k)fluoreanthene	9
Indeno(1,2,3-cd)pyrene	0.9
Dibenzo(a,h)anthracene	0.66

3

Section Three

Section 3
Remedial Construction Activities

OU 2 Phase 2 remedial construction activities started in June 2003 and were completed in August 2006. This phase of the project was performed in conjunction with Lagoon A remediation in order to take advantage of the temporary facilities in place at the OU1 Phase 2 site. A summary of the major construction activities completed at the Federal Creosote site during the OU2 Phase 2 remediation is presented below.

3.1 Site Preparation

Site preparation activities including site survey, temporary facilities mobilization, resident relocation, erosion and sediment control, site security, etc. were performed prior to commencement of remedial construction. Site preparation activities are described in the following paragraphs.

3.1.1 Site Survey

OU2 Phase 2 properties were surveyed during the pre-design investigation as described in Section 2.3.4. Pre-remedial conditions of the properties are shown on the contract drawings. AutoCAD files of the property surveys were provided to SES prior to construction.

3.1.2 Temporary Facilities

Since the project was on-going, temporary support facilities mobilized to the site for the Lagoon A remediation were utilized during the OU2 Phase 2 construction activities. Temporary facilities were located within the Contractor support zone, in the north portion of the Rustic Mall, as shown on the contract drawings. The support facilities included six 12 feet by 15 feet trailers. One trailer was used by the EPA, another was designated to USACE, and a third trailer was used by security guard. The remaining three trailers were used by SES. Temporary water, sanitary, electric and telephone services were established. The support zone was completely secured with an 8 feet high chain link fence.

The decontamination pad constructed within the Contamination Reduction Zone (CRZ) of Lagoon A was used for equipment decontamination during the OU2 Phase 2 remediation. The pad was integrated with the truck tarping station and was constructed using 6-mil polyethylene liner, berm containment, and water collection sump. The sump was equipped with an electric pump. Collected wastewater was treated at the on-site wastewater treatment plant prior to being discharged to surface water via the storm sewer system. Individual CRZs were established at each remote excavation location for personnel decontamination, which consisted of removal of personal protective equipment (PPE).

During the remediation of Valerie Road, a temporary access road was constructed through 66 Valerie Drive in order to maintain the entrance into Rustic Mall from the Claremont Development, as required by the Borough of Manville. The design called for temporary access roads to be constructed through Lagoon A properties during the excavation of Valerie Drive and Clare Court, as well as a line of sheeting on the east side of Clare Court to divide the Valerie Drive excavation in half to maintain traffic. During construction, however, SES proposed conducting the Valerie Drive/Clare Court as a single excavation, thus eliminating the sheeting. The Borough permitted the single excavation, with the condition that a temporary access road be constructed in the Lagoon A area to allow for emergency vehicle access while Valerie Drive was closed. The temporary road was constructed by placing a 6-ounce non-woven geotextile on the existing surface and topping with a layer of 6 to 12 inches thick clean stone.

3.1.3 Soil Erosion and Sediment Control

SES developed a Soil Erosion and Sediment Control Pan for the Lagoon B remedial activities. To address site-specific changes for the OU2 Phase 2 remediation, SES submitted an addendum of the original plan to Somerset-Union County Soil Conservation District (SCSCD) for recertification. A copy of the Addendum including SCSCD approval letter is presented in Appendix A. To control offsite siltation/erosion that may result during precipitation events, the perimeter of excavation areas and the stockpiles were encompassed with silt fence. Storm water inlets were covered with filter fabric to prevent siltation of the system. Finally, the stabilized construction entrance, constructed during the Lagoon A remediation was maintained during the course of the OU2 Phase 2 construction.

3.1.4 Site Security

Site security was provided by Internal Intelligence, a New Jersey security firm, under subcontracting agreement with SES. Security guard was stationed in an office trailer located within the support zone in Rustic Mall. Security guard was on site 16 hours on weekdays and 24 hours on weekends and holidays. During the course of the construction, SES personnel provided site security during regular working hours. All visitors were required to sign-in upon entering the support zone.

3.2 Property Access

Access to the properties to be remediated was coordinated through EPA and USACE. During the remedial investigation, EPA obtained access agreement from all property owners within the Claremont Development. EPA obtained access agreements from all property owners within the Claremont Development to

perform the remedial investigation. These access agreements provided access for soil sampling only. Prior to the start of the remedial action on each property, EPA obtained access agreements for each property in need of remediation.

3.3 Resident Temporary Relocation

Depending on the extent of the remediation at the properties, it was necessary to temporarily relocate some residents while remediation was on-going. EPA's criteria for resident temporary relocation were as follows:

- Safety hazard for the homeowners
- Prolonged period of inaccessibility to the house
- Shutoff of utilities for a prolonged period

Based on the established criteria, temporary relocation was offered to residents of the following properties:

- 59 Valerie Drive
- 67 Valerie Drive
- 107 Valerie Drive
- 113 Valerie Drive

With the exception of 113 Valerie Drive, all the residents of the houses listed above requested that they be allowed to remain in their houses during the construction, rather than be temporarily relocated. EPA accommodated these residents' requests. The contractor made special provisions to maintain utilities and safe access to those properties during construction. EPA temporarily relocated the residents of 113 Valerie Drive to a nearby community for the duration of the construction on their property.

Since EPA owned 48 Valerie Drive and 19 Clare Court at the time remedial excavation was completed, resident temporary relocation at these properties was not an issue.

3.4 Deed Notice Properties

The remedial investigation and the pre-design investigation revealed that contaminated soil was present at certain properties at depths that were impractical to remove. These properties will be the subject of NJDEP deed notices. Following is a list of deed notice properties in OU2 Phase 2:

- 48 Valerie Drive
- 54 Valerie Drive
- 59 Valerie Drive
- 67 Valerie Drive

- 19 Clare Court

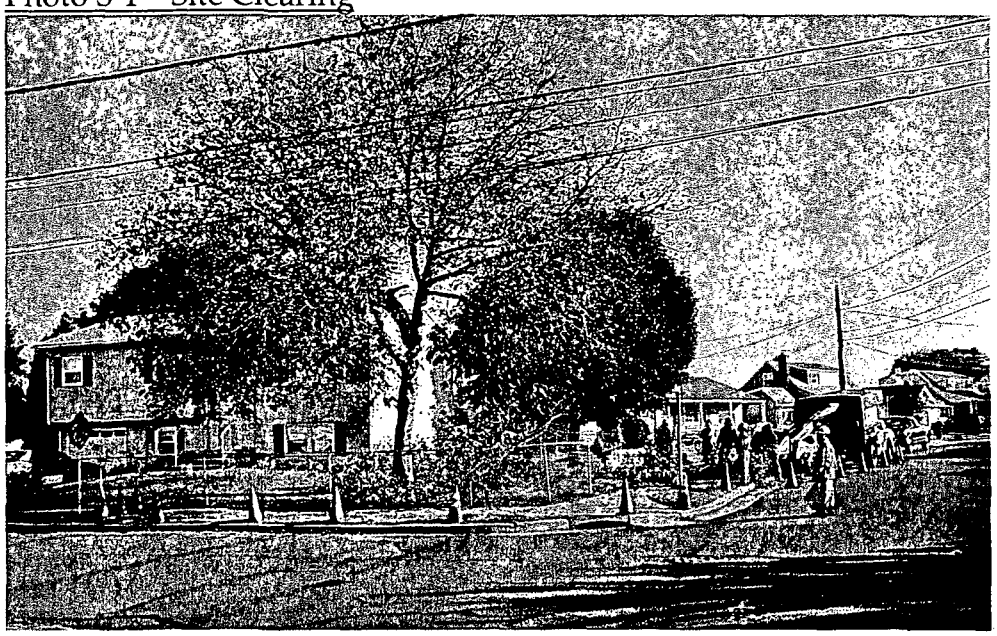
NJDEP would not concur with a remedy that would leave soils in exceedance of the remediation goals on properties unless deed notices would be established for the affected properties.

The owners of the five OU2 Phase 2 properties where residual levels of contamination remain above the cleanup goals after completion of the remediation were asked to place a deed notice on their property. Three property owners agreed to place deed notices on their properties. Two property owners, at 19 Clare Court and 48 Valerie, did not agree to place deed notices on their properties. These two properties were purchased by EPA. Ownership of the two properties is to be transferred to NJDEP who will then place deed notices on them. A deed notice would record the presence of soil contamination below a specified depth, and prevent digging below that depth on the property.

3.5 Site Clearing

Trees, bushes, and ornamental plants, fences, gates, stoops, porches, and pools located within the excavation areas were removed prior to the beginning of the excavation activities. Waste generated during site clearing was disposed of at a municipal waste disposal facility as specified in the project documents.

Photo 3-1 – Site Clearing



3.6 Excavation

The primary objective of the project was to remediate 20 properties on Louise Drive, 25 properties on Valerie Drive, and four properties on Clare Court, and segments of Valerie Road, Valerie Drive, and Clare Court roadways, and the

Daycare Center playground and parking lot in Rustic Mall that contain soil contaminated to levels greater than the analytical cleanup goals (ACGs) and that may pose risks to human health. Excavation activities were initiated in June 2003 and were completed in April 2005, with the exception of the Day Care Center property, which was completed in 2 stages, independent of the work on the residential properties. The first stage, the Playground, was completed in August 2001, along with construction activities in OU1 Phase 1. The second stage, the parking lot, began in November 2005 and was completed in May 2006 along with the OU3 Rustic Mall excavation.

The contract drawings presented two types of excavations depending on the degree to which the contamination was delineated during the pre-design investigation in compliance with NJDEP post-excavation sampling criteria. SES excavated to the limits shown on the contract drawings. Upon completion of excavations, SES inspected both the sidewall and the bottom of the excavated areas for visible sign of contamination. If contamination was suspected, the Contracting Officer was notified and SES proceeded as directed. A total of 32,145 CY of soil was excavated and transported off site for disposal from the OU2 Phase 2 residential properties and Day Care Center.

As discussed in Section 2.3, contaminated areas were generally well defined by implementing the sampling and analysis program developed during the pre-design investigation phase of the project. Based upon the results of the data collected during the investigation, excavation areas were classified as follows:

- Type I Excavations - Excavation areas were completely delineated in accordance with NJDEP post-excavation sampling criteria during the pre-design investigation. These excavation areas were allowed to be backfilled immediately since post excavation sampling was completed during the remedial design.

- Type II excavations - Excavation areas were partially delineated during the pre-design investigation. The contractor was required to collect additional samples to supplement the existing data in order to satisfy NJDEP post-excavation sampling requirements. The locations of post excavation samples were determined during the design process and are shown on the contract drawings.

SES utilized Komatsu PC-120 and PC-300 excavators to excavate the contaminated materials. Materials excavated from shallow excavation areas were placed in dump trucks and transported to the established stockpile area located within Lagoon A. Material from the deep excavation areas adjacent to Lagoon A was loaded into all terrain dump trucks and transported to the stockpile area.

Crane mats were also utilized in the deep excavation areas to facilitate the transportation of the materials.

Excavated materials were segregated into three distinct stockpiles corresponding to the types of disposal. Contaminated soil exceeding RCRA land ban criteria [10 times the Universal Treatment Standards (UTS)] was stockpiled separately for off-site thermal treatment prior to disposal. Contaminated soil exceeding the ACGs was stockpiled for off-site disposal in a Subtitle C facility. Finally, clean soil and debris was stockpiled for off-site disposal in a Subtitle D landfill. A Komatsu PC-400 was utilized to load out segregated materials. To avoid cross contamination from one stockpile to another, SES designated an excavator for each stockpile. Stockpiled materials were loaded into lined trucks for transportation to treatment/disposal facilities.

A dewatering system was not necessary during the OU2 Phase 2 remediation since the excavations were relatively shallow. Perched water encountered during the excavation as well as surface runoff that accumulated within the excavation areas was pumped into containers, trucked to the support area in Rustic Mall, and treated at the on-site wastewater treatment plant (WWTP) prior to discharge.

Photo 3-2 – Shallow Excavation

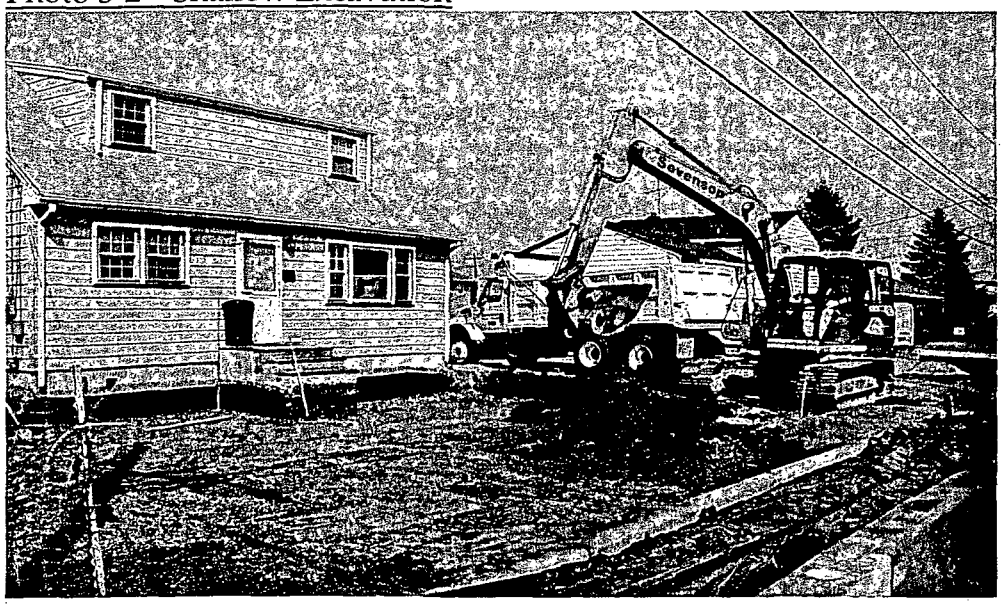
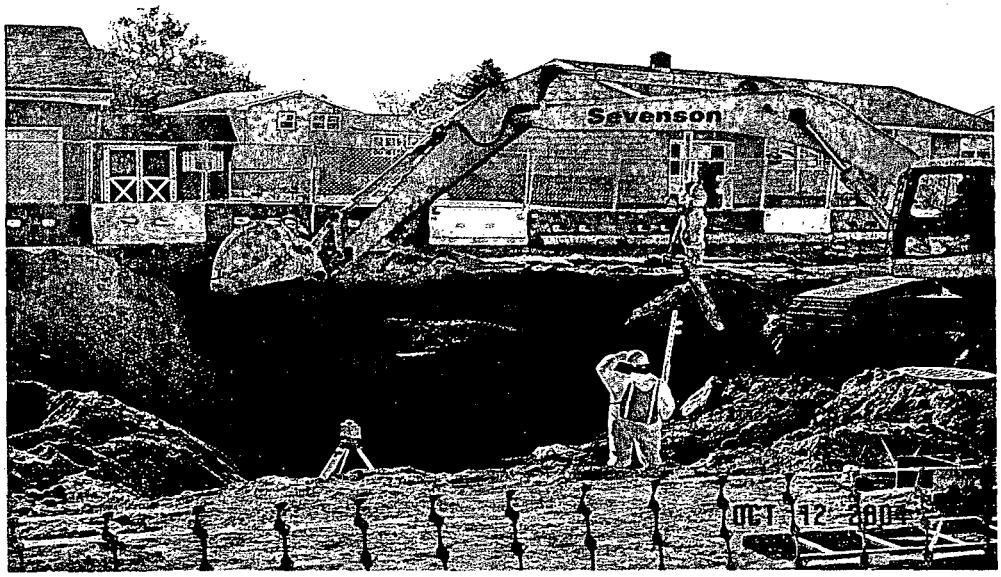


Photo 3-2 – Deep Excavation



3.7 Odor Control

Ground treatment methods that were determined to be effective during the Lagoon B remediation were utilized to control odor. This method consisted of applying odor suppressant foam product or placing plastic sheeting directly over excavation areas and stockpiles. Details of the Lagoon B odor control evaluation can be found in the Federal Creosote Site Odor Control Evaluation report prepared by UAI Environmental, Inc. in January 2001.

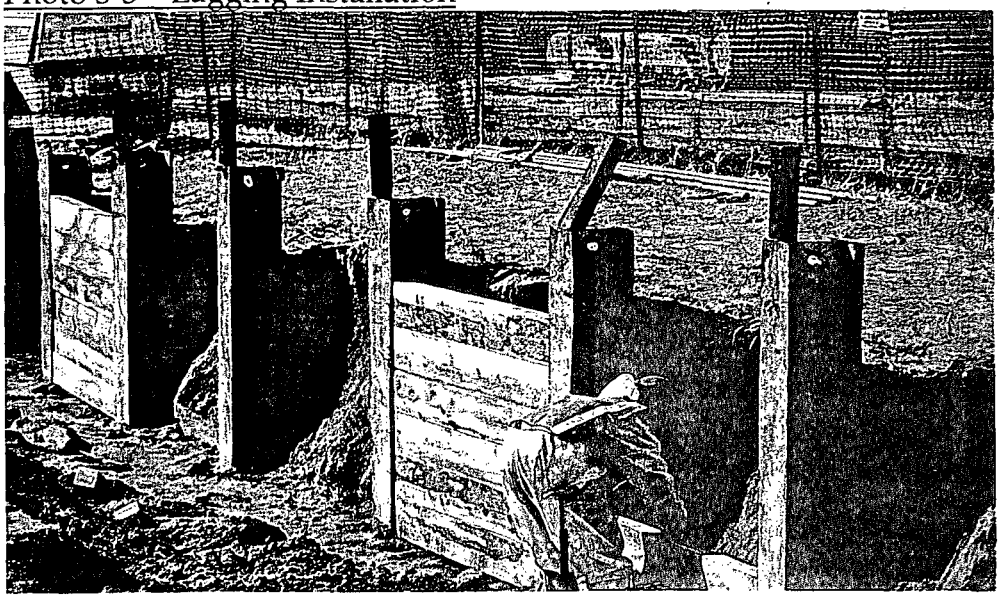
3.8 Excavation Support System

Depending on the depth of the excavation, one of three excavation support methods was employed; sheeting, soldier piles and lagging, or sloping. Sheeting was installed along Valerie Drive (in front of 113 Valerie Drive) and 42, 48 and 54 Valerie Drive. As discussed in Section 3.1.2, the design called for a line of sheeting on the east side of Clare Court to divide the Valerie Drive excavation in half to maintain traffic. During construction, SES proposed conducting the Valerie Drive/Clare Court as a single excavation, thus eliminating the sheeting on the east side of Clare Court. Lagging was installed in between soldier piles previously installed for OU1 Phase 2 (Lagoon A) during the deep excavation in Valerie Drive adjacent to Lagoon A. Sloping was employed in all other excavations greater than 4 feet. Under subcontract agreement with CDM, Engineering Technologies (ET) designed all excavation support systems and determined safe slopes for excavations. All sheeting was installed by Linde-Griffith Construction Co., of Newark, NJ, using an ICE 4500 vibratory hammer rigged to a Manitowoc 3000W 65-ton crane. Subsequent to backfilling, all soldier piles and lagging, and sheeting was removed, with the exception of the area on the back property line of 42, 48, and 54 Valerie Drive. The sheeting was cut off

approximately four feet below finished grade and left in the ground at these locations so that it can be re-used during deep excavation in the adjacent portion of Rustic Mall (OU3). Locations of the sheet piles are shown on the as-built drawings included in Appendix D.

A 1:1 slope system was established for excavations deeper than four feet. When excavation was directly adjacent to structures' foundations, a 1-foot horizontal bench was established at the top of the slope. The bench was established in order to prevent the disturbance of the footing's stress influence zone.

Photo 3-3 – Lagging Installation



3.9 Backfilling

SES backfilled the excavated areas using clean imported backfill material from several sources including Stavola Construction Materials in Bound Brook, NJ, Millington Quarry in Millington, NJ, Kingston/Traprock Pit, in Kingston, NJ and Buck's Mining Pit in Millstone, NJ. Toto Brothers was the distributing agent. Prior to delivery to the site, physical and chemical analyses were performed on every 5,000 cubic yard (CY) lot of material to ensure that backfill materials met the project requirements and specifications. All backfill material placed at the site met NJDEP residential direct contact cleanup criteria.

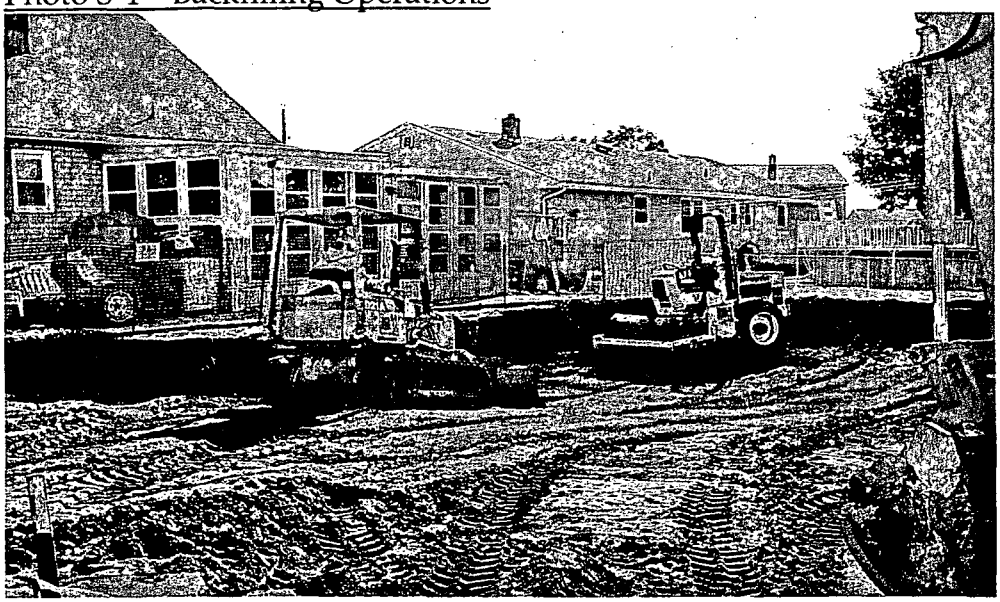
Backfill material was placed directly in the excavation and spread in horizontal layers up to 8 inches thick utilizing bulldozers. Placed material was compacted by utilizing an SD-40D roller to a minimum of 95% of its maximum dry density by Standard Proctor (ASTM D-698). During construction the Contractor requested – and USACE approved – that compaction in yard areas be reduced to 90% of Standard Proctor values to allow for more free-draining backfill to

support growth of newly planted trees. Compaction requirements in structural areas – roadways, sidewalks, and near foundations – remained at 95%. Hand compactors and/or vibratory plates were utilized to compact areas immediately adjacent to houses or other structures. Compaction and moisture content testing of the backfill material was performed by SOR Testing Laboratories, Inc. located in Cedar Grove, New Jersey.

The upper layer of backfill material consisted of 6 inches of topsoil except in areas below roadways, sidewalk, walkway, and driveway. Approximately 50,123 tons of common fill, 2,808 tons of structural fill, and 6,338 tons of topsoil were utilized to fill the OU2 Phase 2 excavation areas.

SES received the topsoil from EME Incorporated. The source of the material was a pit located in New Egypt, New Jersey.

Photo 3-4 – Backfilling Operations



3.10 Waste Disposal

The majority of OU2 Phase 2 excavated soils were disposed of at a Subtitle C landfill. However, with USACE approval, source material encountered during the excavation activities were transported off site for thermal treatment prior to final disposal.

Treatment and disposal requirements for the hazardous wastes encountered during the OU2 Phase 2 remediation are summarized in Table 3-1, 3-2 and 3-3. Table 3-4 summarizes the quantities of material disposed of during the OU2 Phase 2 remediation.

As mentioned in section 3.6, excavated material was segregated into three stockpiles in accordance with the different waste types summarized in Table 3-1, 3-2, and 3-3. Material to be disposed of at Subtitle C and D facilities was transported to their respective facilities by utilizing 70,000-lb triaxle dump trucks. Material requiring thermal treatment was loaded into 80,000-lb dump trailers for transportation to the thermal treatment facility. Trucks transporting excavated material to the facilities were required to be lined, tarped, and decontaminated (tire wash) prior to leaving the site.

Photo 3-5 – Truck Loading Operations at Stockpile in Lagoon A

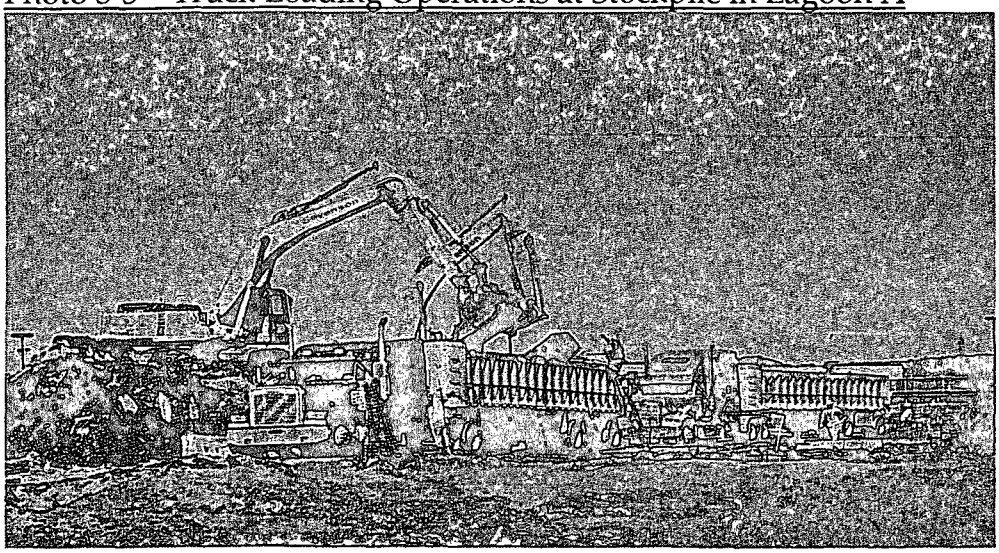
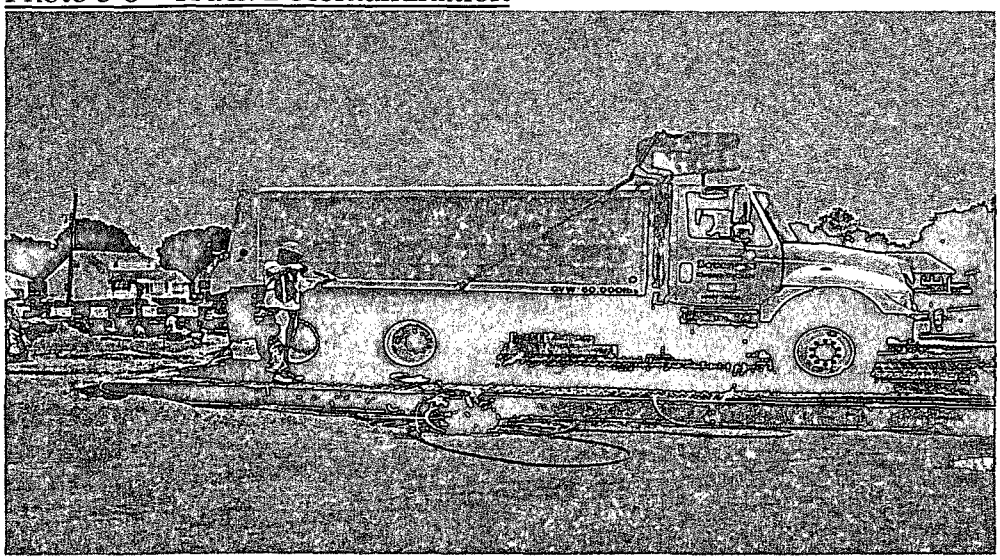


Photo 3-6 – Truck Decontamination



3.10.1 Wastewater

Perched water and surface runoff discussed in Section 3.6 and wastewater generated from equipment and personnel decontamination was treated at the on-site WWTP constructed during the Lagoon A remediation prior to being discharged to the storm sewer system, and ultimately to the Millstone River.

Because the treated water was ultimately discharged to the Millstone River, compliance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Master General Petroleum Products Cleanup (GPPC) was required. This permit is also known as a B4B permit. Surface Water Master General Permit (No. NJ0102709) and Discharge Authorization Permit (No. NJG0139050) obtained during the Lagoon B remediation were renewed. On May 11, 2005 an extension letter for the discharge permit was submitted to NJDEP, in which a request was made to increase the monitoring frequency to twice per month, and extend the expiration date to November 30, 2008. NJDEP granted the extension and increased monitoring frequency on June 7, 2005. Copies of the renewed permits are included in Appendix B. Table 3-5 summarizes the WWTP effluent permit discharge limits. Table 3-6 is a summary of the WWTP sampling requirements. NJDEP decreased the sampling frequency for most parameters in a permit renewal letter dated June 7, 2005. The changes are summarized on Table 3-6.

During the Lagoon A remediation, SES relocated the previously designed, approved, and permitted WWTP from Lagoon B to treat wastewater generated during the remedial activities. The plant remained on-site for the duration of the OU2 Phase 2 remediation. The system consisted of an oil-water separator, followed by an influent equalization tank, followed by bag filters, granular activated carbon, and effluent storage tanks. The plant was operated and maintained in accordance with the Federal Creosote Superfund Site Wastewater Treatment Plant Operations and Maintenance Manual (SES, April 2001). Plant design rationale is also included in the manual. SES obtained a Treatment Works Approval (TWA) permit in EPA's name (Permit No. 01-0568) from NJDEP to construct and operate the plant. A copy of the original permit is included in Appendix C. SES was informed that the TWA permit did not require renewal, since it accompanies a renewed B4B permit.

Approximately 2,827,229 gallons of wastewater was treated and discharged during the coincident OU2 Phase 2 and OU1 Phase 3 (Canal B) remedial activities. This volume includes water treated during the Canal B remediation. Remedial construction for both phases was performed concurrently.

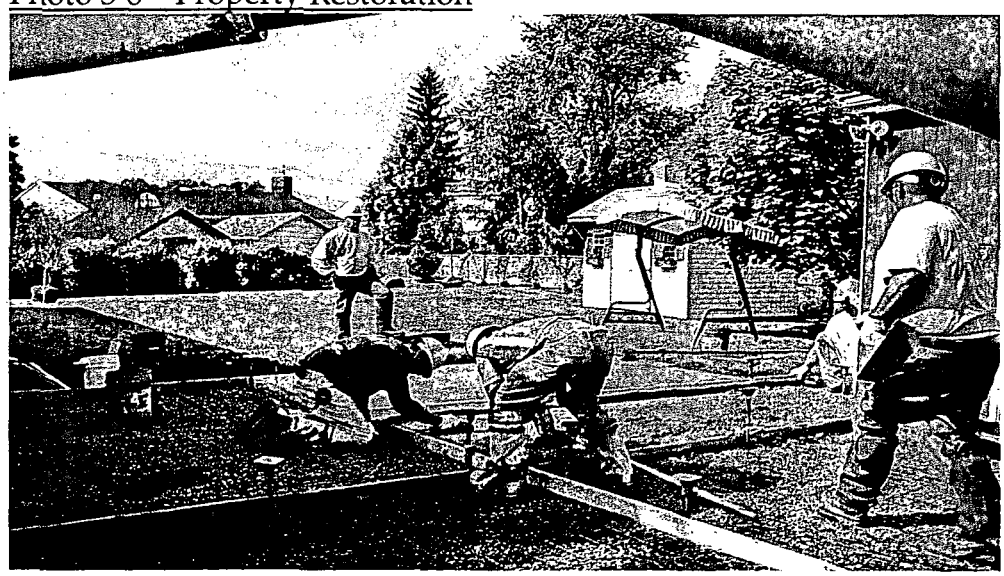
3.11 Site Restoration

Property features impacted by construction activities were restored and/or

replaced in kind by the contractor. Roadways, curbs, sidewalks, etc. impacted by the remedial activities were also restored and/or rebuilt as shown on the restoration plans included in the contract drawings. Grass areas were restored with sod. Excavated areas were graded to closely follow the pre-excavation grades. Landscape items such as trees and shrubs removed during remedial activities were replaced as shown on the contract drawings. Utility service laterals impacted by the excavation were also restored. Utility work was performed by the respective utility companies or their authorized representatives, except for water, sanitary, and storm sewer work, which was performed by SES.

Photo 3-7 – Storm Sewer Restoration

Photo 3-8 – Property Restoration



3.12 As-Built Survey

Final as-built survey depicts the post-remediation conditions and final topography of each remediated property. Excavation as-built survey was also performed and excavation cross sections were prepared. Copies of as-built drawings are included in Appendix D. Final survey was performed by Kennon Surveying Services, Inc. of Warren, NJ, a New Jersey licensed land surveyor.

3.13 Soil Sampling and Analysis

Soil sampling and analysis was performed as described in the USACE-approved Sampling and Analysis Plan (SAP). Samples were analyzed for the primary site contaminants, PAHs, by SW-846 method 8270C. Post excavation samples collected at 35 and 41 Valerie Road were also analyzed for Arsenic by SW-846 method 6010b, due to the presence of Arsenic detected during the RI and remedial design investigation.

3.13.1 Post Excavation Sampling

Upon completion of excavation up to the limits shown on the contract drawings, post excavation sampling was performed in accordance with the site specific SAP.

Post excavation samples were collected in locations shown on the excavation plans included in the contract drawings. The locations were established in compliance with NJDEP post excavation sampling criteria. For primary excavations, post excavation samples were collected at a rate of one sample for every 900 ft^2 of bottom area and one sidewall sample for every 30 linear feet of sidewall excavation. The collected post excavation samples were analyzed for PAHs. Post excavation samples were grouped into two categories as described below:

- Confirmation samples

Confirmation samples were collected in areas where excavation depth was 14 feet or less. Confirmation sampling results were compared to the ACGs. If results showed that contamination remained, secondary excavation was performed according to project specifications and as directed by the Contracting Officer.

- Documentation Samples

Documentation samples were collected in areas where excavation depth was greater than 14 feet or as directed by the Contracting Officer. These samples were collected to document the location of any remaining contamination. Secondary excavation was not performed based upon the analytical results of the documentation samples.

Property closure reports are included in Appendix E. These reports contain individual property drawings which show the locations of the post excavation samples.

Six properties had sample results that exceeded the ACGs beyond the limits of the excavation. Deed notices will be placed on these properties to show the location of the remaining contamination. Following is a list of deed notice properties:

19 Clare Court
48 Valerie Drive
54 Valerie Drive
59 Valerie Drive
67 Valerie Drive

3.13.2 Backfill Material Sampling

Excavated areas were backfilled with clean soil from off-site sources. Representative samples of backfill materials were collected and analyzed at a frequency of one sample for every 5,000 CY of imported material to ensure compliance with physical and chemical properties in the project specifications. Only material that met NJDEP residential direct contact soil cleanup criteria (NJAC 7:26D) and the project specifications was utilized.

3.14 Ambient Air Monitoring

SES amended the approved Lagoon B Ambient Air Monitoring Plan (AAMP) describing the methods and procedures utilized to determine the air contaminants that may be released during remediation activities. The contaminants of concern included; Volatile Organic Compounds (VOCs), PAHs, and respirable particulates. In addition, a meteorological system, monitoring wind speed and direction, ambient temperature, atmospheric pressure, solar radiation, and precipitation was installed within the support zone.

Ambient air monitoring was performed by using real time instrumentation and samples were collected for analysis in accordance with EPA T0-13, T0-14, and PM-10 methods for PAHs, VOCs, and respirable particulates, respectively. Tables 3-7 and 3-8 summarize the perimeter air monitoring/sampling requirements for the OU2 Phase 2 remediation. In general, analytical results of the collected samples showed concentrations below the allowable limits except for the air sample collected at 19 Clare Court on August 29, 2004. Analytical results of this sample show benzene concentrations of 21.26 parts per billion (ppb), which exceeds the derived limit of 10 ppb (1/100th of the OSHA Occupational Exposure Limit (OEL) of 1,000 ppb for benzene). This exceedance

was attributed to the homeowner of the adjacent property (11 Clare Court) mowing his lawn and refueling a lawn mower directly adjacent to the sample location.

Table 3-1

OU2 Phase 2 Waste Categories

Waste Type, RCRA Designation	Waste Definition
Contaminated Soil, F034 based on contained-in policy	Soils with PAH concentrations exceeding the Analytical Cleanup Goals (ACGs)
Soil, Non-hazardous	Any soils with PAH concentrations that do not exceed the ACGs
Debris, Non-hazardous	• Concrete slabs from demolition of building foundation, foundation walls, and sidewalk, • Sewer pipe from storm sewer demolition, • Other building materials, • Boulders • Tree stumps from grubbing operations

Table 3-2
Universal Treatment Standards for F034 Waste

Regulated Hazardous Constituent		UTS for F034 Creosote Waste	10 Times UTS for F034 Contaminated Soil
Common Name	CAS No.	Concentration in mg/kg	Concentration in mg/kg
Acenaphthene	83-32-9	3.4	34
Anthracene	120-12-7	3.4	34
Benzo(a)anthracene	56-55-3	3.4	34
Benzo(b)fluoranthene	205-99-2	6.8	68
Benzo(k)fluoranthene	207-08-9	6.8	68
Benzo(a)pyrene	50-32-8	3.4	34
Chrysene	218-01-9	3.4	34
Dibenz(a,h)anthracene	53-70-3	8.2	82
Fluorene	86-73-7	3.4	34
Indeno(1,2,3-c,d)pyrene	193-39-5	3.4	34
Napthalene	91-20-3	5.6	56
Phenanthrene	85-01-8	5.6	56
Pyrene	129-00-0	8.2	82
Arsenic	7440-38-2	5.0 mg/l TCLP	NA
Chromium (Total)	7440-47-3	0.60 mg/l TCLP	NA

Table 3-3
LDR Treatment and Disposal Requirements

Waste Type, RCRA Designation	LDR Treatment Requirements	LDR Disposal Requirements
Contaminated Soil, F034 based on contained-in policy	For soil with PAH concentrations >10 times UTS: • Achieve a 90% reduction in PAH concentrations, or • Reduce PAH concentrations to less than 10 times the UTS.	Dispose of in Subtitle D landfill or equivalent after treatment. For soil with PAH concentrations <10 times UTS: Dispose in Subtitle C landfill or equivalent without treatment.

Table 3-4
OU2 Phase 2 Material Disposal Summary

Facility	Address	Permit No.	Facility Type	Quantity (Tons)
Bennett Environmental Inc.	80 Rue Dez Melezes St Ambrose, Quebec, Canada G7P2N4	7610-02-01-0603816	Thermal Treatment and Disposal	8,674
CWM Chemical	1550 Balmer Road Model City, NY 14107	NYD 049836679	Subtitle C	37,195
Allied Waste Facility (Epic)	County Road 33 Mauk, GA 31058	133-033D	Subtitle D	13,115

Table 3-5
OU2 Phase2 Wastewater Treatment Plant Effluent Permit Requirements

Parameter	Effluent Discharge Limits	
	Monthly Average	Daily Maximum
TSS	Report ppm	40 ppm
TPH	10 ppm	15 ppm
TOC	Report ppm	20 ppm
Total Cr	50 ppb	100 ppb
Total Cu	50 ppb	100 ppb
Total Ni	72 ppb	144 ppb
Total Pb	37 ppb	79 ppb
Fluoranthene	25 ppb	68 ppb
Fluorene	22 ppb	59 ppb
Phenanthene	22 ppb	59 ppb
Pyrene	25 ppb	67 ppb
Benzo(a)anthracene	Report ppb	10 ppb
Naphthalene	22 ppb	59 ppb
Benzene	Report ppb	7 ppb
Tetrachloroethylene	Report ppb	16 ppb
TBA	Report ppb	Report ppb
2,4- Dimethylphenol	18 ppb	36 ppb
Phenol	Report ppb	26 ppb
MTBE (influent	Report ppb	Report ppb
MTBE (effluent)	Report ppb	70 ppb
MTBE % Removal	>85%	NA
Effluent Flow	Report GPD	Report GPD
Parameter	Minimum	Maximum
pH	6.0 s.u.	9.0 s.u.

Table 3-6
OU2 Phase 2 Wastewater Treatment Plant Sampling Requirements

Parameter	Function	Frequency	Analytical Method	Container	Preservatives
Flow	O&M	Every other hour	SES SOP	NA	NA
pH	O&M	Per shift	EPA 150.1	8 OZ Jar	Analyze immediately
pH	Permit	Twice a week*	EPA 150.1	125 ml HDPE	Cool 4 °C
TSS	Permit	Twice a week*	EPA 160.2	500 ml HDPE	Cool 4 °C
TPH	Permit	Twice a week*	QA-025	1 liter Amber	pH<2 HCl Cool 4 °C
TPH	O&M	Twice a week*	Hach 10052	100 ml Poly	Analyze immediately
TOC	Permit	Twice a week*	EPA 415.1	60 ml HDPE	pH<2 HCl Cool 4 °C
Total Cr	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Cr	O&M	Twice a week*	Hach 8024	100 ml Poly	Analyze immediately
Total Cu	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Cu	O&M	Twice a week*	Hach 8143	100 ml Poly	Analyze immediately
Total Ni	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Ni	O&M	Twice a week*	Hach 8150	100 ml Poly	Analyze immediately
Total Pb	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO_3
Total Pb	O&M	Twice a week*	Hach 8317	100 ml Poly	Analyze immediately
SVOC	Permit	Twice a week*	EPA 625	1 liter Glass	Cool 4 °C
MTBE (influent)	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
MTBE (effluent)	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
Benzene	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
TCE	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
TBA	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
2,4-Dimethylphenol	Permit	Twice a week*	EPA 625	1 liter Glass	Cool 4 °C
Phenol	Permit	Twice a week*	EPA 420.1	1 liter	pH<2 H_2SO_4 Cool 4 °C
Phenol	O&M	Twice a week*	Hach 8047	100 ml Poly	Analyze immediately

* Sampling frequency changed to once a month as of June 7, 2005.

Table 3-7
OU2 Phase 2 Respirable Dust Monitoring Requirements

Parameters	Action Level[1]	Frequency[2,3] per location	Analytical Method	Action Required
Background				
Real Time (PM-10)[2]		Continuous with 15-minute averages	Real Time	
High Volume (PM_{10})[3]		2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	PM-10	Coinciding with high volume sampling in resident areas.
Predominate Airborne Pathway - Each Targeted Residential Property or Perimeter Station Location During Excavation Activities				
Real Time (PM-10)[2]	150 ug/m^3 [1]	Continuous with 15-minute averages	Real Time	Investigate to determine appropriate corrective action, which may include increasing dust control activities, checking and repairing instrumentation, or stopping work. The Contracting Officer's representative will be notified of all corrective action.
High Volume (PM_{10})[3]	150 ug/m^3	2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	PM-10	Evaluate and modify, as needed, real time action levels, dust control protocols, and corrective action requirements.

[1] Concentrations above background.
[2] Frequencies listed in the table are for active construction periods.
[3] Monitoring during non-work hours (nights and weekends) will be required.

501237

4

Section Four

Section 4

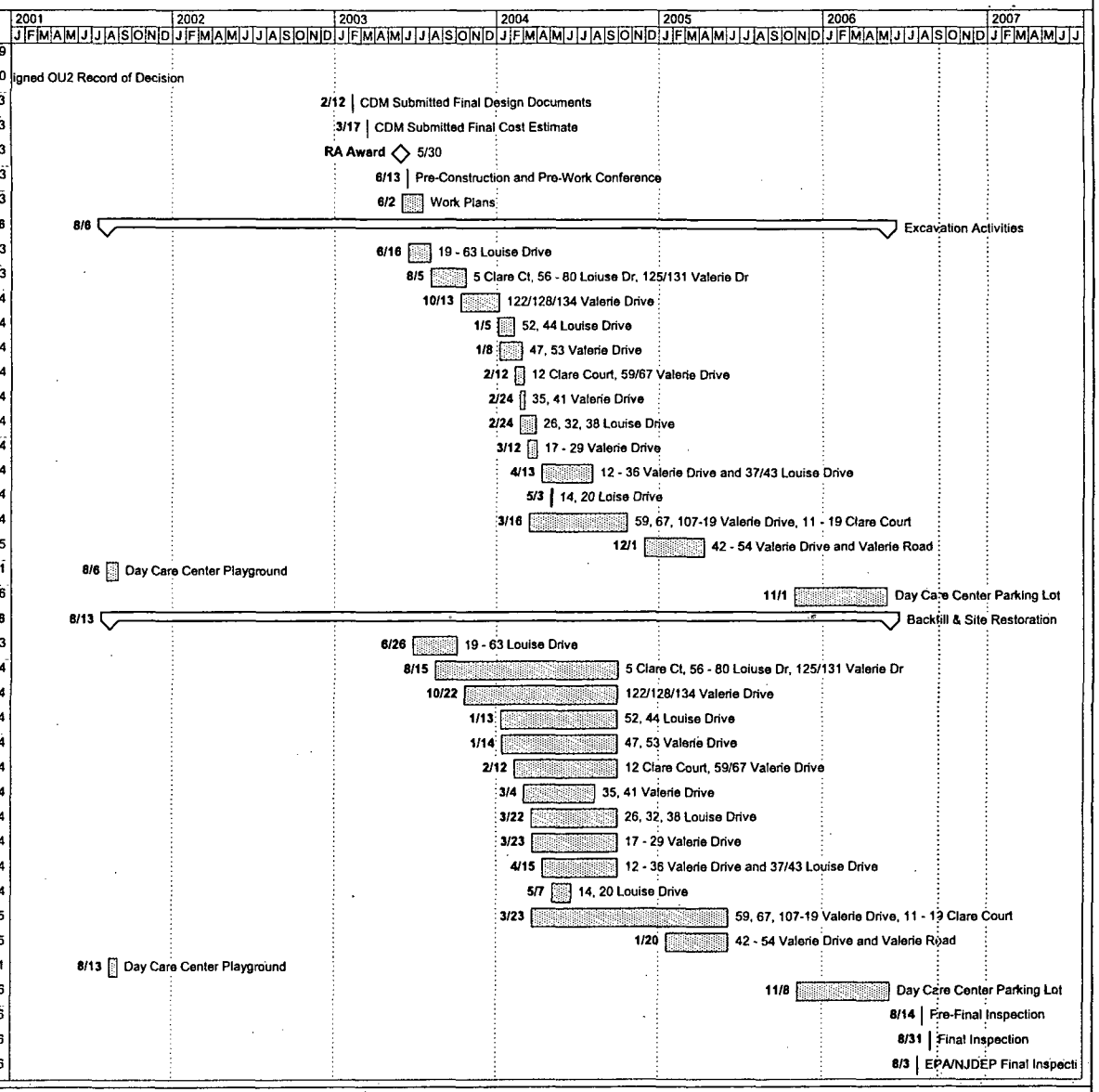
501238

Section 4
Chronology of Events

Figure 4-1 summarizes the events that occurred during the OU2 Phase 2 Remedial Action.

Figure 4-1 Chronology of Events

ID	Task Name	Duration	Start	Finish
1	Site placed on National Priority List	1 day	Tue 1/19/99	Tue 1/19/99
2	EPA signed OU2 Record of Decision	1 day	Fri 9/29/00	Fri 9/29/00
3	CDM Submitted Final Design Documents	1 day	Wed 2/12/03	Wed 2/12/03
4	CDM Submitted Final Cost Estimate	1 day	Mon 3/17/03	Mon 3/17/03
5	RA Award	0 days	Fri 5/30/03	Fri 5/30/03
6	Pre-Construction and Pre-Work Conference	1 day	Fri 6/13/03	Fri 6/13/03
7	Work Plans	34 days	Mon 6/2/03	Fri 7/18/03
8	**Excavation Activities**	**1227 days**	**Mon 8/6/01**	**Wed 5/24/06**
9	19 - 63 Louise Drive	35 days	Mon 6/16/03	Mon 8/4/03
10	5 Clare Ct, 56 - 80 Loiuse Dr, 125/131 Valerie Dr	57 days	Tue 8/5/03	Thu 10/23/03
11	122/128/134 Valerie Drive	59 days	Mon 10/13/03	Wed 1/7/04
12	52, 44 Louise Drive	27 days	Mon 1/5/04	Tue 2/10/04
13	47, 53 Valerie Drive	37 days	Thu 1/8/04	Fri 2/27/04
14	12 Clare Court, 59/67 Valerie Drive	14 days	Thu 2/12/04	Tue 3/2/04
15	35, 41 Valerie Drive	8 days	Tue 2/24/04	Thu 3/4/04
16	26, 32, 38 Louise Drive	26 days	Tue 2/24/04	Tue 3/30/04
17	17 - 29 Valerie Drive	15 days	Fri 3/12/04	Thu 4/1/04
18	12 - 36 Valerie Drive and 37/43 Louise Drive	80 days	Tue 4/13/04	Wed 8/4/04
19	14, 20 Loise Drive	4 days	Mon 5/3/04	Thu 5/6/04
20	59, 67, 107-19 Valerie Drive, 11 - 19 Clare Court	156 days	Tue 3/16/04	Fri 10/22/04
21	42 - 54 Valerie Drive and Valerie Road	95 days	Wed 12/1/04	Thu 4/14/05
22	Day Care Center Playground	20 days	Mon 8/6/01	Fri 8/31/01
23	Day Care Center Parking Lot	147 days	Tue 11/1/05	Wed 5/24/06
24	**Backfill & Site Restoration**	**1227 days**	**Mon 8/13/01**	**Wed 5/31/06**
25	19 - 63 Louise Drive	70 days	Thu 6/26/03	Fri 10/3/03
26	5 Clare Ct, 56 - 80 Loiuse Dr, 125/131 Valerie Dr	288 days	Fri 8/15/03	Fri 10/1/04
27	122/128/134 Valerie Drive	241 days	Wed 10/22/03	Fri 10/1/04
28	52, 44 Louise Drive	186 days	Tue 1/13/04	Fri 10/1/04
29	47, 53 Valerie Drive	185 days	Wed 1/14/04	Fri 10/1/04
30	12 Clare Court, 59/67 Valerie Drive	164 days	Thu 2/12/04	Fri 10/1/04
31	35, 41 Valerie Drive	113 days	Thu 3/4/04	Wed 8/11/04
32	26, 32, 38 Louise Drive	137 days	Mon 3/22/04	Fri 10/1/04
33	17 - 29 Valerie Drive	136 days	Tue 3/23/04	Fri 10/1/04
34	12 - 36 Valerie Drive and 37/43 Louise Drive	119 days	Thu 4/15/04	Fri 10/1/04
35	14, 20 Louise Drive	30 days	Fri 5/7/04	Fri 6/18/04
36	59, 67, 107-19 Valerie Drive, 11 - 19 Clare Court	309 days	Tue 3/23/04	Tue 6/7/05
37	42 - 54 Valerie Drive and Valerie Road	99 days	Thu 1/20/05	Tue 6/7/05
38	Day Care Center Playground	15 days	Mon 8/13/01	Fri 8/31/01
39	Day Care Center Parking Lot	147 days	Tue 11/8/05	Wed 5/31/06
40	Pre-Final Inspection	1 day	Mon 8/14/06	Mon 8/14/06
41	Final Inspection	2 days	Thu 8/31/06	Fri 9/1/06
42	EPA/NJDEP Final Inspection	1 day	Thu 8/3/06	Thu 8/3/06



Federal Creosote Superfund Site
OU2 PH 2 RA RPT AUGUST 06

Task Milestone Summary

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5

Section Five

Section 5
Performance Standards and Construction Quality Control

SES implemented a Quality Control (QC) program that incorporated the requirements of the project specifications and the approved site specific Contractor Quality Control Plan (CQCP). USACE provided Quality Assurance (QA) through the use of on site personnel to monitor project performance.

5.1 Project QA/QC Organization

OU2 Phase 2 remedial action was supported by both field and office personnel. SES on site personnel consisted of Project Manager, Site Contractor Quality Control Manager, Site Safety and Health Officer, Project Engineer, and Project Superintendent. Overall project organizational chart is presented in Figure 5-1.

5.2 Construction QA/QC Implementation

A three-phase quality check was conducted for each definable feature of the work. The checks include preparatory, initial, and follow-up inspections. The preparatory inspection was performed after all required plans, documents, and materials were approved and copies were at the work site. The initial inspection was conducted after the completion of a representative sample of the work. The follow-up inspection consisted of daily quality control activities to ensure compliance with contract requirements until the completion of a particular definable feature of work.

5.3 Sampling and Analysis

A QA/QC system was implemented to ensure the accuracy, completeness, and precision of sampling data. Collected field QA/QC samples included field duplicates, matrix spike, matrix spike duplicates, and QA split samples.

5.3.1 Field Duplicates

Field duplicates are defined as a homogenized sample collected from a unique location that was divided into two separate sets of containers and submitted to the laboratory as two unique samples for analysis. Field duplicates were collected at a frequency of one duplicate for every 10 samples.

5.3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples were collected to document the precision and consistency of the laboratory equipment. MS/MSD samples were collected at a rate of one sample for every 10 field samples.

5.3.3 USACE QA Sampling

USACE QA split samples were collected as follows. A sample was collected then divided into two distinct samples. The duplicate pairs were tracked so that the results could be compared. One of the samples was submitted to the subcontracted project laboratory. The other sample was submitted to USACE Environmental Chemistry Branch laboratory located in Omaha. Split samples were collected and analyzed at a frequency of one for every 10 samples. The results of the two samples were compared for analytical method accuracy. USACE QA split samples were collected and analyzed at a frequency of one for every 10 samples.

5.3.4 Data Review/Validation

Field data were assessed by the on site QC manager. The QC manager reviewed field results for compliance with established QC criteria. Field measurements were assessed using daily instrument calibration, calibration check, and blank analysis.

Laboratory analytical data were subjected to review to assess data precision, completeness and sensitivity.

5.3.5 Sample Numbering

Sample numbering scheme was developed to identify each sample designated for laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for retrieval of field and analytical data of each sample. A summary of the sample numbering scheme is presented in Section 4 of the Approved Sampling and Analysis Plan submitted by SES.

5.4 In-Place Soil Moisture and Density Testing

Soil moisture and density testing of in-place backfill was performed as described in Section 3.9. Field testing was performed by subcontractor personnel using a Troxler Nuclear Moisture Density Gauge.

5.5 Health and Safety

As required by the Site Safety and Health Plan (SSHP), daily tailgate meetings were conducted. Special health and safety considerations were discussed as they pertained to the daily activities. Weekly meetings were also held to review issues related to any new activities. SES's Health and Safety Director, Paul J. Hitcho, CIH, conducted periodic Health and Safety inspections during the course of the project. A copy of the April 4, 2005 inspection report is included in Appendix F. USACE also conducted periodic health and safety audits during construction

activities. Copies of USACE health and safety audits are also included in Appendix F.

General site workers were required to be trained for Hazardous Waste Operations and Emergency Response in accordance with 29 CFR 1919.120, and excavation and trenching safety trained. Individuals involved with shipping of hazardous materials were required to receive the appropriate Department of Transportation (DOT) training. Most of the work was conducted in Level D PPE with a contingency for Level C upgrade for personnel in direct contact with the excavated material based on air monitoring results. Ambient air monitoring, in the form of real-time VOC and dust monitoring and high-volume particulate sampling and VOC sampling was also conducted within the vicinity of the excavation areas throughout the period of construction as discussed in Section 3.14.

No incidents or injuries were reported during the course of the remedial action activities.

5.5.1 Personnel Exposure Air Monitoring

Personnel exposure air monitoring was conducted during the OU2 Phase 2 remediation. The collected samples were analyzed for PAHs and BTEX in accordance with NIOSH methods 1501 and 5506, respectively. The samples were also analyzed for respirable dust as indicated in Section 3.14. All samples collected during the OU2 Phase 2 sampling events resulted in concentrations below OSHA threshold values.

5.5.2 Personnel Decontamination

Personnel decontamination was performed upon exiting the exclusion zone and at the end of each work day. A nontransparent enclosure was strategically located within the decontamination pad to allow field personnel exiting the exclusion zone to change into street clothes prior to entering the support zone.

5.5.3 Equipment Decontamination

All equipment exiting the exclusion zone was required to be decontaminated prior to entering the support zone or leaving the project site in accordance with the SSHP.

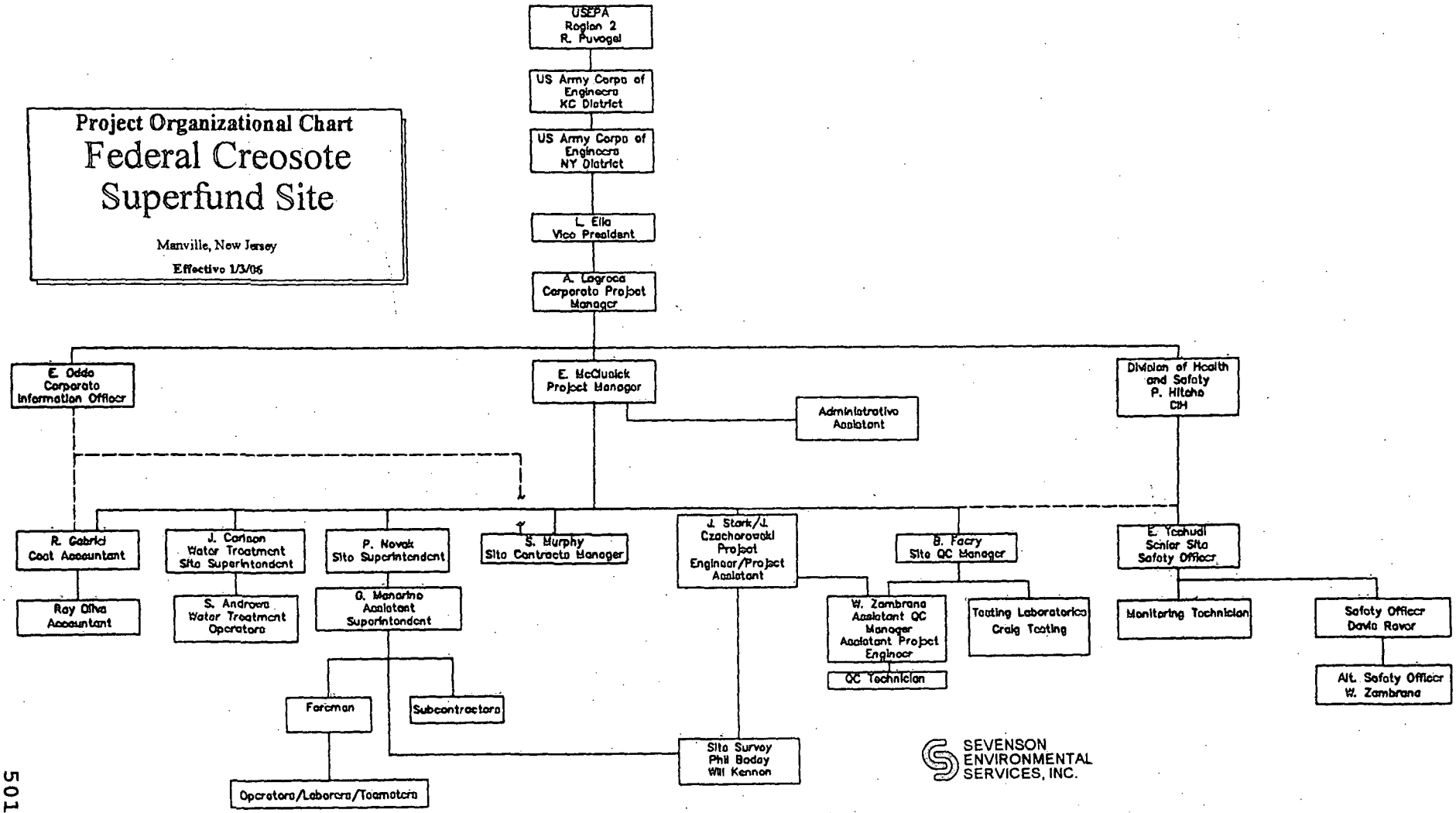

Figure 5-1
OU2 Phase 2 Organizational Chart

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6

Section Six

501246

Section 6
Inspection and Certification

6.1 Inspections

In addition to the three-phase inspection described in Section 5.2, pre-final and final inspections were performed following the completion of the remedial construction. The purpose of these inspections was to ensure that all work was performed to the satisfaction of the EPA, USACE.

6.1.1 Pre-Final Inspection

Pre-final inspection was conducted for each property upon the completion of remedial activities. Representatives from all parties including EPA, USACE, and SES were required to be present. During the pre-final inspection, punch lists documenting observed deficiencies were prepared. The contractor was required to correct all deficiencies prior to the final inspection. Appendix G contains the copies of individual property pre-final inspection reports documenting punch list items requiring corrective actions.

6.1.2 Final Inspection

On August 31, 2006, after addressing all deficiencies and submittal of outstanding project document, representatives of EPA, USACE and SES attended a Final Inspection. At this time, no punch list items were identified.

On August 3, 2006, Rich Puvogel, EPA RPM and Drew Sites, NJDEP's representative inspected the Day Care Center, which was completed in May 2006 along with the OU3 Rustic Mall excavation. Subsequent to the inspection, Mr. Puvogel issued a final inspection memorandum documenting the inspection. A copy of the memo is included in Appendix H.

Section 7

7

Section Seven

501248

Section 7
Operation and Maintenance

The OU2 Phase 2 remediation was a permanent remedy. Therefore, long-term O&M was not required, except for maintenance of the new vegetation, which consisted of sod areas and planted trees.

7.1 Warranty

As required by the contract documents, SES was responsible for the trees and shrubs for a 12-month period following establishment.

Section 8

Section Eight

501250

Section 8
Summary of Project Cost

OU2 Phase 2 construction contract was executed as a cost-reimbursable contract. The work was completed under PRAC Contract Number DACW41-01-D-0001, awarded through USACE Kansas City District.

8.1 Remedial Construction Cost

The original negotiated contract budget amount for the OU2 Phase 2 remedial action at the Federal Creosote site was $20,068,705. Project variations during the remedial effort prompted two contract modifications that increased the contract budget amount by $5,465,173 to $25,533,878. The work was executed under a cost-reimbursable contract. The total funding for the OU2 Phase 2 remedial action was $23,650,260. The Day Care Center playground remediation was conducted as part of the OU1 Phase 1 remediation at a cost of $102,338; the Day Care Center parking lot remediation was conducted as part of the OU 3 remediation at a cost of $253,766, which brings the total cost of OU2 Phase 2 properties to $24,006,364. Table 8-1 summarizes the remedial action contract modifications.

Table 8-1
OU2 Phase 2 Remedial Action Contract Modifications Summary

MOD No.	ATP No.	Description	Amount
16	104	Funds for authorized work	$200,000
3	003	Planting and Permanent Fence	$193,140
	004	Concrete sidewalks and Flatwork	$231,095
	005	Wastewater treatment plant O&M, Soldier pile and Lagging	$597,670
	006	Thermal, Subtitle C, and Subtitle D additional quantities	$3,282,101
	008	Storm and sanitary sewer additional work	$252,615
Approved Negotiation Pending	009	Additional work for asphalt and sod	$103,307
	013	Additional security cost	$61,657
	017	Additional planting cost	$14,005
	108	Adjusted Planting Budget	$79,583
		Health & Safety, Air Monitoring, Misc. Restoration	$450,000
Total			**$5,465,173**

9

Section Nine

Section 9
Observations and Lessons Learned

- Odor Control – Odor control was a primary concern during the design phase of the project for several reasons:

  - Odor is a subjective nuisance issue; there is no instrument with which to measure it.
  - Complaints, if persistent enough, could potentially have stopped work, delaying the project, driving up costs, and causing animosity with the community.
  - It was unknown prior to excavation how much of a problem the odor would be.
  - The most extreme and most effective solution was determined to be a pre-engineered fabric structure (PFS), which would have cost over $1 million, slowed the construction considerably, and created additional hazards for the workers.

  For these reasons, USACE had a design ready for a PFS in the event that all other odor control measures were ineffective and EPA received persistent complaints about the odor. Fortunately, as determined during the test pit and early in the full-scale excavation, the combination of odor control foam, perimeter misting system, and covering excavations and stockpiles with polyethylene sheeting was effective in controlling odors.

- Pre-excavation Grid Sampling for Waste Characterization – During the pre-design investigation, CDM conducted a sampling program on a 30 ft by 30 ft grid throughout the deep areas to be excavated, specifically the areas abutting Lagoon A, the back yard of 42, 48, and 54 Valerie Drive, and the street segments. Samples were collected every 2 feet throughout each boring, and analyzed for PAHs. The results were compared to the waste disposal criteria, giving an indication of the disposal for each 2-foot layer of soil throughout the excavation. This reduced the laboratory analysis turnaround time during construction, and reduced onsite waste handling and potential short term exposure risks to local residents.

- Community Relations - Although this report focuses on technical aspects of the project, the role of community relations during the implementation of the OU2 Phase 2 remediation within the residential area deserves mention. Prior to start of the remediation work on OU2 Phase 2 properties, property owners were apprehensive about the impending impacts of the intrusive work. EPA's community relations goals were to: provide information about upcoming

cleanup to residents using a medium that most efficiently conveyed that information; provide information in a way that community members could understand; and give the information to the residents a time when it would be most important to them. To accomplish these goals a number of tools were used: flyers, newsletters, community advisory group meetings, one on one meetings with residents, interviews with newspaper, radio, and television media. One page flyers, providing updates on planned work, were distributed door to door within the community shortly before the planned activities took place. The one page flyers could be produced quickly to react to changing field conditions and were distributed either community wide or to residential properties that were to be most immediately affected by OU2 Phase 2 work. A community relations policy for the site was established that required prompt responses to community inquiries. This high visibility of EPA personnel also helped to establish and preserve a high level of public acceptance and trust. Successful community relations were cultivated using the different tools mentioned above at one time or another throughout the remediation. The community exhibited a greater tolerance for inconveniences associated with the remediation when they were made aware of them before they occurred. Using contractors and USACE personnel who had previous experience in remediation within residential settings was extremely helpful.

- The OU2 Phase 2 remediation required relocation or disconnection of overhead electric, sanitary, storm sewer, water, and gas utilities. The team planned ahead for sustainable utility relocation, with future remediation in mind, which ensured minimal disruptions to residents in latter stages of construction. This allowed for greater productivity and minimized utility relocation and resident disruptions.

- Due to the uncertainty associated with the limit and quantity of excavation, USACE administered a cost-reimbursable construction contract using a pre-placed remedial action contractor (PRAC). This type of contracting mechanism allowed for greater flexibility and made it easier to manage the impact of potential quantity overruns. The down-side of cost reimbursable contracting is that it required a substantial administration effort. Monthly invoices were voluminous, since they included backup for all costs that were directly reimbursed.

- The prime contractor awarded multiple subcontracts for the treatment and disposal (T&D) of each waste stream. This was adopted as a contingency measure in the event that one vendor was unable to meet the performance specifications of the project. The prime contractor could quickly utilize another vendor who was awarded a subcontract to handle a portion of the same waste stream. This approach minimized disruptions to the flow of

waste from the site to transportation treatment and disposal vendors/facilities.

- Each treatment and disposal subcontractor was responsible for coordination of transportation and disposal. This arrangement allowed for better coordination of the transportation of waste to treatment and disposal facilities. Resolution of transportation issues was the burden of the subcontract treatment and disposal facilities, and freed up the prime contractor to attend to other work at the site. A single T&D subcontractor coordinator was responsible and on-site during transportation and disposal of waste from the site.

- During site restoration, the Contractor requested – and USACE approved – that the backfill material in non-structural areas such as landscaping areas be less compacted than structural areas such as roadways and near building foundations, to provide a free-draining subgrade and better enable the growth of many varieties of plants.

10

Section Ten

501257

Section 10
Contact Information

Table 10-1 summarizes the key project personnel contacts.

Table 10-1
OU2 Phase 2 Key Project Contacts

Name	Title	Organization	Address
Rich Puvogel	Project Manager	EPA	290 Broadway New York, NY 10038
Todd Daniels	Project Manager	USACE KC	601 East 12th Street Kansas City, MO 64106
Neal Kolb	Resident Engineer	USACE NY	26 Rustic Mall Manville, NJ 08835
Gordon McDonald Ed McClusick	Project Manager	SES	2749 Lockport Road Niagara Fall, NY 14305
Michael Popper	Project Manager	CDM	Raritan Plaza I, Raritan Center, Edison, NJ 08818

11

Section Eleven

Section 11
References

CDM. February 2003. *Federal Creosote Superfund Site OU 2 Phase 2 Remedial Design Analysis*

CDM. February 2003. *Federal Creosote Superfund Site OU 2 Phase 2 Specifications*

CDM. September 2000. *Groundwater and Sediments Draft Remedial Investigation Report*

SES. April 2001. *Federal Creosote Superfund Site Wastewater Treatment Plant Operations & Maintenance Manual*

UAI Environmental, Inc. January/February 2001. *Federal Creosote Site Odor Control Evaluation*

Engineering Technologies. November 2000. *Pre Construction Vibration Survey*

Appendix A

501262

Appendix B

501263

Appendix C

State of New Jersey
Department of Environmental Protection

DONALD T. DIFRANCESCO
Acting Governor

Robert C. Shinn, Jr.
Commissioner

Municipal Finance and Construction Element
Division of Water Quality
P.O. Box 425
Trenton, New Jersey 08625
Fax: (609) 633-8165
www.state.nj.us/dep/dwq

USEPA
290 Broadway, 19th Fl
New York, NY 10007-1866

August 21, 2001

Gentlemen:

There is enclosed a permit issued to you pursuant to Title 58 of the Revised Statutes of New Jersey and in consideration of your application received on 07/17/2001 signed by Richard Puvogel, Remedial Project Mananger, and Andrew N. Johnson, P.E.

The permit is for the construction and operation of a treatment works in Manville Boro, New Jersey and subject to the conditions as noted on the permit.

This approval is valid for a period of two (2) years from the issuance date, unless otherwise stated in the attached approval document. This approval shall expire unless building, installing or modifying of the treatment works has begun within the initial approval period. Treatment works approvals may be extended beyond the original two year approval date, to a maximum period of five years from the original issuance date, in accordance with the terms and conditions contained in N.J.A.C. 7:14A-22.12. A time extension request must be received by the Department prior to the permit's expiration date. Time extension requests shall be submitted to:

Bureau of Administration and Management
Municipal Finance and Construction Element
P.O. Box 425
40 L.E. State St., 3rd Floor
Trenton, New Jersey 08625

If you have any questions regarding the permit, please contact me by calling (609) 633-1208.

Sincerely,

Nicholas Horiates
Supervising Environmental Specialist
Bureau of Administration and Management

01-0568
Enclosure
cc: Blasland, Bouck and Lee

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STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 402, TRENTON, NJ 08625-0402

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

*Local Agency approval required prior to operation

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
01-0568	08/21/2001	08/20/2003	.72 M.G.D.

NAME AND ADDRESS OF APPLICANT
USEPA
290 Broadway, 19th Fl
New York NY 10007-1866

LOCATION OF ACTIVITY
Manville Boro
Somerset County

This permit grants permission to:
Construct and operate an oil/water separator, a polymer feed system, a settling tank, two (2) sediment filters, two (2) 30,000-pound carbon adsorption units and 3 holding tanks (total rated capacity @ 500 GPM) for groundwater remediation at the Federal Creosote Superfund Site, 172-216 E. Camplain Road, Lot 36 and 37, Block 315, in the Borough of Manville, Somerset County.

According to the plans entitled:
"Federal Creosote Superfund Site, Manville, New Jersey", prepared by Blasland, Bouck and Lee, Inc., dated July 16, 2001, unrevised, sheets 2-1, 2-2 and 2-3.

and according to the specifications entitled:
Construction Specifications, Federal Creosote Superfund Site, Manville, New Jersey", signed and sealed by Andrew N. Johnson, P.E., dated July 16, 2001.

Prepared by	APPROVED by the Department of Environmental Protection
Nicholas Horiates Supervising Environmental Specialist	Eugene Chebra, P.E., P.P., Chief Bureau of Administration and Management

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

501266

July 70

Department of Environmental Protection of the State of New Jersey

This Certifies That

JAMES C. RUSSELL

Has passed a satisfactory examination and is hereby authorized to operate a

N-4 Industrial Wastewater Treatment System

In accordance with the classification prescribed on the annual license therefor. Licenses are Renewable.

In Witness Whereof, *I have hereunto set my hand and caused the Seal of the State Department of Environmental Protection to be affixed.*

Registry No. N 1081

Trenton, New Jersey

Dec. 10 19 90

Judith A. Yastin

501267

DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF NEW JERSEY

Hereby Certifies the Goodstanding of:

JASON CARLSON SSN: [redacted]

License No. 0027421 Reg No. 0027421

AS A LICENSED:

N4 INDUSTRIAL

Expires: 09/30/06 Document#: 051854170

501268

Appendix D

501269

THIS IS AN OVERSIZED DOCUMENT.
IT IS AVAILABLE FOR REVIEW AT:
U.S. EPA, REGION 2 SUPERFUND RECORDS CENTER
290 BROADWAY, 18TH FLOOR,
NEW YORK, NY 10007.

Material Description:

FEDERAL CREOSOTE SUPERFUND SITE, OU2 PHASE 2, FINAL REMEDIAL ACTION REPORT, APPENDIX D, REMEDIAL CONSTRUCTION AS-BUILT DRAWINGS, SEPTEMBER 21, 2006. (ALL REVISIONS INCLUDED).

DAY CARE CENTER AS-BUILT DRAWING IS INCLUDED IN APPENDIX E

Appendix E

Appendix E

501272

Confirmation Sample Results for 5 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				5CLA-S3823A		5CLA-S3824A	
				45.3 to 47.3 ft. MSL		46.3 to 47.6 ft. MSL	
				2 to 4 ft. BGS		2 to 3.3 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	370	U
218-01-9	Chrysene	90000	ug/kg	360	U	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 5 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				SBS-5CLA-16		SBS-5CLA-17		5CLA-D052A		5CLA-S3107A	
				48.0 to 48.5 ft. MSL		48.4 to 48.9 ft. MSL		46.8 to 48.3 ft. MSL		47.6 to 49.1 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	100	J	160	J	41	J	480	
205-99-2	Benzo(b)fluor	900	ug/kg	230	J	290	J	64	J	850	
207-08-9	Benzo(k)fluor	9000	ug/kg	79	J	100	J	50	J	330	J
50-32-8	Benzo(a)pyre	660	ug/kg	99	J	160	J	380	U	420	
218-01-9	Chrysene	90000	ug/kg	140	J	210	J	64	J	600	
53-70-3	Dibenz(a,h)ar	660	ug/kg	400	U	370	U	380	U	100	J
193-39-5	Indeno(1,2,3-	900	ug/kg	69	J	100	J	380	U	320	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 5 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				5CLA-S126B		5CLA-S3822B	
				45.8 to 47.8 ft. MSL		47.6 to 48.6 ft. MSL	
				2 to 4 ft. BGS		2 to 3.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	370	U
218-01-9	Chrysene	90000	ug/kg	380	U	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 5 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		3		4	
				SBS-5CLA-09		SBS-5CLA-10		SBS-5CLA-11		SBS-5CLA-11-D (Duplicate)		SBS-5CLA-12	
				47.5 to 48.0 ft. MSL		48.0 to 48.5 ft. MSL		47.9 to 48.4 ft. MSL		47.9 to 48.4 ft. MSL		47.8 to 48.3 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	75	J	300	J	270	J	89	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	41	J	120	J	480		470		150	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	59	J	240	J	200	J	63	J
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	67	J	240	J	220	J	79	J
218-01-9	Chrysene	90000	ug/kg	380	U	93	J	480		440		100	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	380	U	57	J	57	J	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	46	J	170	J	170	J	58	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 5 Clare Court

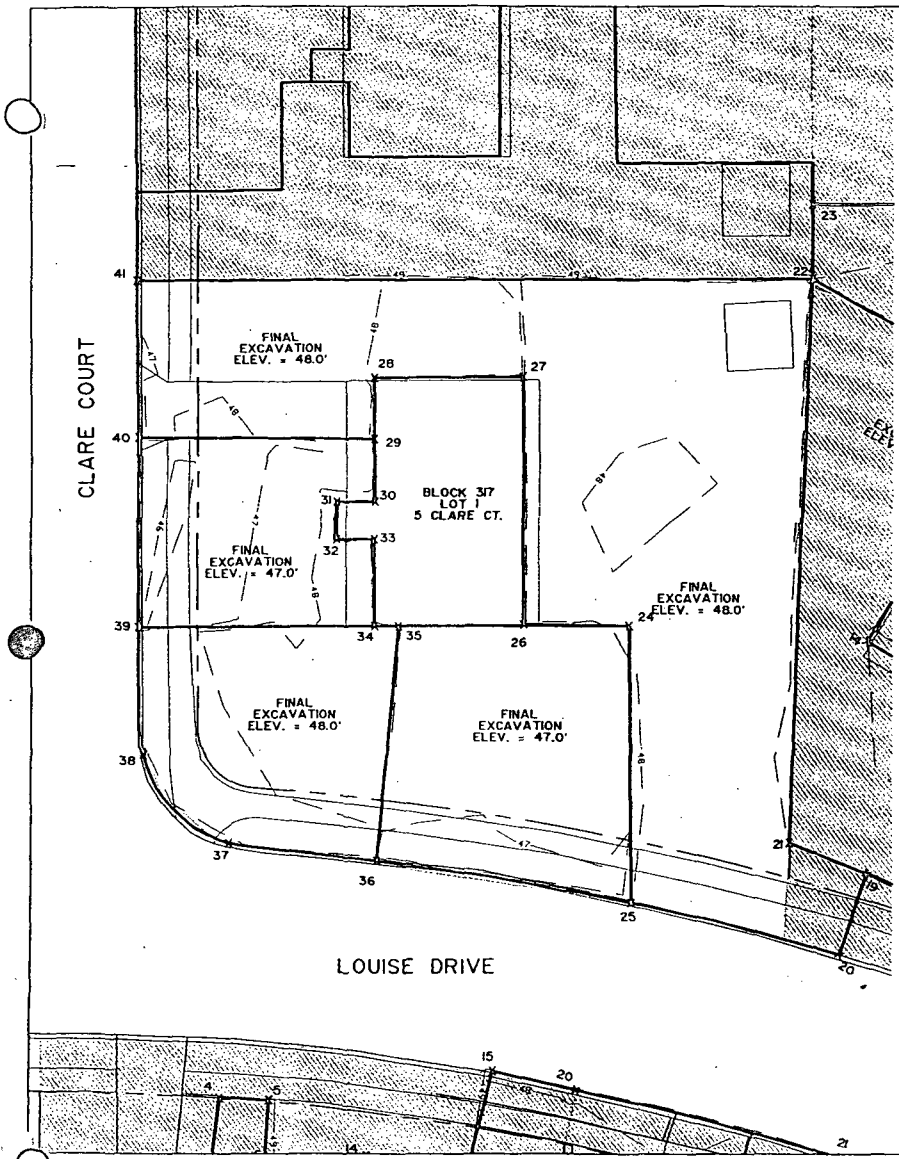
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	5		6		7	
				SBS-5CLA-14		5CLA-S127A		5CLA-S128A	
				47.9 to 48.4 ft. MSL		47.3 to 48.8 ft. MSL		47.4 to 48.9 ft. MSL	
				1 to 1.5 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	160	J	390	U	77	J
205-99-2	Benzo(b)fluor	900	ug/kg	240	J	390	U	100	J
207-08-9	Benzo(k)fluor	9000	ug/kg	120	J	390	U	93	J
50-32-8	Benzo(a)pyre	660	ug/kg	150	J	390	U	55	J
218-01-9	Chrysene	90000	ug/kg	200	J	390	U	96	J
53-70-3	Dibenz(a,h)a	660	ug/kg	400	U	390	U	28	J
193-39-5	Indeno(1,2,3-	900	ug/kg	110	J	390	U	58	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501278



FINAL EXCAVATION COORDINATES 5 CLARE COURT			
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20	N 623247.9 E 469137.6	32	N 623224.5 E 469034.6
21	N 623252.4 E 469188.5	33	N 623229.3 E 469038.2
22	N 623311.5 E 469048.3	34	N 623220.6 E 469049.3
24	N 623253.1 E 469074.5	35	N 623223.7 E 469051.7
25	N 623225.9 E 469110.1	36	N 623197.6 E 469079.6
26	N 623239.7 E 469063.9	37	N 623180.3 E 469062.6
27	N 623264.3 E 469032.0	38	N 623178.1 E 469042.8
28	N 623245.3 E 469017.4	39	N 623190.2 E 469025.9
29	N 623239.2 E 469025.3	40	N 623209.1 E 469001.5
30	N 623233.0 E 469033.4	41	N 623224.7 E 468980.9

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

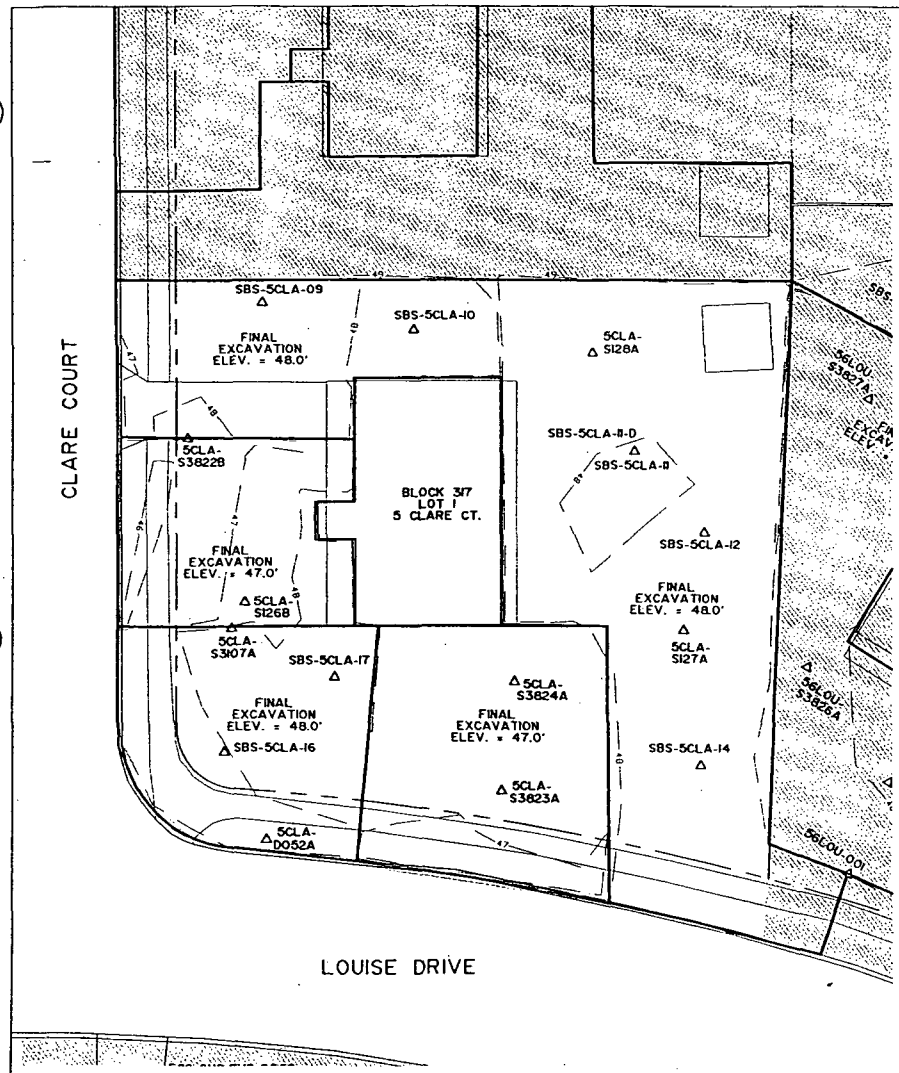
(IN FEET)
1 inch = 20 ft.

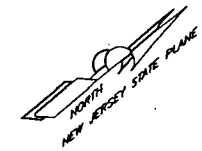
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
5 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501279





LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
5 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-7-04

Confirmation Sample Results for 11 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				11CLA-S3619A	
				46.5 to 48.0 ft. MSL	
				0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U
218-01-9	Chrysene	90000	ug/kg	360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2		3		4	
				SBS-11CLA-08		SBS-11CLA-08-D		SBS-11CLA-10		11CLA-S3275A		11CLA-S3276A	
				47.4 to 47.9 ft. MSL		47.4 to 47.9 ft. MSL		48.0 to 48.5 ft. MSL		47.3 to 48.8 ft. MSL		47.6 to 49.1 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	140	J	110	J	390	UJ	490		100	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	240	J	200	J	390	UJ	750		160	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	120	J	120	J	390	UJ	280	J	59	J
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J	100	J	390	UJ	330	J	94	J
218-01-9	Chrysene	90000	ug/kg	230	J	160	J	390	UJ	610		130	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	380	U	390	UJ	84	J	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	89	J	76	J	390	UJ	280	J	92	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 11 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2		3	
				11CLA-S3275A		11CLA-S3275B		FCS-OU2-PH2-0083-11CLA-W1-47.0-7		FCS-OU2-PH2-0084-11CLA-W2-47.0-7	
				47.3 to 48.8 ft. MSL		45.6 to 47.3 ft. MSL		47.0 ft. MSL		47.0 ft. MSL	
				0.5 to 2 ft. BGS		2 to 3.7 ft. BGS		1.5 ft. BGS		1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	490		470	J	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	750		530		330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	280	J	210	J	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	J	290	J	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	610		500		330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	84	J	60	J	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	280	J	230	J	330	U	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				FCS-OU2-PH2-0081-11CLA-F-45.0-7		FCS-OU2-PH2-9004-11CLA-F-45.0-7	
				45.0 ft. MSL		45.0 ft. MSL	
				3.5 ft. BGS		3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U

*NOTE: All data has been validated

Data Qualifiers:
NO - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 11 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				11CLA-S3426B		11CLA-S3427B	
				46.0 to 47.7 ft. MSL		46.0 to 47.7 ft. MSL	
				2 to 3.9 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	86	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	140	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	49	J
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	76	J
218-01-9	Chrysene	90000	ug/kg	380	U	100	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	52	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 11 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				11CLA-S3281A		11CLA-S3282A		11CLA-S3426B		11CLA-S3427B	
				46.2 to 47.8 ft. MSL		46.5 to 47.8 ft. MSL		45.6 to 47.5 ft. MSL		46.0 to 47.7 ft. MSL	
				2 to 3.6 ft. BGS		2 to 3.3 ft. BGS		2 to 3.9 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	UJ	390	UJ	380	U	86	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	390	U	380	U	140	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	390	U	380	U	49	J
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	390	U	380	U	76	J
218-01-9	Chrysene	90000	ug/kg	380	U	390	U	380	U	100	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	390	U	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	390	U	380	U	52	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				11CLA-S3428A	
				44.0 to 45.8 ft. MSL	
				4 to 5.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U
218-01-9	Chrysene	90000	ug/kg	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 11 Clare Court

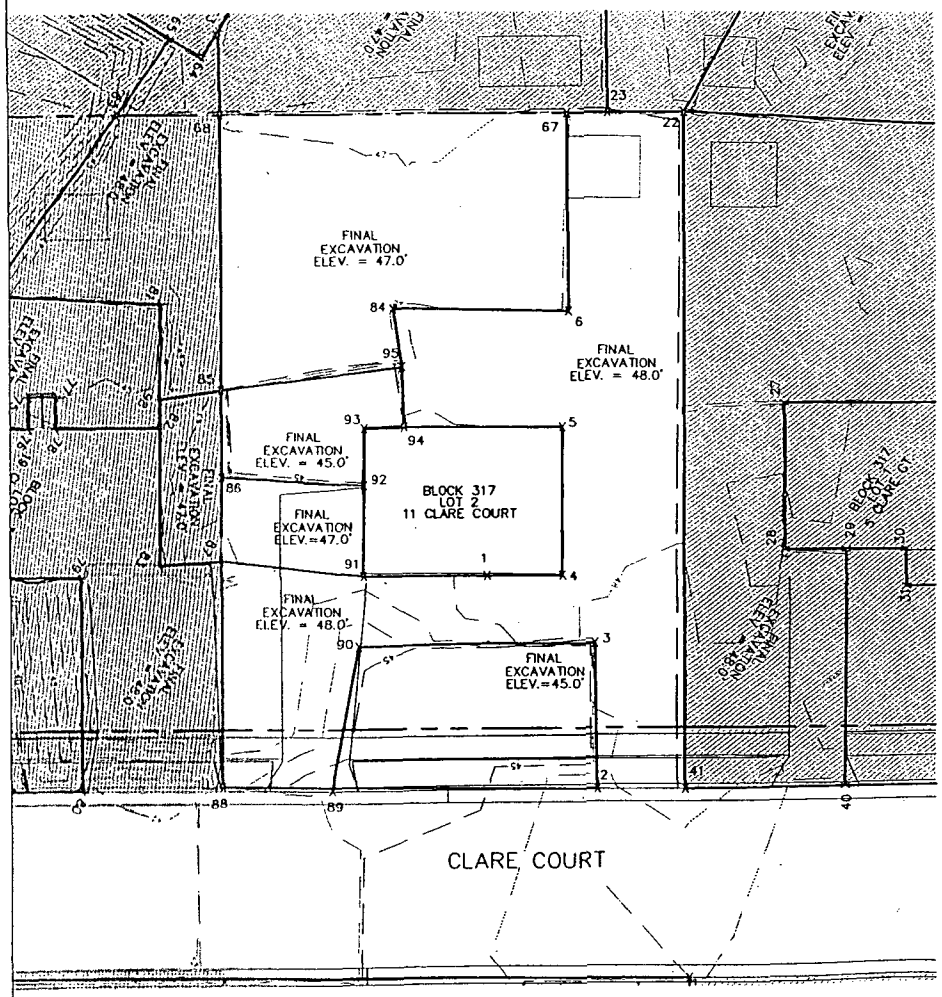
BOTTOM SAMPLES

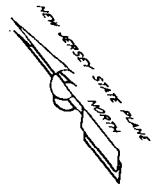
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				11CLA-S3277B		11CLA-S3278B		11CLA-S3279A		11CLA-S3282A		11CLA-S3622A	
				45.4 to 47.3 ft. MSL		45.7 to 47.6 ft. MSL		46.6 to 47.7 ft. MSL		46.5 to 47.8 ft. MSL		46.3 to 47.8 ft. MSL	
				2 to 3.9 ft. BGS		2 to 3.9 ft. BGS		2 to 3.1 ft. BGS		2 to 3.3 ft. BGS		2 to 3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	360	UJ	370	U	390	UJ	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	360	U	370	U	390	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	360	U	370	U	390	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	360	U	370	U	390	U	370	U
218-01-9	Chrysene	90000	ug/kg	360	U	360	U	370	U	390	U	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	360	U	370	U	390	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	360	U	370	U	390	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501285





FINAL EXCAVATION COORDINATES 11 CLARE COURT			
1	N 623271.5 E 468977.1	85	N 623322.1 E 468961.7
2	N 623233.4 E 468969.8	86	N 623310.8 E 468952.9
3	N 623252.2 E 468984.0	88	N 623271.0 E 468922.1
4	N 623264.1 E 468986.7	89	N 623259.5 E 468935.8
5	N 623283.3 E 469001.4	90	N 623275.3 E 468953.5
6	N 623297.6 E 469013.8	91	N 623283.8 E 468961.2
22	N 623311.5 E 469048.3	92	N 623295.5 E 468970.4
41	N 623224.7 E 468980.9	93	N 623302.9 E 468976.1
67	N 623323.0 E 469033.4	94	N 623298.9 E 468981.4
68	N 623357.4 E 468989.0	95	N 623306.9 E 468987.2
84	N 623315.3 E 468991.9		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

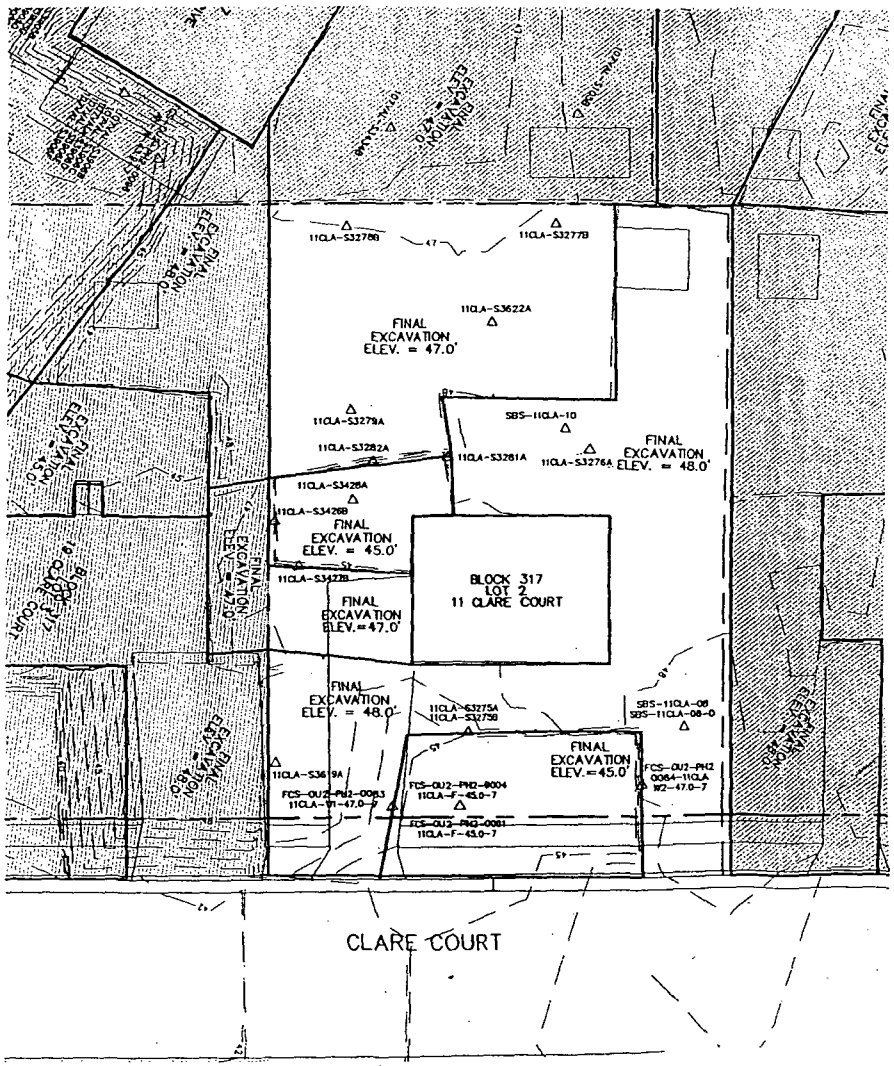
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
11 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-10-06

501286



LEGEND

—35—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
11 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 12 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		2		3		4	
				12CLA-S093B		12CLA-S092B		12CLA-S092B-D		12CLA-S3252B		12CLA-S3253B	
				45.1 to 47.1 ft. MSL		45.8 to 47.8 ft. MSL		45.8 to 47.8 ft. MSL		46.2 to 47.7 ft. MSL		45.3 to 46.9 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 3.5 ft. BGS		2 to 3.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	64	J	380	U	370	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	380	U	380	U	370	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	50	J	380	U	370	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	380	U	380	U	370	U	370	U
218-01-9	Chrysene	90000	ug/kg	380	U	62	J	380	U	370	U	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	380	U	380	U	370	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	380	U	380	U	370	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 12 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	5		6		7		8	
				12CLA-S3254A		12CLA-S3251A		12CLA-S3250A		12CLA-S3255A	
				45.3 to 47.1 ft. MSL		46.5 to 47.8 ft. MSL		46.2 to 47.8 ft. MSL		45.6 to 47.3 ft. MSL	
				2 to 3.8 ft. BGS		2 to 3.3 ft. BGS		2 to 3.6 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	390	U	380	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	390	U	380	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	390	U	380	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	390	U	380	U	370	U
218-01-9	Chrysene	90000	ug/kg	390	U	390	U	380	U	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	390	U	380	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	390	U	380	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 12 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	9				10		11	
				12CLA-S3256A		12CLA-S3256A-D		12CLA-S3327A		12CLA-S3258A	
				45.6 to 47.1 ft. MSL		45.6 to 47.1 ft. MSL		46.4 to 47.4 ft. MSL		45.6 to 47.2 ft. MSL	
				2 to 3.5 ft. BGS		2 to 3.5 ft. BGS		2 to 3 ft. BGS		2 to 3.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	340	U	380	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	340	U	380	U	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	340	U	380	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	340	U	380	U	380	U
218-01-9	Chrysene	90000	ug/kg	380	U	340	U	380	U	380	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	340	U	380	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	340	U	380	U	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 12 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2				3		4		5		6	
				12CLA-S3255A		12CLA-S3256A		12CLA-S3256A-D		12CLA-S3258A		12CLA-S3327A		12CLA-S3328A		12CLA-S3257B	
				45.6 to 47.3 ft. MSL		45.6 to 47.1 ft. MSL		45.6 to 47.1 ft. MSL		45.6 to 47.2 ft. MSL		46.4 to 47.4 ft. MSL		45.0 to 47.0 ft. MSL		45.2 to 47.0 ft. MSL	
				2 to 3.7 ft. BGS		2 to 3.5 ft. BGS		2 to 3.5 ft. BGS		2 to 3.6 ft. BGS		2 to 3 ft. BGS		2 to 4 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	380	U	340	U	380	U	380	U	360	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	380	U	340	U	380	U	380	U	44	J	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	380	U	340	U	380	U	380	U	360	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	380	U	340	U	380	U	380	U	360	U	370	U
218-01-9	Chrysene	90000	ug/kg	370	U	380	U	340	U	380	U	380	U	37	J	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	380	U	340	U	380	U	380	U	360	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	380	U	340	U	380	U	380	U	360	U	370	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				12CLA-S3259A	
				43.3 to 45.2 ft. MSL	
				4 to 5.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U
218-01-9	Chrysene	90000	ug/kg	350	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 12 Clare Court

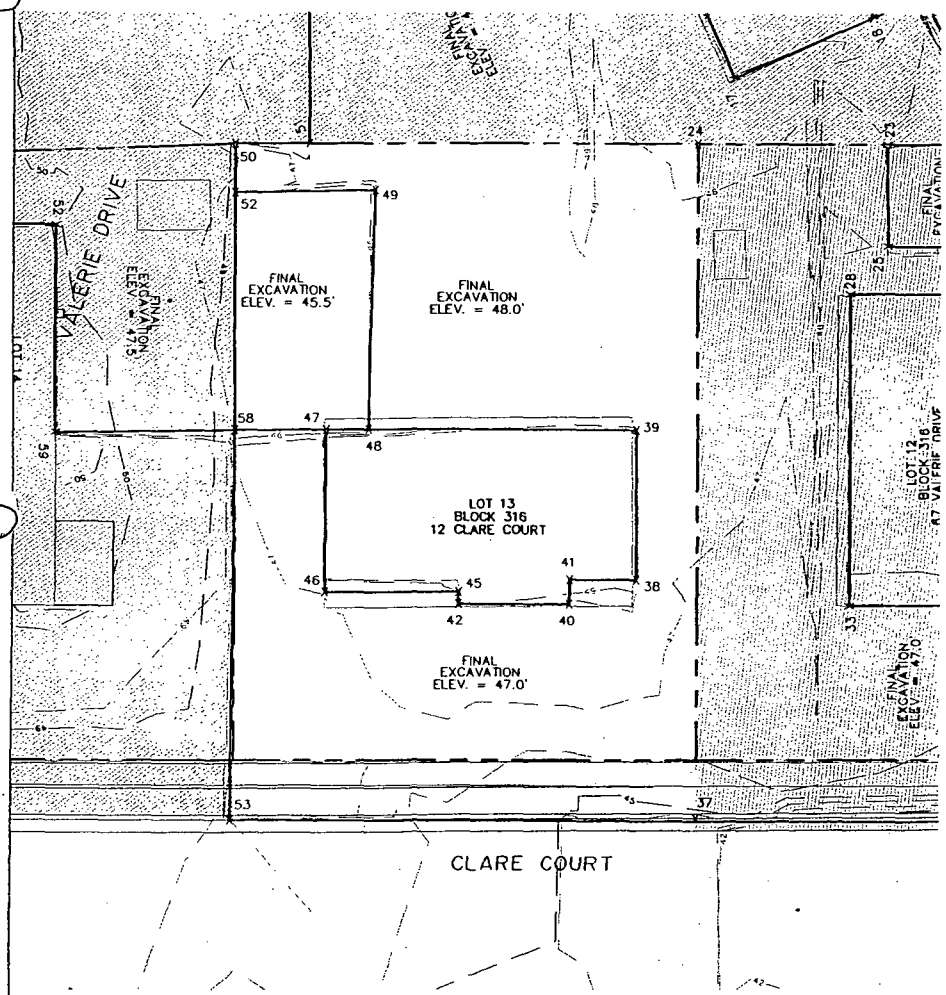
SIDEWALL SAMPLES

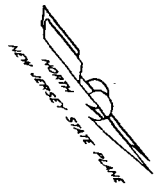
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				12CLA-S3260A		12CLA-S3261A	
				47.3 to 48.8 ft. MSL		46.8 to 48.3 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	400	U	220	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	400	U	200	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	U	89	J
50-32-8	Benzo(a)pyrene	660	ug/kg	400	U	89	J
218-01-9	Chrysene	90000	ug/kg	400	U	210	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	400	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	U	390	U

*NOTE: All data has been validated

Data Qualiflers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501292





FINAL EXCAVATION COORDINATES 12 CLARE COURT			
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37	N 623246.2 E 468902.9	47	N 623159.5 E 468911.8
38	N 623209.7 E 468887.1	48	N 623163.7 E 468906.4
39	N 623190.3 E 468872.2	49	N 623133.8 E 468881.8
40	N 623206.2 E 468898.1	50	N 623113.9 E 468895.2
41	N 623203.0 E 468895.7	52	N 623120.2 E 468900.1
42	N 623195.1 E 468912.4	53	N 621467.3 E 470134.5
45	N 623193.5 E 468911.2	58	N 623150.5 E 468923.6

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 60

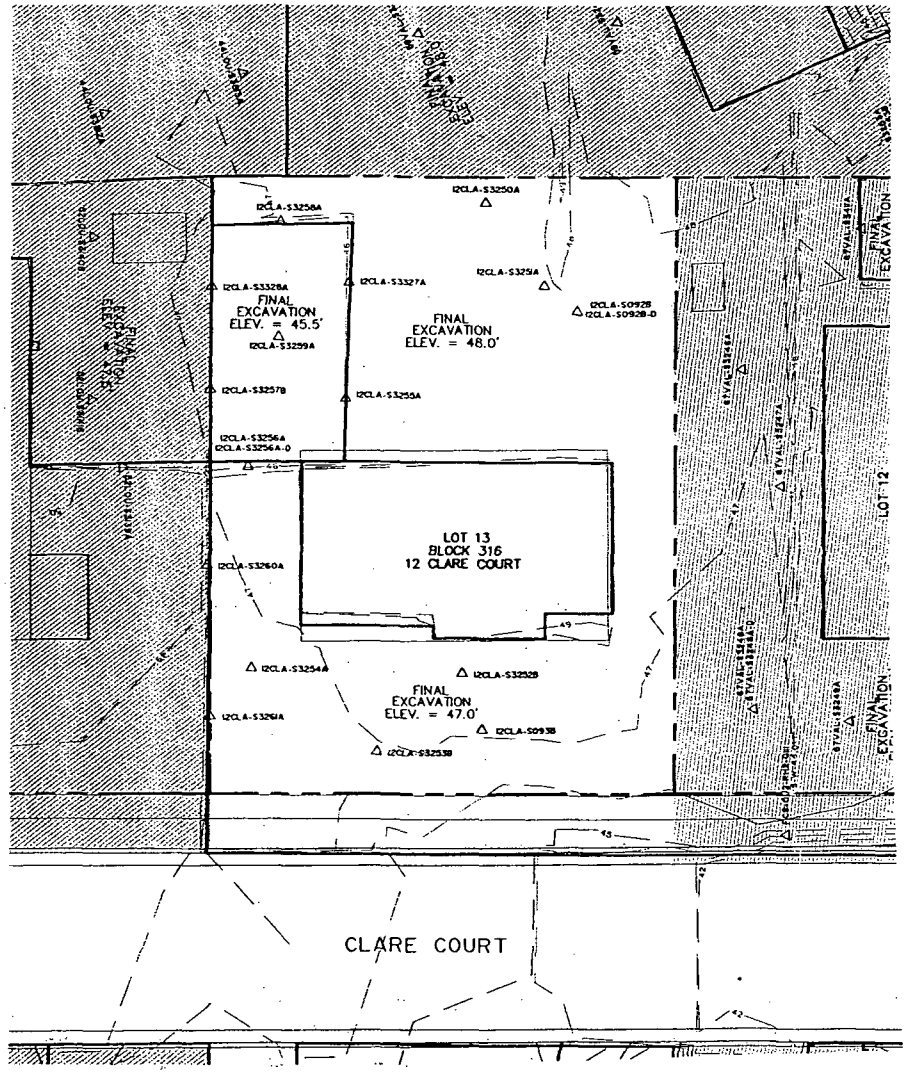
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
12 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-16-04

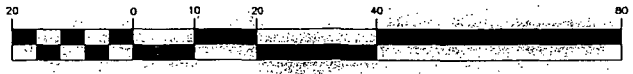
501293



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
12 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

6-18-03

Confirmation Sample Results for 19 Clare Court

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				SBS-19CLA-03		19CLA-S3273A	
				47.2 to 47.7 ft. MSL		46.9 to 48.4 ft. MSL	
				1 to 1.5 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	400	UJ	480	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	400	UJ	630	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	UJ	240	J
50-32-8	Benzo(a)pyrene	660	ug/kg	400	UJ	300	J
218-01-9	Chrysene	90000	ug/kg	400	UJ	540	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	400	UJ	75	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	UJ	250	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2			
				019CLAA-36		19CLA-S3273A		19CLA-S3273B	
				45.8 to 46.0 ft. MSL		46.9 to 48.4 ft. MSL		45.1 to 48.9 ft. MSL	
				3 to 3.25 BGS		0.5 to 2 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	0	U	480		390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg			630		390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg			240	J	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	0	U	300	J	390	U
218-01-9	Chrysene	90000	ug/kg	0	U	540		390	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	0	U	75	J	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	0	U	250	J	390	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0070-19CLA-F-45.0-7	
				45.0 ft. MSL	
				4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				FCS-OU2-PH2-0075-19CLA-W-48.0-7		11CLA-S3619A	
				48.0 ft. MSL		46.5 to 48.0 ft. MSL	
				1 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	371		360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390		360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	362		360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	334		360	U
218-01-9	Chrysene	90000	ug/kg	463		360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	152		360	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				11CLA-S3426B	
				46.0 to 47.7 ft. MSL	
				2 to 3.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U
218-01-9	Chrysene	90000	ug/kg	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1									
				19CLA-S3424A		19CLA-S3424A-D		19CLA-S3424B		19CLA-S3424C		19CLA-S3424D	
				44.4 to 46.4 ft. MSL		44.4 to 46.4 ft. MSL		43.5 to 45.4 ft. MSL		40.4 to 42.4 ft. MSL		38.5 to 40.4 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		4 to 4.9 ft. BGS		6 to 8 ft. BGS		8 to 9.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	130	J	200	J	360	U	410	U	460	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	190	J	320	J	360	U	410	U	460	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	100	J	140	J	360	U	410	U	460	U
50-32-8	Benzo(a)pyrene	660	ug/kg	94	J	140	J	360	U	410	U	460	U
218-01-9	Chrysene	90000	ug/kg	170	J	280	J	360	U	410	U	460	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	370	U	360	U	410	U	460	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	74	J	110	J	360	U	410	U	460	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2							
				19CLA-S3334C		19CLA-S3267A		19CLA-S3267B		19CLA-S3267C		19CLA-S3267D	
				38.4 to 40.5 ft. MSL		44.8 to 46.3 ft. MSL		41.1 to 42.3 ft. MSL		38.3 to 40.3 ft. MSL		36.5 to 38.3 ft. MSL	
				8 to 10 ft. BGS		2 to 3.5 ft. BGS		6 to 7.2 ft. BGS		8 to 10 ft. BGS		10 to 11.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	440	U	380	U	140	J	420	U	340	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	440	U	380	U	85	J	420	U	340	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	440	U	380	U	410	U	420	U	340	U
50-32-8	Benzo(a)pyrene	660	ug/kg	440	U	380	U	58	J	420	U	340	U
218-01-9	Chrysene	90000	ug/kg	440	U	380	U	98	J	420	U	340	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	440	U	380	U	410	U	420	U	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	440	U	380	U	410	U	420	U	340	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation/Documentation Sample Results for 19 Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2	
				19CLA-S3272A		19CLA-S3272B		FCS-OU2-PH2-0100-AH-W-41.0-7	
				46.9 to 48.4 ft. MSL		45.1 to 46.9 ft. MSL		41.0 ft. MSL	
				0.5 to 2 ft. BGS		2 to 3.8 ft. BGS		7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	UJ	480		34200	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	500		24200	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	220	J	16400	
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	270	J	18900	
218-01-9	Chrysene	90000	ug/kg	360	U	530		29600	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	72	J	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	240	J	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5		6		7	
				19CLA-S130D		19CLA-S3335D		19CLA-S3268E		19CLA-S3269D		FCS-OU2-PH2-0097-AM-F-38.9-7		FCS-OU2-PH2-0098-AK-F-38.0-7		FCS-OU2-PH2-0101-AI-F-37.75-7	
				35.9 to 37.9 ft. MSL		36.5 to 38.4 ft. MSL		36.2 to 38.1 ft. MSL		36.1 to 38.1 ft. MSL		38.9 ft. MSL		38.0 ft. MSL		37.75 ft. MSL	
				10 to 12 ft. BGS		10 to 11.9 ft. BGS		10 to 11.9 ft. BGS		10 to 12 ft. BGS		9.6 ft. BGS		10 ft. BGS		10.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	5400	D	16000	D	1900	D	2200	D	330	U	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	3200	D	13000	D	1300	D	1400	JD	330	U	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	3200	D	5300	D	510	JD	610	JD	330	U	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	3200	D	8800	D	790	D	990	JD	330	U	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	5700	D	12000	D	1700	D	2000	D	330	U	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	710		1100	JD	120	JD	1400	U	330	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	1600		3500	JD	350	JD	430	JD	330	U	330	U	330	U

*NOTE: All data has been validated

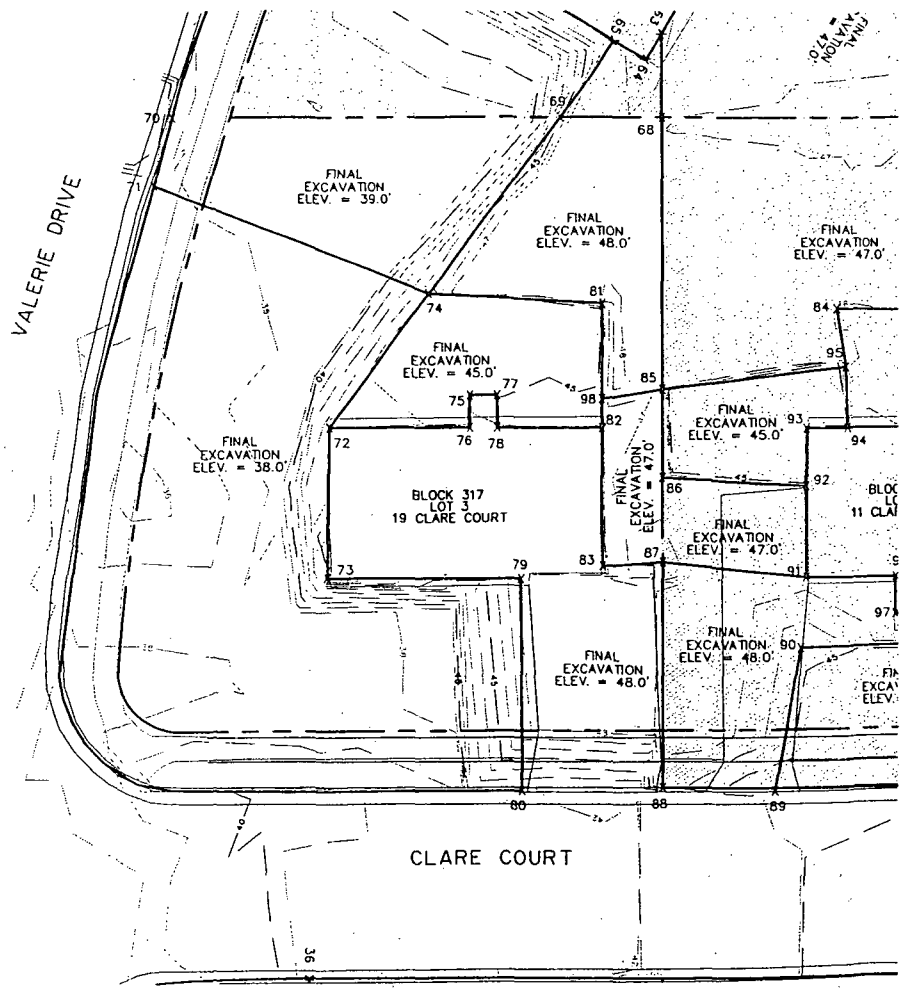
Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501299

501300



FINAL EXCAVATION COORDINATES 19 CLARE COURT			
68		77	N 623337.7 E 468940.0
69	N 623367.5 E 468976.0	78	N 623333.6 E 468936.8
70	N 623405.8 E 468926.6	79	N 623311.9 E 468924.9
71	N 623398.9 E 468917.5	80	N 623284.6 E 468903.9
72	N 623350.3 E 468915.4	81	N 623339.1 E 468962.7
73	N 623331.2 E 468900.2	82	N 623323.2 E 468950.2
74	N 623357.6 E 468941.3	83	N 623305.5 E 468936.5
75	N 623340.4 E 468936.5	87	N 623300.0 E 468944.6
76	N 623336.3 E 468933.3	88	N 623271.0 E 468922.1
		98	N 623271.0 E 468922.1

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

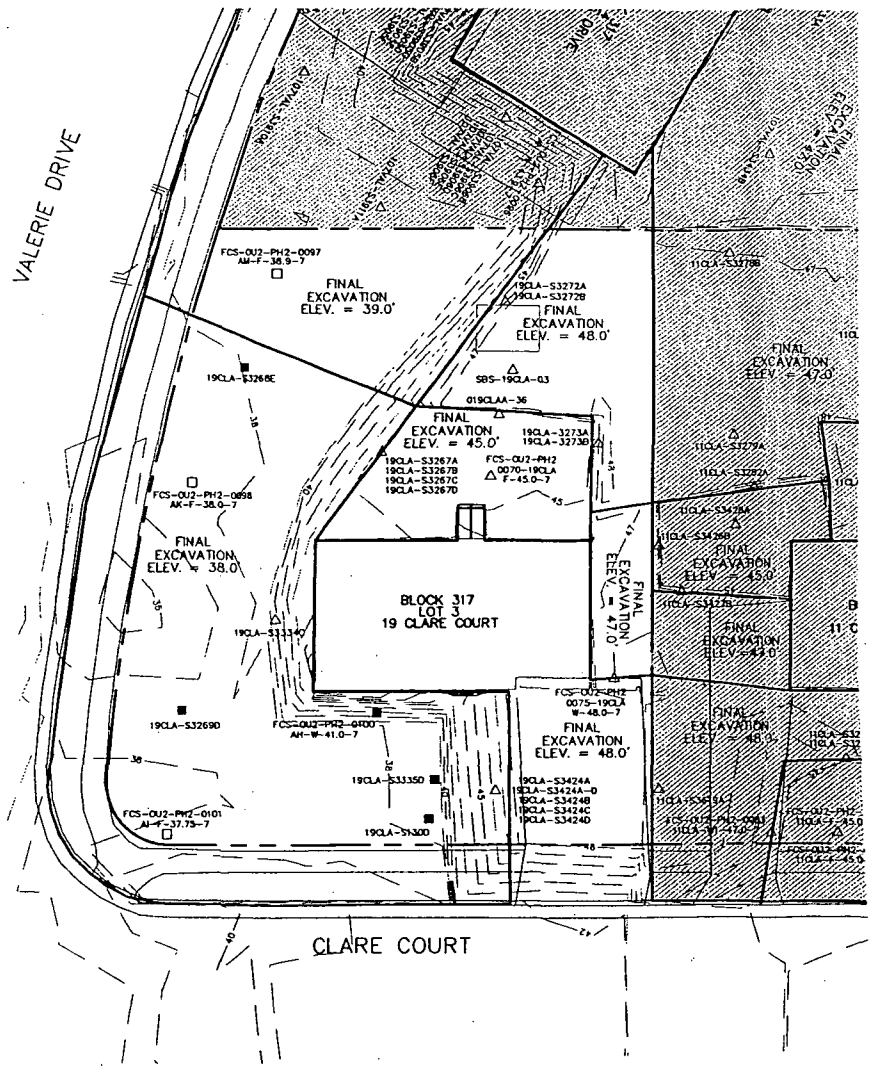
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
19 CLARE COURT
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

1-25-05

501301



LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
19 CLARE COURT, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 14 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-14LOU-07	
				49.8 to 50.3 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	44	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	94	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	44	J
50-32-8	Benzo(a)pyrene	660	ug/kg	41	J
218-01-9	Chrysene	90000	ug/kg	70	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	42	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 14 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				14LOU-S3800A		14LOU-S3801A	
				47.6 to 49.2 ft. MSL		48.4 to 49.7 ft. MSL	
				2 to 3.6 ft. BGS		2 to 3.3 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	540	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	840	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	320	J
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	360	J
218-01-9	Chrysene	90000	ug/kg	380	U	670	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	190	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 14 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				14LOU-S102A		SSS-14LOU-04		SSS-14LOU-05		FCS-OU2-PH2-0048-14LOU-EW-50.5-7	
				49.1 to 50.6 ft. MSL		51.0 to 51.5 ft. MSL		50.7 to 51.2 ft. MSL		50.5 ft. MSL	
				0.5 to 2 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J	410		240	J	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	270	J	750		470		330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	470		320	J	150	J	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	210	J	320	J	210	J	330	U
218-01-9	Chrysene	90000	ug/kg	400		580		340	J	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	72	J	71	J	46	J	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	200	J	280	J	170	J	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2	
				SBS-14LOU-09		SBS-14LOU-09-D		SBS-14LOU-12	
				49.5 to 50.0 ft. MSL		49.5 to 50.0 ft. MSL		49.5 to 50.0 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J	330	J	400	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	510		720		400	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	180	J	170	J	400	U
50-32-8	Benzo(a)pyrene	660	ug/kg	220	J	280	J	400	U
218-01-9	Chrysene	90000	ug/kg	410		510		400	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	53	J	68	J	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	180	J	230	J	400	UJ

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 14 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				14LOU-078		14LOU-078-D	
				50.5 to 50.8 ft. MSL		50.5 to 50.8 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	290	J	340	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	520	J	750	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	410	UJ	410	UJ
50-32-8	Benzo(a)pyrene	660	ug/kg	220	J	280	J
218-01-9	Chrysene	90000	ug/kg	310	J	410	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	45	J	57	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	160	J	200	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0054-14LOU-F-50.0-7	
				50.5 ft. MSL	
				0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 14 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				14LOU-015		SSS-14LOU-01		SSS-14LOU-02		SSS-14LOU-03		14LOU-S3922A	
				51.4 to 51.7 ft. MSL		50.9 to 51.4 ft. MSL		51.4 to 51.9 ft. MSL		50.6 to 51.1 ft. MSL		49.1 to 50.3 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		2 to 3.2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	91	J	220	J	63	J	560		150	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	140	J	430		97	J	770		210	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	190	J	110	J	47	J	280	J	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	79	J	190	J	52	J	490		84	J
218-01-9	Chrysene	90000	ug/kg	99	J	270	J	71	J	690		200	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	410	U	42	J	380	UJ	93	J	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	51	J	160	J	49	J	380		110	J

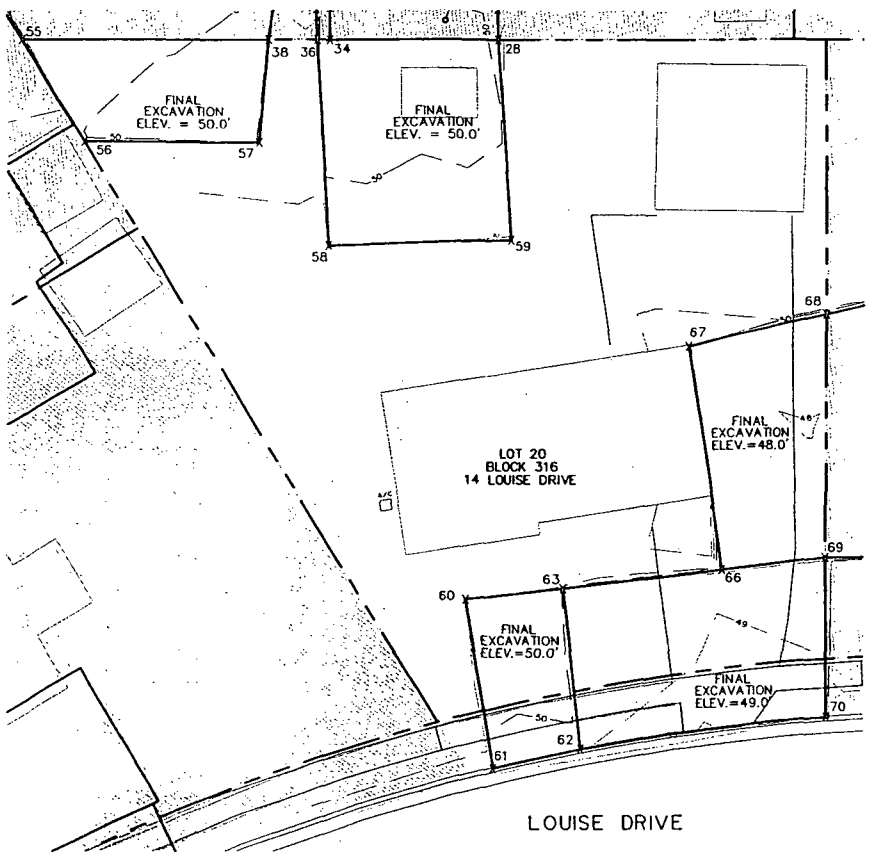
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				14LOU-S3923A	
				45.9 to 47.9 ft. MSL	
				4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U
218-01-9	Chrysene	90000	ug/kg	390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501307



FINAL EXCAVATION COORDINATES 14 LOUISE DRIVE			
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34	N 622631.8 E 468806.9	61	N 622644.6 E 468927.5
36	N 622629.8 E 468806.7	62	N 622659.2 E 468925.9
38	N 622622.1 E 468805.8	63	N 622659.2 E 468899.7
55	N 622582.2 E 468801.5	66	N 622685.5 E 468899.5
56	N 622590.4 E 468819.1	67	N 621490.3 E 470570.3
57	N 622618.6 E 468822.4	68	N 622706.5 E 468860.2
58	N 622627.8 E 468840.2	69	N 622702.1 E 468899.4
59	N 622657.0 E 468842.6	70	N 622699.4 E 468925.2

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

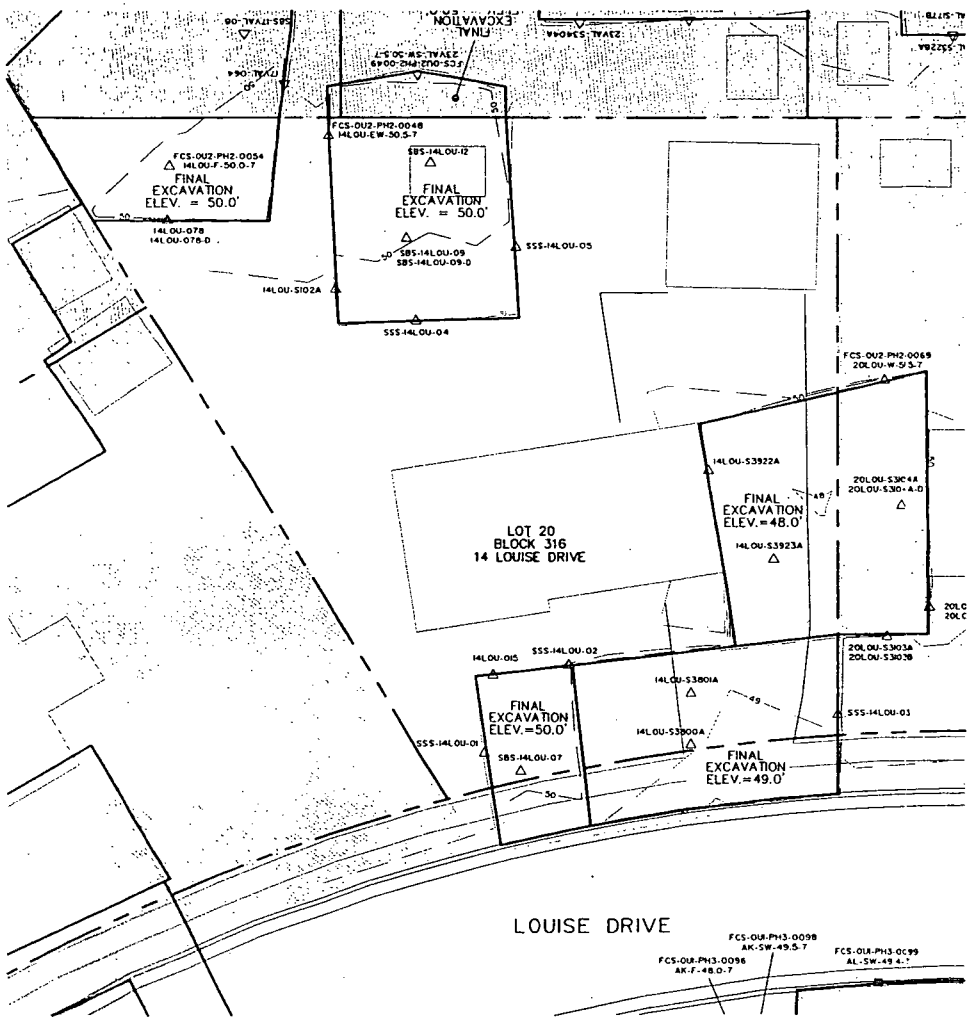
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
14 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-8-05

501308



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
14 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 19 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-19LOU-10	
				49.5 to 51.0 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	170	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	130	J
50-32-8	Benzo(a)pyrene	660	ug/kg	170	J
218-01-9	Chrysene	90000	ug/kg	220	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	110	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				19LOU-071		SSS-19LOU-03		SSS-19LOU-04		SSS-19LOU-05	
				50.0 to 50.3 ft. MSL		50.1 to 50.6 ft. MSL		50.0 to 50.5 ft. MSL		50.0 to 50.5 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	110	J	230	J	500		110	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	270	J	530		860		260	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	170	J	190	J	340	J	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	94	J	230	J	440		120	J
218-01-9	Chrysene	90000	ug/kg	230	J	340	J	600		160	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	48	J	88	J	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	87	J	180	J	330	J	100	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				19LOU-S178A	
				48.5 to 50.0 ft. MSL	
				0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	42	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	46	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U
218-01-9	Chrysene	90000	ug/kg	50	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				19LOU-060		SSS-19LOU-08		SSS-19LOU-09		SSS-19LOU-14	
				50.2 to 50.5 ft. MSL		49.4 to 49.9 ft. MSL		49.6 to 50.1 ft. MSL		49.7 to 50.2 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	550		79	J	65	J	320	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	700		180	J	130	J	570	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	630	J	59	J	58	J	280	J
50-32-8	Benzo(a)pyrene	660	ug/kg	370	J	100	J	67	J	290	J
218-01-9	Chrysene	90000	ug/kg	760		110	J	88	J	400	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	410	U	390	U	390	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	230	J	64	J	48	J	160	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				SBS-19LOU-11		SBS-19LOU-11-D	
				49.7 to 50.2 ft. MSL		49.7 to 50.2 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	43	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	380	U
218-01-9	Chrysene	90000	ug/kg	390	U	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				19LOU-021		SSS-19LOU-13		FCS-OU2-PH2-0002-19LOU-W-50.0-7	
				50.8 to 51.1 ft. MSL		50.5 to 51.0 ft. MSL		50.0 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		1 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J	230	J	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	500	J	530		380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	J	190	J	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	310	J	230	J	380	U
218-01-9	Chrysene	90000	ug/kg	410		340	J	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	400	UJ	48	J	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	310	J	180	J	380	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0001-19LOU-F-49.0-7	
				49.0 ft. MSL	
				2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U
218-01-9	Chrysene	90000	ug/kg	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 19 Louise Drive

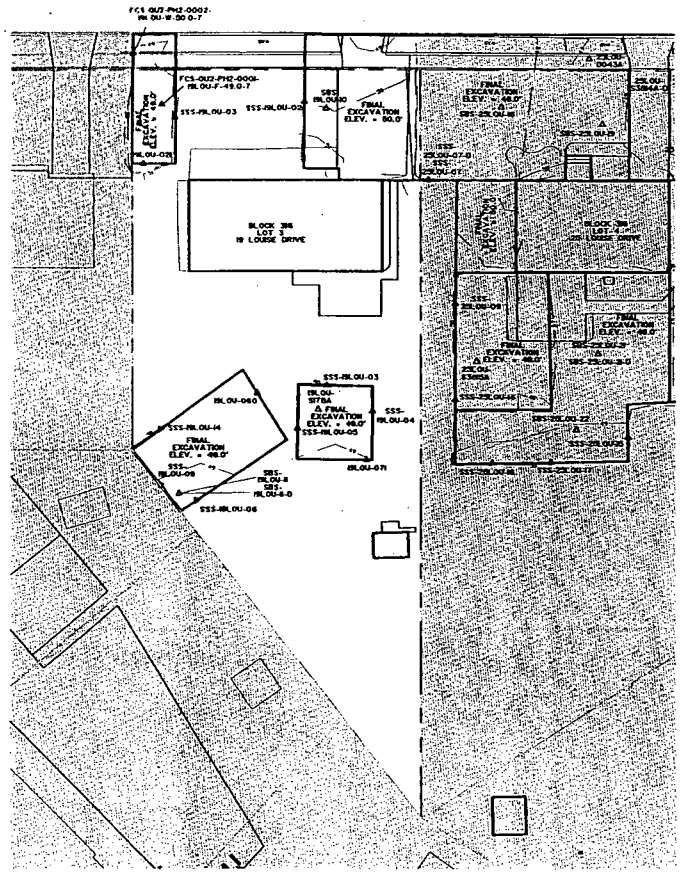
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SSS-19LOU-02	
				50.6 to 51.1 ft. MSL	
				0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	170	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	130	J
50-32-8	Benzo(a)pyrene	660	ug/kg	210	J
218-01-9	Chrysene	90000	ug/kg	220	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

LOUISE DRIVE



LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

EPA

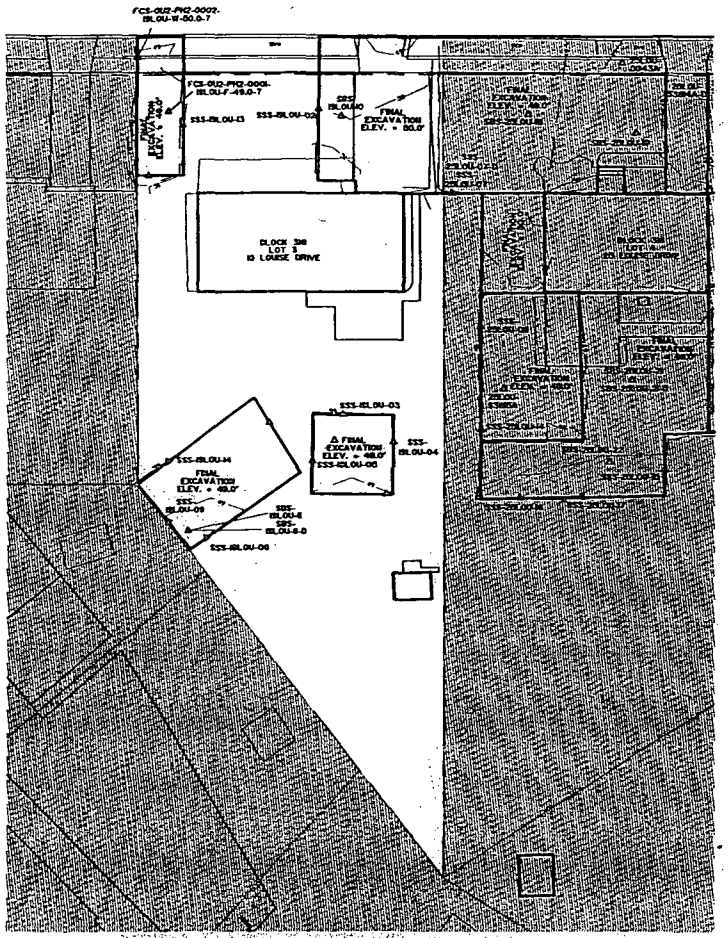
US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
19 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-7-04

501314

501315

LOUISE DRIVE



LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
19 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 20 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2			
				20LOU-S3103A		20LOU-S3103B		20LOU-S3142A		20LOU-S3142B	
				49.9 to 51.4 ft. MSL		47.9 to 49.9 ft. MSL		50.2 to 51.7 ft. MSL		48.8 to 50.2 ft. MSL	
				0.5 to 2 ft. BGS		2 to 4 ft. BGS		0.5 to 2 ft. BGS		2 to 3.4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	130	J	67	J	65	J	100	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	250	J	160	J	140	J	230	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	96	J	50	J	58	J	92	J
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J	61	J	60	J	89	J
218-01-9	Chrysene	90000	ug/kg	160	J	110	J	94	J	160	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	400	U	390	U	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	86	J	50	J	55	J	74	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 20 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				FCS-OU2-PH2-0069-20LOU-W-51.5-7		SSS-14LOU-03	
				51.5 ft. MSL		50.6 to 51.1 ft. MSL	
				0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	322		560	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	332		770	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	259		280	J
50-32-8	Benzo(a)pyrene *	660	ug/kg	195		490	
218-01-9	Chrysene	90000	ug/kg	357		690	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U	93	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	100		380	

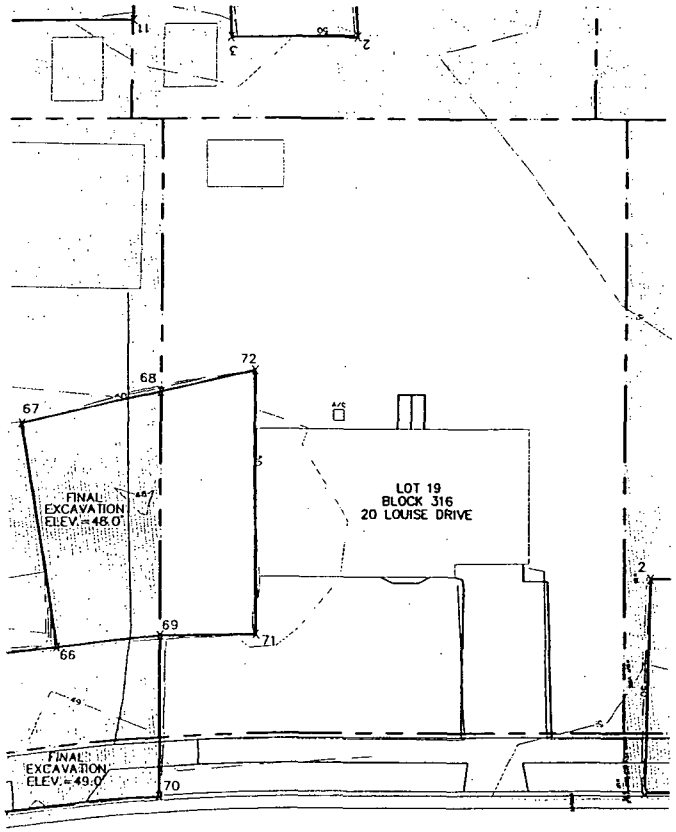
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				20LOU-S3104A		20LOU-S3104A-D	
				45.9 to 47.9 ft. MSL		45.9 to 47.9 ft. MSL	
				4 to 6 ft. BGS		4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	390	U
218-01-9	Chrysene	90000	ug/kg	390	U	390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501318



FINAL EXCAVATION COORDINATES 20 LOUISE DRIVE			
68	N 622706.5 E 468860.2	71	N 622717.3 E 468901.0
69	N 622702.1 E 468899.4	72	N 622721.7 E 468858.5

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

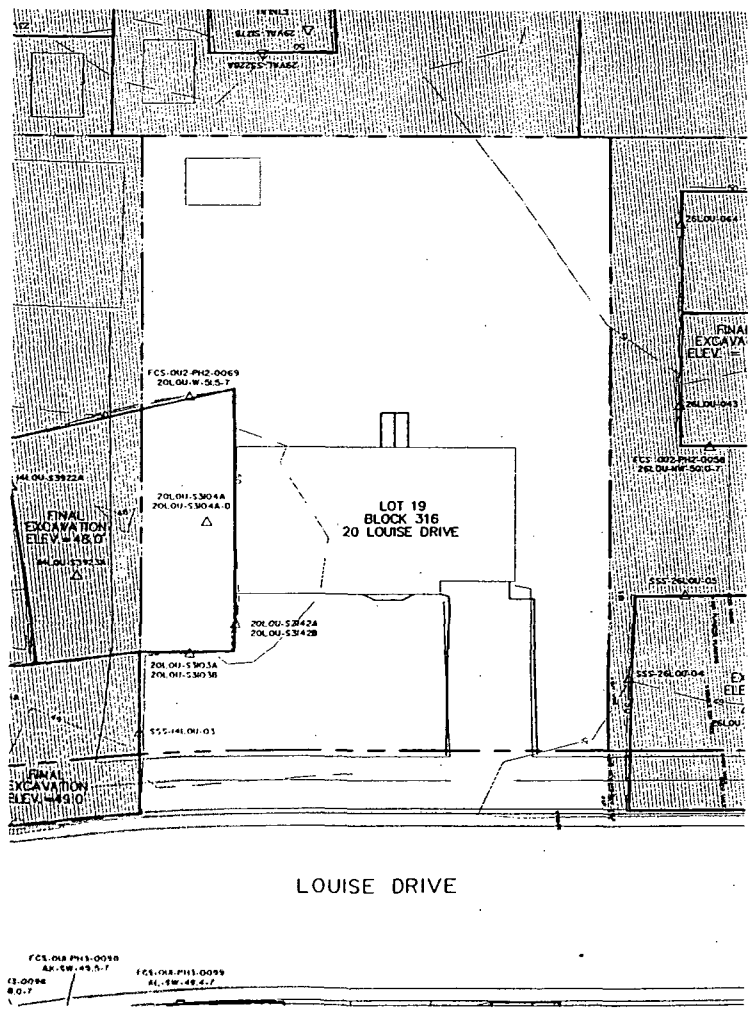
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
20 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-8-05

501319



LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
20 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-8-05

Confirmation Sample Results for 25 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				25LOU-S3814A		25LOU-S3814A-D (Duplicate)	
				47.1 to 48.6 ft. MSL		47.1 to 48.6 ft. MSL	
				2 to 3.5 ft. BGS		2 to 3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	390	U
218-01-9	Chrysene	90000	ug/kg	380	U	390	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 25 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				25LOU-S3815A	
				47.7 to 48.6 ft. MSL	
				2 to 2.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U
218-01-9	Chrysene	90000	ug/kg	340	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 25 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				SBS-25LOU-18		SBS-25LOU-19		25LOU-D043A	
				49.4 to 49.9 ft. MSL		50.2 to 50.7 ft. MSL		48.4 to 49.9 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	J	210	J	310	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	710		510		520	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	280	J	180	J	380	J
50-32-8	Benzo(a)pyrene	660	ug/kg	360	J	290	J	240	J
218-01-9	Chrysene	90000	ug/kg	450		280	J	430	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	91	J	62	J	100	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	300	J	260	J	260	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 25 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2	
				SBS-25LOU-21		SBS-25LOU-21-D (Duplicate)		SBS-25LOU-22	
				49.3 to 49.8 ft. MSL		49.3 to 49.8 ft. MSL		49.0 to 49.5 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	380	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	60	J	42	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	380	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	380	U	380	U
218-01-9	Chrysene	90000	ug/kg	44	J	53	J	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	380	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	380	U	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 25 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3			
				SSS-25LOU-04		SSS-25LOU-05		SSS-25LOU-07		SSS-25LOU-07-D (Duplicate)	
				50.1 to 50.6 ft. MSL		50.7 to 51.2 ft. MSL		50.4 to 50.9 ft. MSL		50.4 to 50.9 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	260	J	150	J	54	J	400	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	600		320	J	110	J	58	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	200	J	120	J	42	J	400	U
50-32-8	Benzo(a)pyrene	660	ug/kg	290	J	190	J	64	J	400	U
218-01-9	Chrysene	90000	ug/kg	380	J	200	J	79	J	400	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	400	U	380	U	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	230	J	140	J	380	U	400	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 25 Louise Drive

SIDEWALL SAMPLES

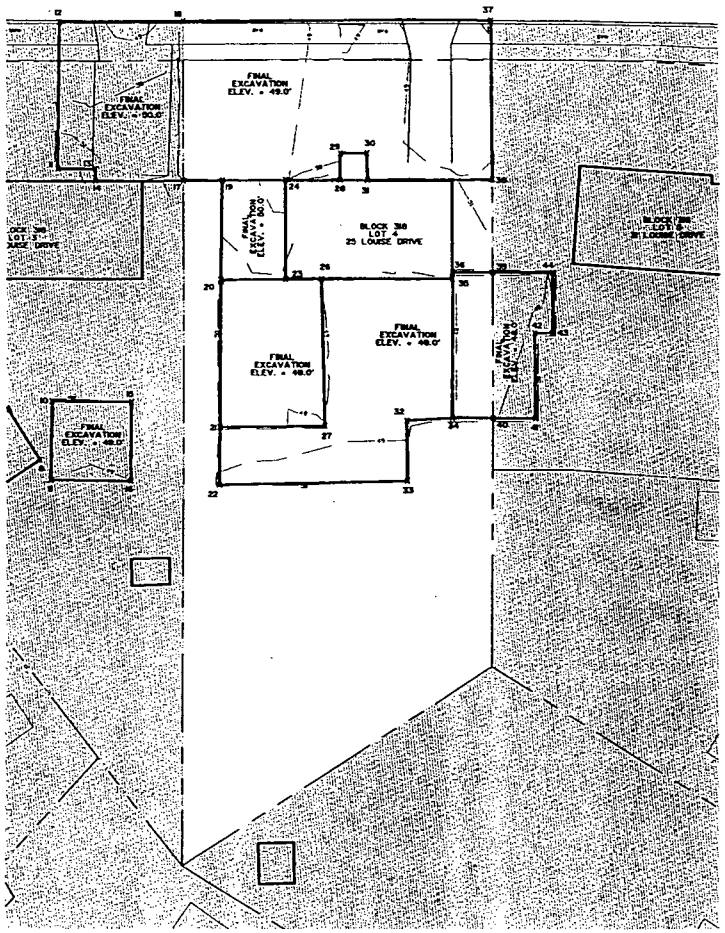
CAS#	COMPOUND	ACG CRITERIA	UNITS	4		5		6		7		8	
				SSS-25LOU-09		SSS-25LOU-14		SSS-25LOU-15		SSS-25LOU-16		SSS-25LOU-17	
				50.3 to 50.8 ft. MSL		49.9 to 50.4 ft. MSL		49.9 to 50.4 ft. MSL		49.9 to 50.4 ft. MSL		50.0 to 50.5 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J	100	J	270	J	95	J	150	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	630		210	J	640		190	J	330	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	230	J	68	J	220	J	81	J	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	290	J	110	J	270	J	100	J	150	J
218-01-9	Chrysene	90000	ug/kg	410	J	140	J	410		130	J	210	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	54	J	410	U	62	J	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	240	J	77	J	220	J	85	J	130	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501326

LOUISE DRIVE



FINAL EXCAVATION COORDINATES 25 LOUISE DRIVE			
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18	N 622826.0 E 468969.9	31	N 622866.1 E 469012.8
19	N 622831.3 E 469009.0	32	N 622869.1 E 469072.4
20	N 622828.2 E 469033.3	33	N 622867.7 E 469087.2
21	N 622824.1 E 469069.0	34	N 622880.0 E 469073.0
22	N 622822.4 E 469083.1	35	N 622883.8 E 469039.2
23	N 622843.8 E 469035.0	36	N 622884.0 E 469037.6
24	N 622846.5 E 469010.6	37	N 622900.2 E 468978.0
26	N 622852.3 E 469035.8	38	N 622896.3 E 469016.0
27	N 622849.2 E 469071.6	39	N 622893.8 E 469038.7
28	N 622859.5 E 469012.1	40	N 622889.9 E 469074.1
29	N 622860.3 E 469005.6		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

EPA

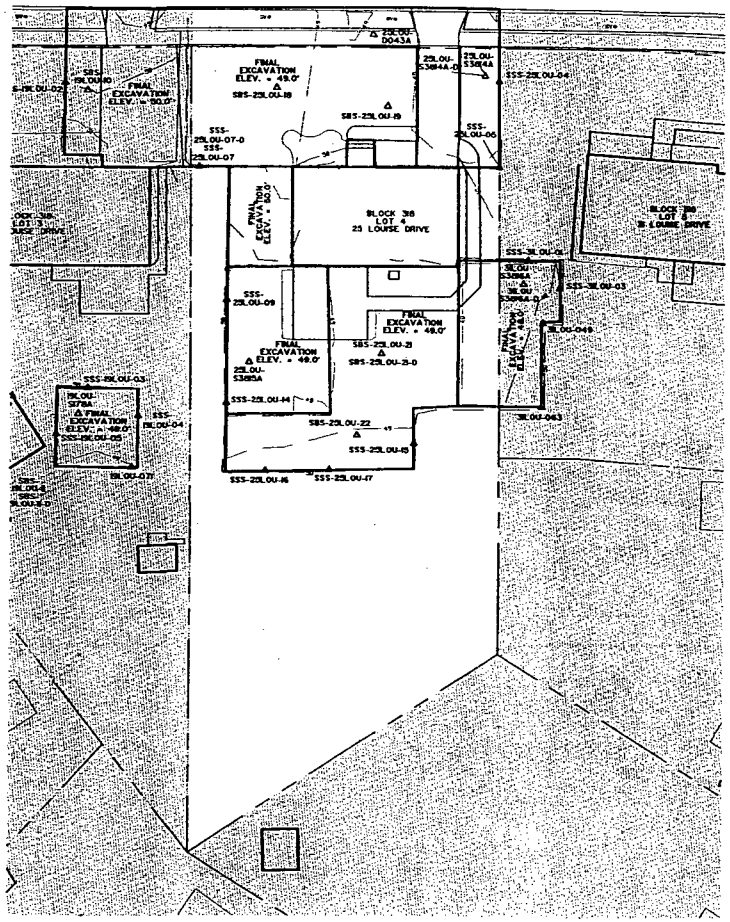
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
25 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501327

LOUISE DRIVE



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
25 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

Confirmation Sample Results for 26 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				26LOU-S3804A	
				47.7 to 48.9 ft. MSL	
				2 to 3.2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U
218-01-9	Chrysene	90000	ug/kg	370	UJ
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 26 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				26LOU-S099B		26LOU-S3805A	
				46.8 to 48.8 ft. MSL		47.3 to 49.0 ft. MSL	
				2 to 4 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	400	U	400	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	400	U	400	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	U	400	U
50-32-8	Benzo(a)pyrene	660	ug/kg	400	U	400	U
218-01-9	Chrysene	90000	ug/kg	400	U	400	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	400	U	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	U	400	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 26 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2			
				SBS-26LOU-14		SBS-26LOU-15		SBS-26LOU-15-D	
				49.0 to 49.5 ft. MSL		49.1 to 49.6 ft. MSL		49.1 to 49.6 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	46	J	370	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	110	J	370	U	59	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	40	J	370	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	55	J	370	U	380	U
218-01-9	Chrysene	90000	ug/kg	59	J	370	U	380	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	370	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	40	J	370	U	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 26 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				SSS-26LOU-04		SSS-26LOU-05		26LOU-043		26LOU-064		SSS-26LOU-11	
				50.6 to 51.1 ft. MSL		50.6 to 51.1 ft. MSL		50.6 to 50.8 ft. MSL		50.4 to 50.6 ft. MSL		49.9 to 50.4 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	190	J	370	J	420		370	J	94	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	440		810		610		720		210	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J	180	J	880		1000		79	J
50-32-8	Benzo(a)pyrene	660	ug/kg	190	J	390	J	360	J	370	J	99	J
218-01-9	Chrysene	90000	ug/kg	270	J	490		460		480		120	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	42	J	83	J	84	J	97	J	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	170	J	300	J	180	J	210	J	72	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

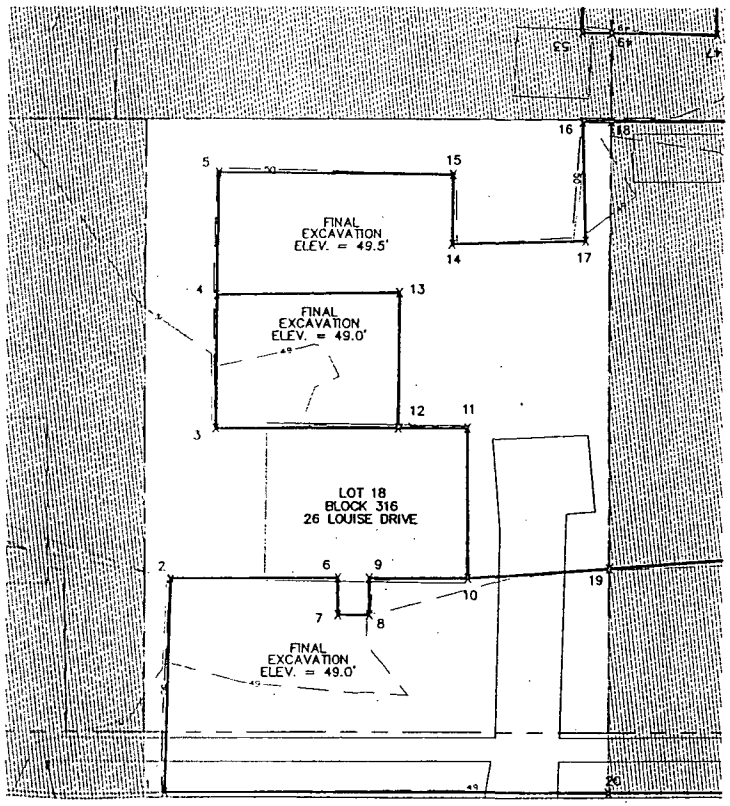
Confirmation Sample Results for 26 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	6		7		8		9	
				SSS-26LOU-10		26LOU-063		26LOU-077		FCS-OU2-PH2-0058-26LOU-NW-50.0-7	
				49.9 to 50.4 ft. MSL		50.2 to 50.4 ft. MSL		49.7 to 49.9 ft. MSL		50.0 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		2.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	160	J	180	J	120	J	217	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	460		480	J	330	J	356	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	160	J	400	U	410	U	314	
50-32-8	Benzo(a)pyrene	660	ug/kg	200	J	220	J	130	J	212	
218-01-9	Chrysene	90000	ug/kg	250	J	270	J	220	J	309	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	49	J	58	J	410	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	140	J	120	J	83	J	105	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results



FINAL EXCAVATION COORDINATES 26 LOUISE DRIVE			
1	N 622777.3 E 468933.2	11	N 622832.0 E 468879.9
2	N 622781.9 E 468899.1	12	N 622821.0 E 468878.7
3	N 622791.8 E 468875.5	13	N 622823.6 E 468856.8
4	N 622794.4 E 468853.9	14	N 622832.7 E 468849.7
5	N 622796.7 E 468833.9	15	N 622834.1 E 468838.3
6	N 622808.7 E 468901.9	16	N 622855.7 E 468832.0
7	N 622808.1 E 468907.9	17	N 622854.2 E 468851.5
8	N 622813.0 E 468908.5	18	N 622860.4 E 468832.5
9	N 622813.7 E 468902.5	19	N 622852.4 E 468905.1
10	N 622829.4 E 468904.2	20	N 622848.4 E 468941.2

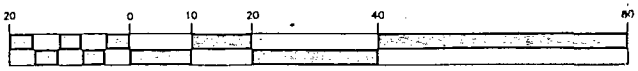
LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

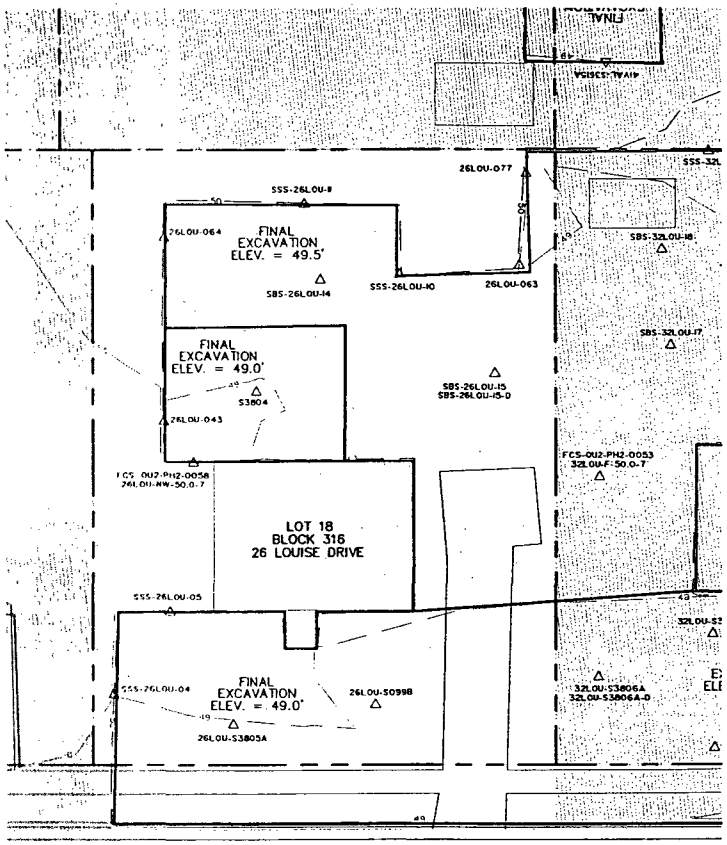
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
26 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

6-24-04

501333

501334



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ⊠	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
26 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-23-05

Confirmation Sample Results for 31 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				31LOU-S3816A		31LOU-S3816A-D (Duplicate)	
				46.9 to 48.9 ft. MSL		46.9 to 48.9 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	360	U
218-01-9	Chrysene	90000	ug/kg	370	U	360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 31 Louise Drive

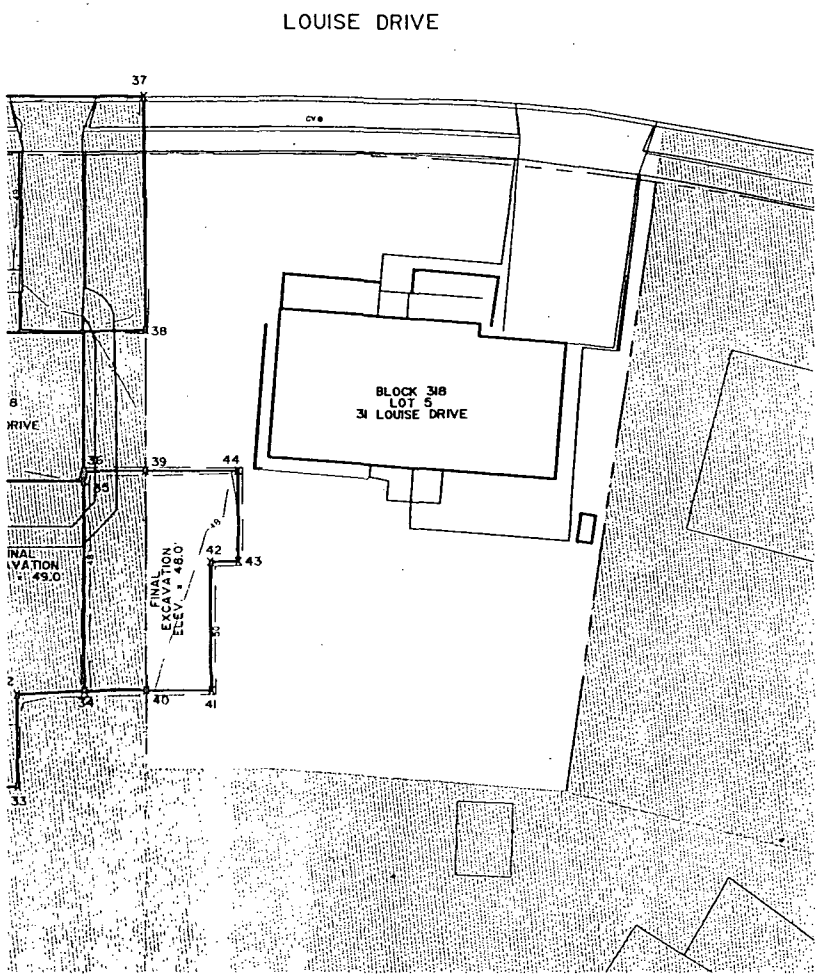
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				SSS-31LOU-01		SSS-31LOU-03		31LOU-049		31LOU-063	
				50.5 to 51.0 ft. MSL		50.1 to 50.6 ft. MSL		50.2 to 50.4 ft. MSL		50.1 to 50.3 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.25 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	190	J	350	J	360	J	51	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	320	J	840		700	J	74	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	170	J	320	J	580		55	J
50-32-8	Benzo(a)pyrene	660	ug/kg	160	J	370	J	430		43	J
218-01-9	Chrysene	90000	ug/kg	220	J	490		500		78	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	410	U	56	J	100	J	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	99	J	210	J	230	J	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501337



FINAL EXCAVATION COORDINATES 31 LOUISE DRIVE			
39	N 622893.8 E 469038.7	42	N 622902.4 E 469054.6
40	N 622889.9 E 469074.1	43	N 622907.0 E 469055.0
41	N 622900.3 E 469075.3	44	N 622908.6 E 469040.4

LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

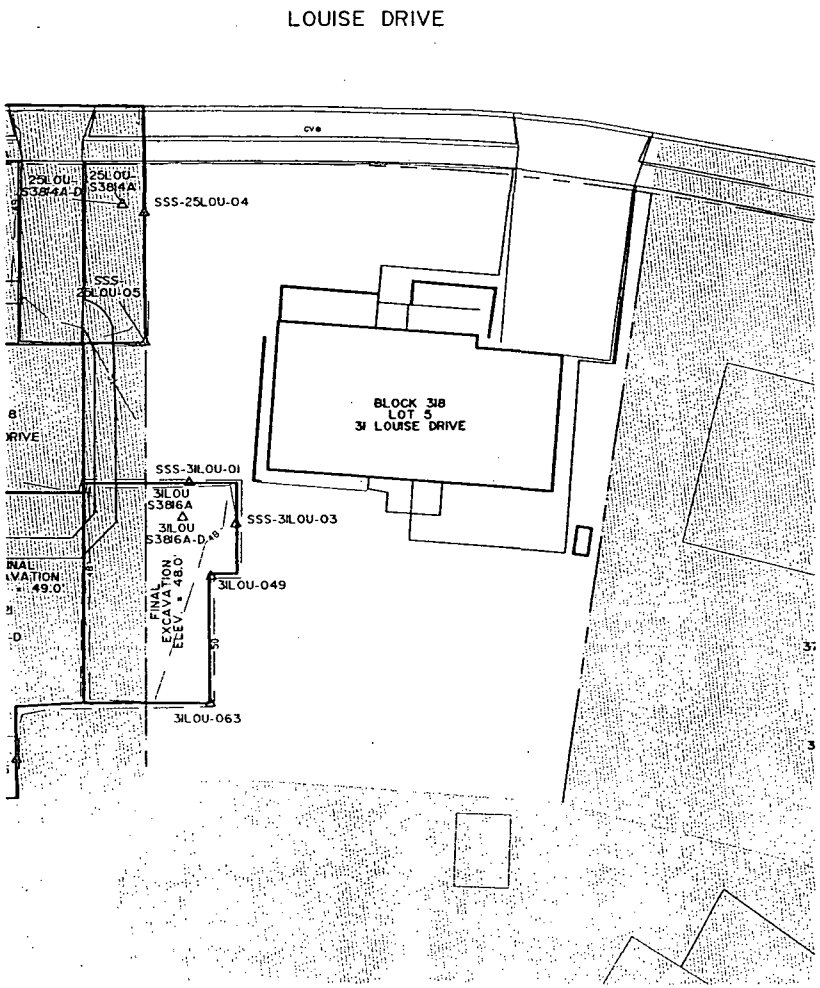
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
31 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501338



LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX △ CONFIRMATION SAMPLE
- XXXX □ DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
31 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

Confirmation Sample Results for 32 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2				8	
				32LOU-S3808A		32LOU-S3806A		32LOU-S3806A-D		32LOU-S3807A	
				47.1 to 48.5 ft. MSL		47.7 to 48.9 ft. MSL		47.7 to 48.9 ft. MSL		47.3 to 48.8 ft. MSL	
				2 to 3.4 ft. BGS		2 to 3.2 ft. BGS		2 to 3.2 ft. BGS		2 to 3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	380	U	380	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	380	U	380	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	380	U	380	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	380	U	380	U	390	U
218-01-9	Chrysene	90000	ug/kg	380	U	380	U	380	U	390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	380	U	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	380	U	380	U	390	U

*NOTE: All data has been validated.

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 32 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2		3	
				SBS-32LOU-16		SBS-32LOU-16-D		SBS-32LOU-18		SBS-32LOU-19	
				48.4 to 48.9 ft. MSL		48.4 to 48.9 ft. MSL		48.6 to 49.1 ft. MSL		48.5 to 49.0 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	390	U	78	J	92	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	46	J	390	U	100	J	140	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	390	U	48	J	67	J
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	390	U	400	U	76	J
218-01-9	Chrysene	90000	ug/kg	390	U	390	U	83	J	100	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	390	U	400	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	390	U	400	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

4		5		6		7	
32LOU-S132A		SBS-32LOU-15		SBS-32LOU-17		FCS-OU2-PH2-0053-32LOU-F-50.0-7	
48.0 to 49.5 ft. MSL		48.2 to 48.7 ft. MSL		49.1 to 49.6 ft. MSL		50.0 ft. MSL	
0.5 to 2 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 ft. BGS	
370	U	74	J	460		393	
370	U	180	J	800		636	
370	U	63	J	350	J	412	
370	U	85	J	370	J	411	
370	U	87	J	610		463	
370	U	390	U	390	U	125	
370	U	68	J	220	J	265	

Confirmation Sample Results for 32 Louise Drive

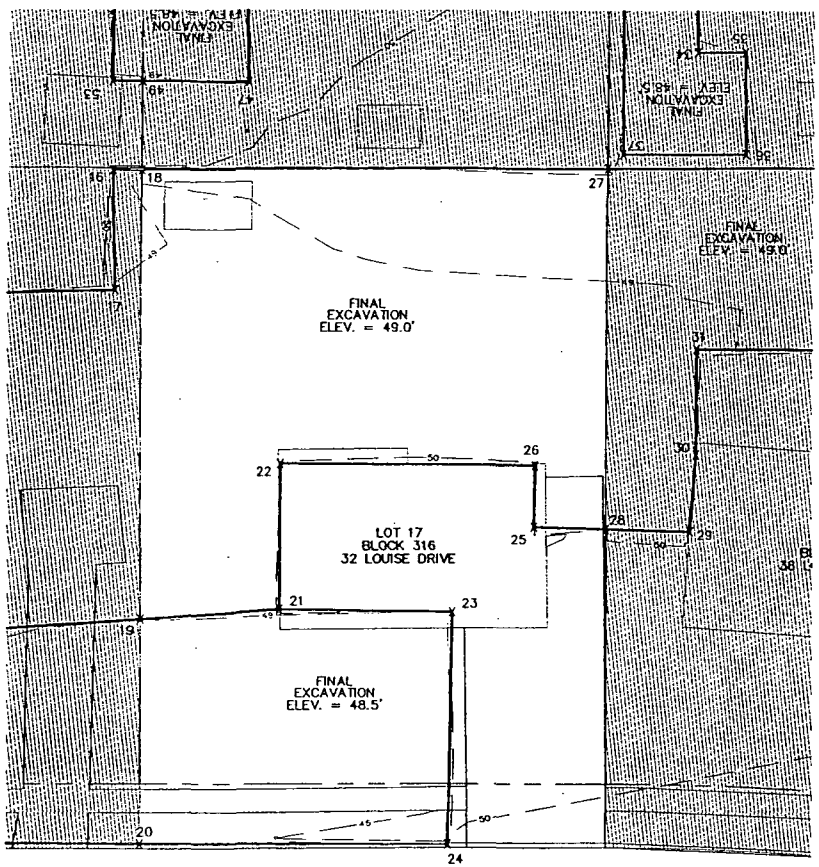
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				SSS-32LOU-11		SSS-32LOU-12		32LOU-S3809A	
				49.4 to 49.9 ft. MSL		49.3 to 49.8 ft. MSL		48.4 to 49.9 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	210	J	300	J	230	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	J	670		430	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	160	J	260	J	180	J
50-32-8	Benzo(a)pyrene	660	ug/kg	210	J	330	J	190	J
218-01-9	Chrysene	90000	ug/kg	250	J	390	J	420	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	43	J	64	J	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	140	J	240	J	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501343



FINAL EXCAVATION COORDINATES 32 LOUISE DRIVE			
18	N 622860.4 E 468832.5	24	N 622897.4 E 468946.6
19	N 622852.4 E 468905.1	25	N 622916.9 E 468897.0
20	N 622848.4 E 468941.2	26	N 622918.1 E 468887.1
21	N 622874.9 E 468906.0	27	N 622935.0 E 468840.3
22	N 622877.7 E 468882.4	28	N 622928.6 E 468898.7
23	N 622902.2 E 468909.4		

LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

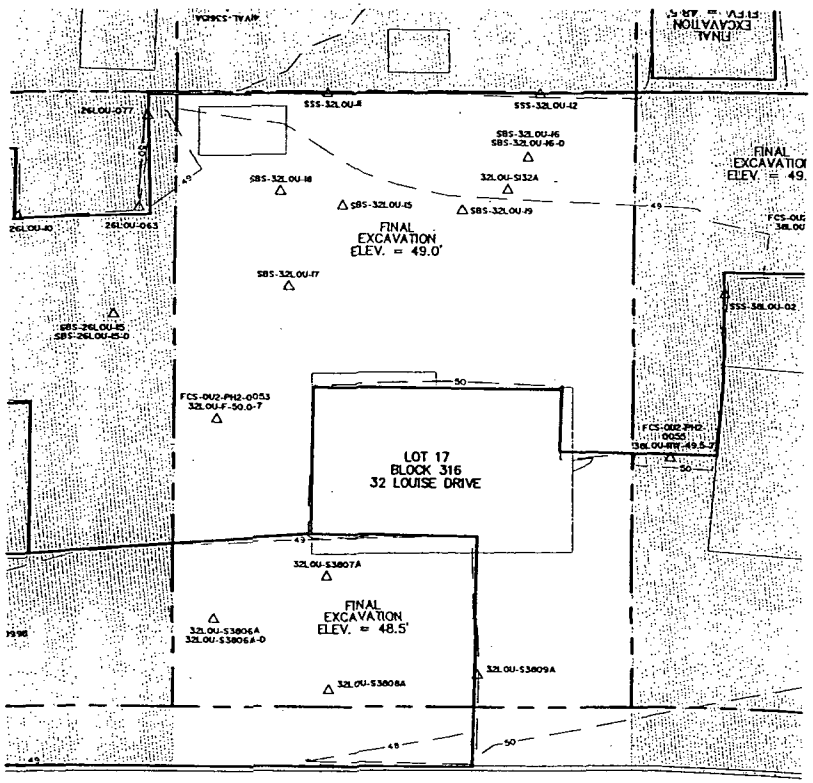
(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
32 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-24-04



LOUISE DRIVE

LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
32 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
9-16-04

501344

Confirmation Sample Results for 37 Valerie Drive

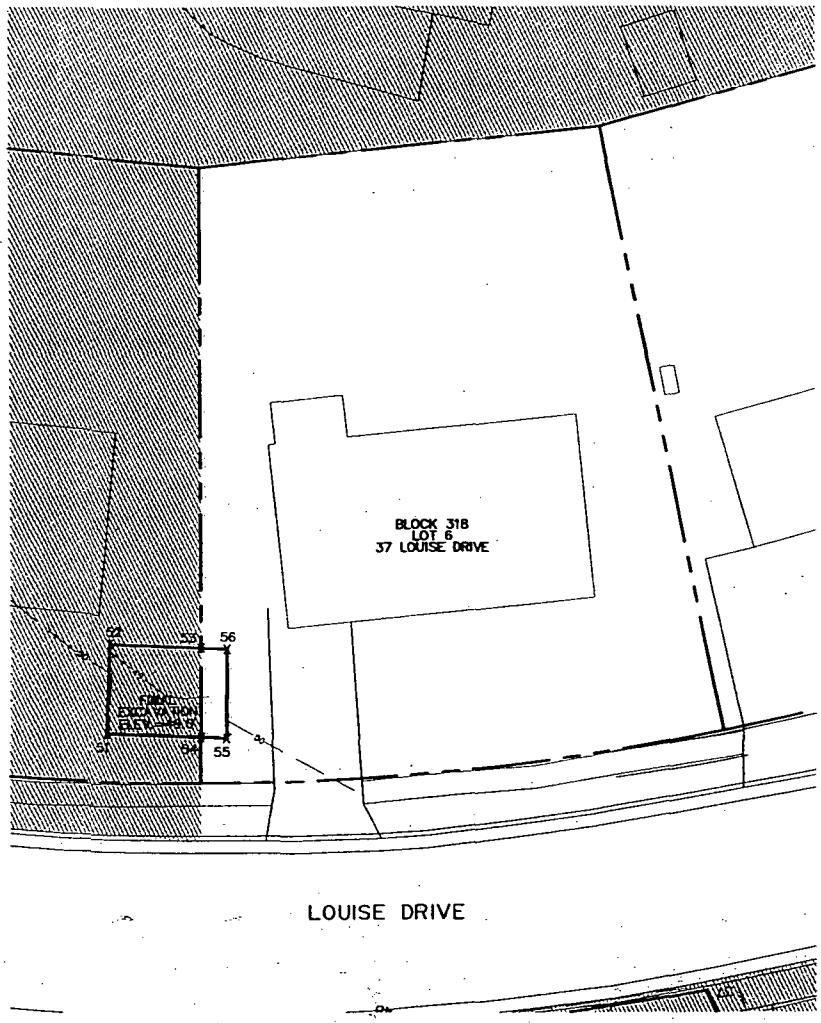
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SSS-37LOU-01	
				50.0 to 50.5 ft. MSL	
				0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	580	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	850	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	J
50-32-8	Benzo(a)pyrene	660	ug/kg	510	
218-01-9	Chrysene	90000	ug/kg	600	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	100	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	290	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501346



FINAL EXCAVATION COORDINATES 37 LOUISE DRIVE			
53	N 623050.5 E 469050.3	55	N 623053.3 E 469035.4
54	N 623056.9 E 469037.4	56	N 623046.9 E 469048.3

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

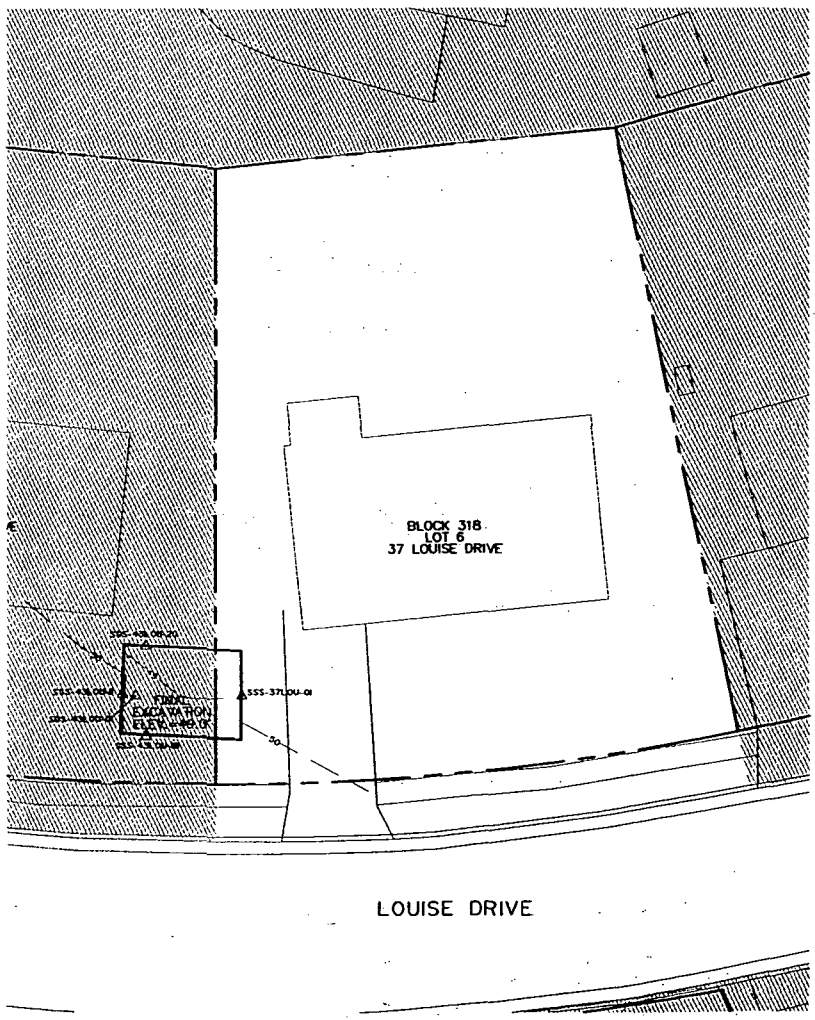
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
37 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-18-00

501347



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
37 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 38 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0052-38LOU-F-49.0-7	
				49.0 ft. MSL	
				1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 38 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				38LOU-007		38LOU-008		SSS-38LOU-02		FCS-OU2-PH2-0055-38LOU-NW-49.5-7	
				49.7 to 50.0 ft. MSL		49.3 to 49.5 ft. MSL		49.5 to 50.0 ft. MSL		49.5 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	108		120		52	J	474	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	153		170		100	J	636	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	220		150		40	J	611	
50-32-8	Benzo(a)pyrene	660	ug/kg	190		100		390	U	546	
218-01-9	Chrysene	90000	ug/kg	142		150		79	J	542	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	51		46		390	U	156	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	79		84		390	U	327	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 38 Louise Drive

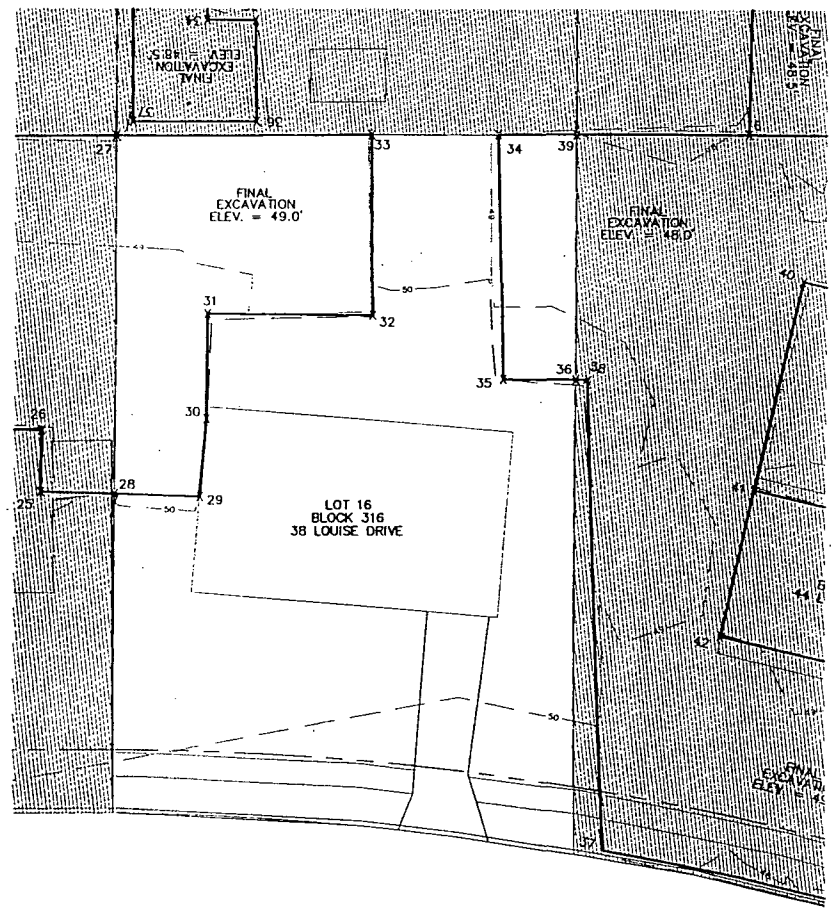
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				38LOU-009		38LOU-010		SSS-44LOU-01		SSS-44LOU-02		44LOU-S098A	
				49.6 to 49.9 ft. MSL		50.1 to 50.4 ft. MSL		49.6 to 50.1 ft. MSL		49.9 to 50.4 ft. MSL		48.0 to 49.5 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	93		300		560		170	J	400	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	110		580		730		280	J	53	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	100		580		320	J	120	J	400	U
50-32-8	Benzo(a)pyrene	660	ug/kg	86		250		430		160	J	400	U
218-01-9	Chrysene	90000	ug/kg	120		360		730		230	J	400	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	410	U	82		88	J	400	U	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	65		160		260	J	99	J	400	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501351



FINAL EXCAVATION COORDINATES 38 LOUISE DRIVE			
27	N 622935.0 E 468840.3	33	N 622976.2 E 468844.9
28	N 622928.6 E 468898.7	34	N 622996.9 E 468847.1
29	N 622942.3 E 468900.6	35	N 622993.5 E 468887.1
30	N 622944.7 E 468888.2	36	N 623005.2 E 468888.5
31	N 622946.6 E 468871.3	39	N 623009.6 E 468848.6
32	N 622973.2 E 468874.4		

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

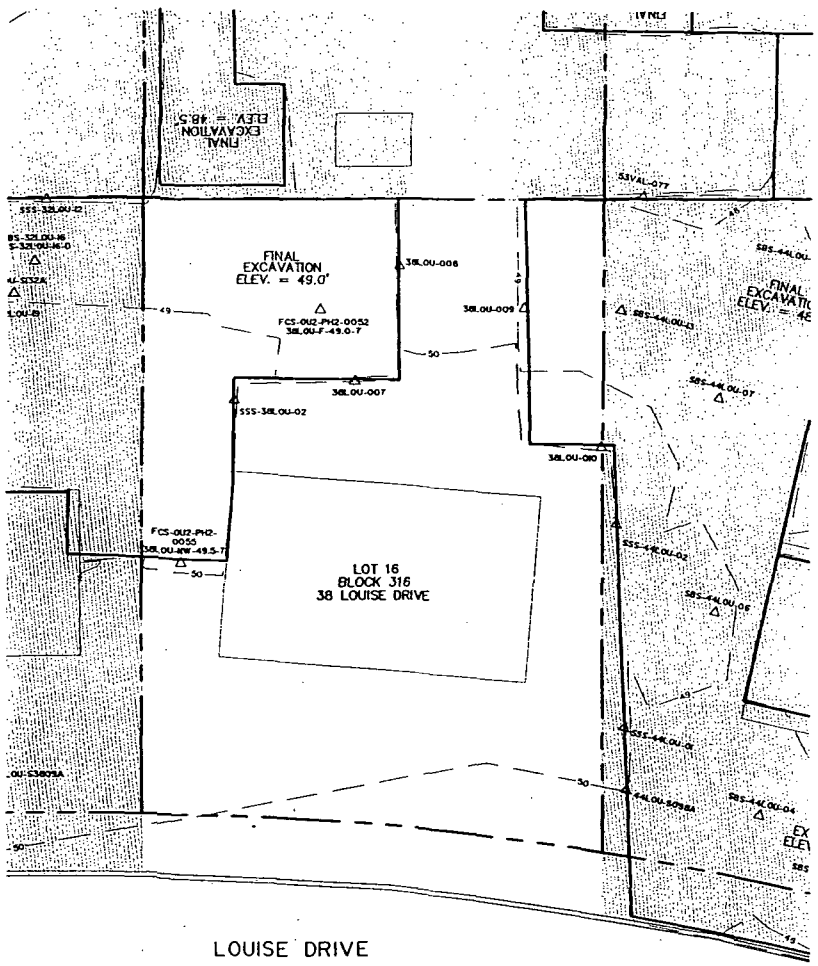
(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
38 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-24-04



LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX △ CONFIRMATION SAMPLE
- XXXX □ DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX ■ DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
38 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

501352

Confirmation Sample Results for 43 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3			
				SSS-43LOU-11		SSS-43LOU-18		SSS-43LOU-20		SSS-43LOU-20-D	
				50.0 to 50.5 ft. MSL		50.0 to 50.5 ft. MSL		50.0 to 50.5 ft. MSL		50.0 to 50.5 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	290	J	310	J	97	J	110	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	660		600		210	J	230	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	260	J	250	J	76	J	88	J
50-32-8	Benzo(a)pyrene	660	ug/kg	300	J	310	J	100	J	110	J
218-01-9	Chrysene	90000	ug/kg	380		370	J	120	J	140	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	39	J	60	J	340	U	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	150	J	170	J	58	J	64	J

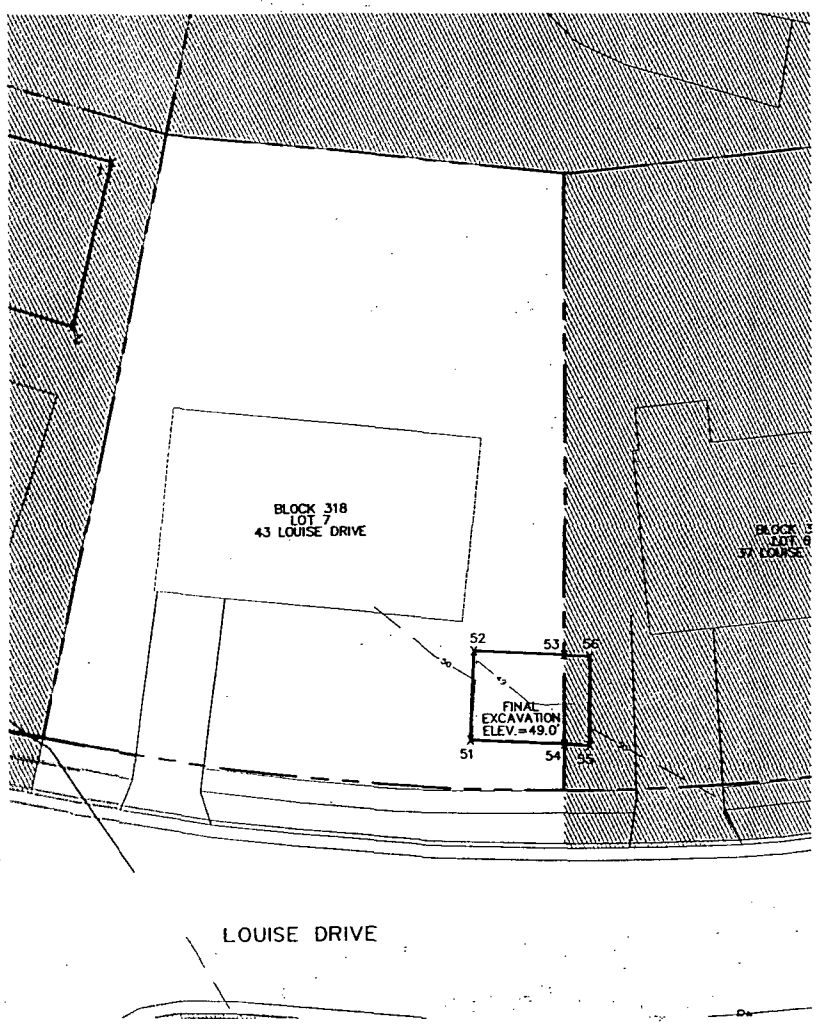
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-43LOU-01	
				48.0 to 49.5 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	160	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	290	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	140	J
218-01-9	Chrysene	90000	ug/kg	170	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	90	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501354



FINAL EXCAVATION COORDINATES 43 LOUISE DRIVE			
51	N 623070.4 E 469044.8	53	N 623050.5 E 469050.3
52	N 623063.4 E 469057.5	54	N 623056.9 E 469037.4

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

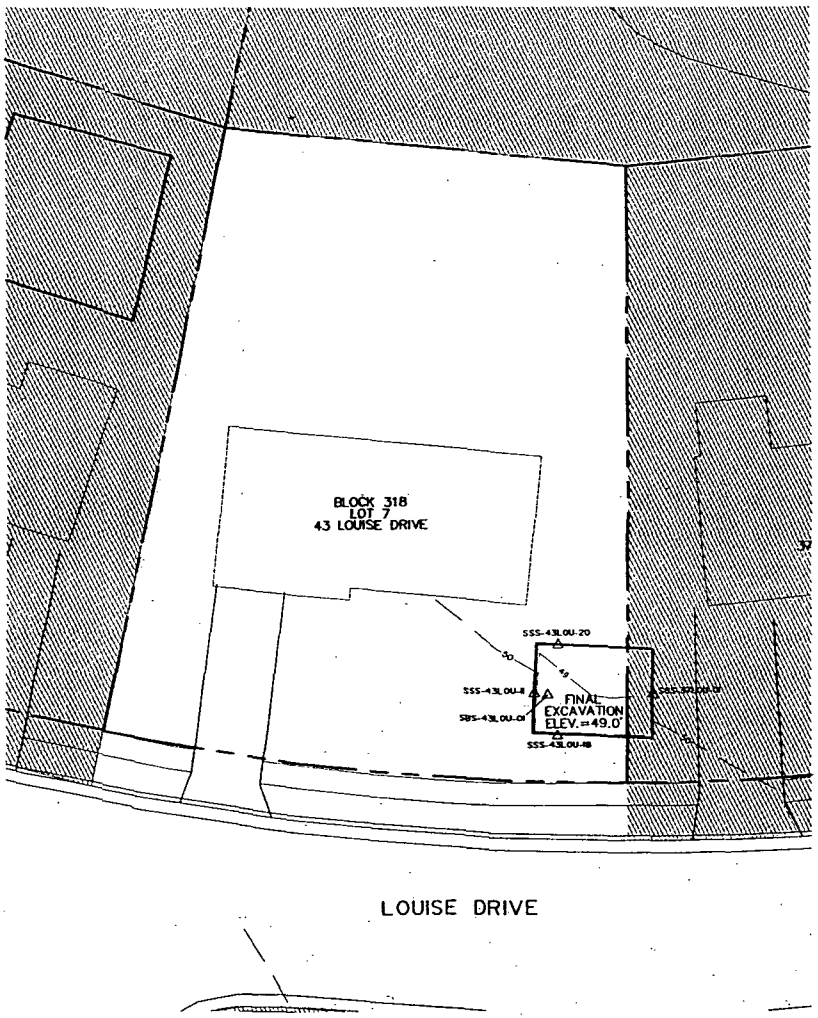
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
43 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-18-05

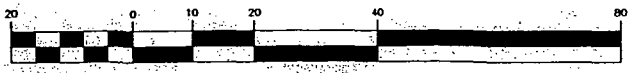
501355



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
xxxx △	CONFIRMATION SAMPLE
xxxx □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
xxxx ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
43 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-18-05

Confirmation Sample Results for 44 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				44LOU-S097B		44LOU-S3810A		44LOU-S3811A		44LOU-S3812A		44LOU-S3813A	
				45.5 to 47.5 ft. MSL		46.1 to 48.1 ft. MSL		45.7 to 47.5 ft. MSL		45.8 to 47.5 ft. MSL		45.5 to 47.5 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 3.8 ft. BGS		2 to 3.7 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	380	U	400	U	360	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	380	U	400	U	360	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	380	U	400	U	360	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	380	U	400	U	360	U	370	U
218-01-9	Chrysene	90000	ug/kg	380	U	380	U	400	U	360	U	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	380	U	400	U	360	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	380	U	400	U	360	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 44 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				SBS-44LOU-04		SBS-44LOU-05		SBS-44LOU-06		SBS-44LOU-07	
				48.4 to 48.9 ft. MSL		48.2 to 48.7 ft. MSL		48.9 to 49.4 ft. MSL		48.5 to 49.0 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	160	J	110	J	200	J	54	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	250	J	180	J	350	J	83	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J	87	J	160	J	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	130	J	85	J	200	J	42	J
218-01-9	Chrysene	90000	ug/kg	200	J	150	J	270	J	66	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	390	U	44	J	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	90	J	62	J	140	J	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

5		6		7		8			
SBS-44LOU-10		SBS-44LOU-11		SBS-44LOU-13		44LOU-D042A		44LOU-D042A-D	
47.7 to 48.2 ft. MSL		47.9 to 48.4 ft. MSL		48.4 to 48.9 ft. MSL		47.9 to 49.4 ft. MSL		47.9 to 49.4 ft. MSL	
1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
150	J	140	J	380	U	390		130	J
120	J	190	J	380	U	540		130	J
65	J	86	J	380	U	460		160	J
76	J	100	J	380	U	230	J	100	J
190	J	170	J	380	U	510		140	J
400	U	390	U	380	U	92	J	380	U
42	J	69	J	380	U	240	J	81	J

Confirmation Sample Results for 44 Louise Drive

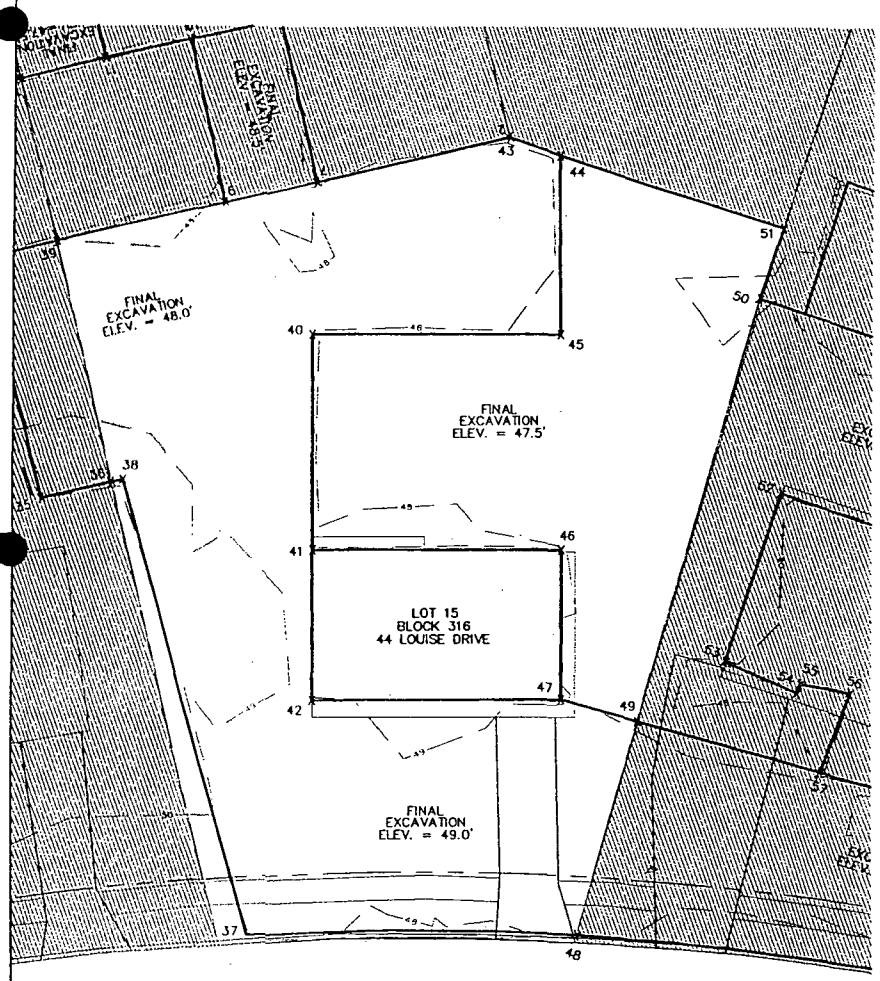
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				38LOU-010		SSS-44LOU-01		SSS-44LOU-02		44LOU-S098A		53VAL-077	
				50.1 to 50.4 ft. MSL		49.6 to 50.1 ft. MSL		49.9 to 50.4 ft. MSL		48.0 to 49.5 ft. MSL		48.9 to 49.1 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0.5 to 2 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	300		560		170	J	400	U	460	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	580		730		280	J	53	J	390	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	580		320	J	120	J	400	U	520	
50-32-8	Benzo(a)pyrene	660	ug/kg	250		430		160	J	400	U	410	
218-01-9	Chrysene	90000	ug/kg	360		730		230	J	400	U	510	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	82		88	J	400	U	400	U	130	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	160		260	J	99	J	400	U	210	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501360



FINAL EXCAVATION COORDINATES 44 LOUISE DRIVE			
36	N 623005.2 E 468888.5	44	N 623091.1 E 468862.3
37	N 623001.5 E 468964.5	45	N 623081.7 E 468890.0
38	N 623007.1 E 468888.7	46	N 623070.2 E 468922.9
39	N 623009.6 E 468848.6	47	N 623062.2 E 468945.7
40	N 623043.8 E 468876.5	48	N 623051.8 E 468982.3
41	N 623032.2 E 468909.6	49	N 623072.6 E 468953.1
42	N 623024.2 E 468932.4	50	N 623113.9 E 468895.2
43	N 623084.1 E 468856.8	51	N 623121.3 E 468885.6

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

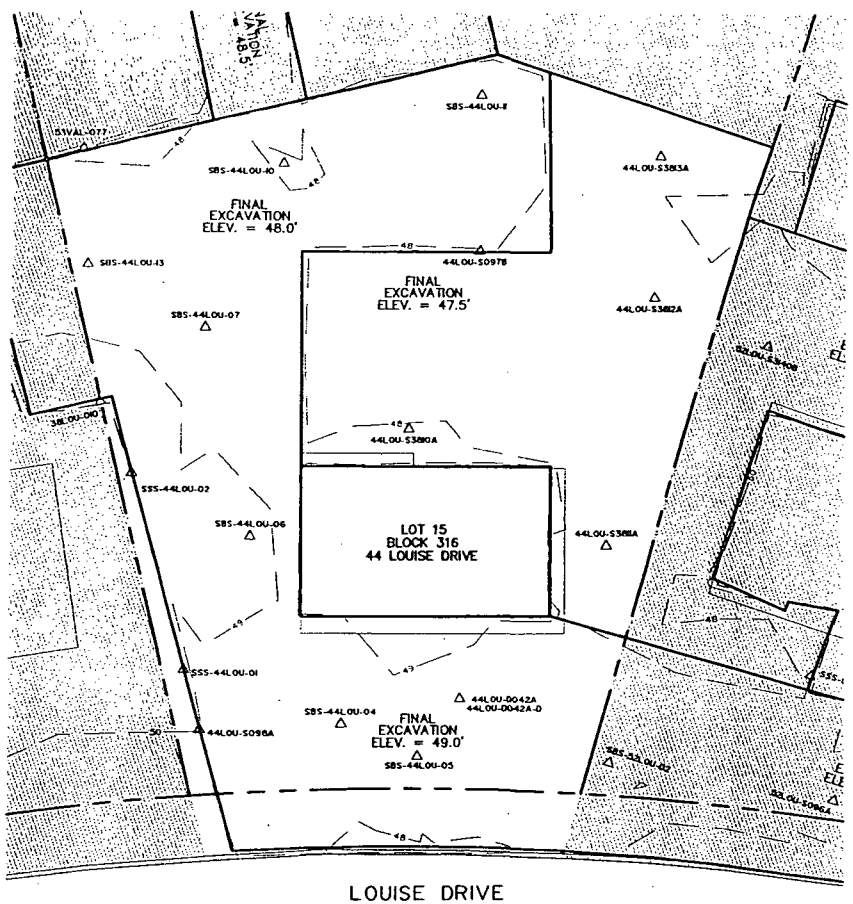
(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
44 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-24-04



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX ▢	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ▢	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
44 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-16-04

501361

Confirmation Sample Results for 51 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				FCS-OU2-PH2-0012-51LOU-B-W1-49.5-7		FCS-OU2-PH2-0028-51LOU-B-W2-49.5-7		FCS-OU2-PH2-0014-51LOU-B-W3-49.5-7		FCS-OU2-PH2-0015-51LOU-B-W4-49.5-7		FCS-OU2-PH2-0016-51LOU-B-W5-49.5-7	
				49.5 ft. MSL		49.5 ft. MSL		49.5 ft. MSL		49.5 ft. MSL		49.5 ft. MSL	
				0.5 ft. BGS		0.5 ft. BGS		0.5 ft. BGS		0.5 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	339		330	U	330	U	330	U	495	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	500		330	U	108		330	U	764	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	491		330	U	106		330	U	561	
50-32-8	Benzo(a)pyrene	660	ug/kg	325		330	U	81		330	U	470	
218-01-9	Chrysene	90000	ug/kg	525		330	U	123		330	U	682	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	81		330	U	330	U	330	U	129	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	211		330	U	330	U	330	U	308	

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				FCS-OU2-PH2-0019-51LOU-B-F1-49.0-7		FCS-OU2-PH2-0020-51LOU-B-F2-49.0-7		FCS-OU2-PH2-9001-51LOU-B-F2-49.0-7	
				49.0 ft. MSL		49.0 ft. MSL		49.0 ft. MSL	
				1.0 ft. BGS		1.0 ft. BGS		1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	125		330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	181		330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	138		330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	118		330	U
218-01-9	Chrysene	90000	ug/kg	330	U	152		330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	78		330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value

Confirmation Sample Results for 51 Louise Drive

SIDEWALL SAMPLES con't

CAS#	COMPOUND	ACG CRITERIA	UNITS	6		7	
				FCS-OU2-PH2-0017-51LOU-B-W6-49.5-7		FCS-OU2-PH2-0018-51LOU-B-W7-49.5-7	
				49.5 ft. MSL		49.5 ft. MSL	
				0.5 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	157		527	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	207		765	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	206		514	
50-32-8	Benzo(a)pyrene	660	ug/kg	155		447	
218-01-9	Chrysene	90000	ug/kg	217		610	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	105	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	101		230	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value

Confirmation Sample Results for 51 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				51LOU-S3852A		FCS-OU2-PH2-0007-51LOU-A-W1-49.5-7		FCS-OU2-PH2-0008-51LOU-A-W2-49.5-7		FCS-OU2-PH2-0009-51LOU-A-W3-49.5-7	
				47.5 to 49.0 ft. MSL		49.5 ft. MSL		49.5 ft. MSL		49.5 ft. MSL	
				0.5 to 2 ft. BGS		0.5 ft. BGS		0.5 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	624		311		225	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	872		325		201	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	893		413		264	
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	561		291		211	
218-01-9	Chrysene	90000	ug/kg	370	U	930		422		319	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	191		330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	410		182		122	

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0010-51LOU-A-F-49.0-7	
				49.0 ft. MSL	
				1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 51 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				SSS-51LOU-01		SSS-51LOU-02		FCS-OU2-PH2-0004-51LOU-W1-49.5-7		FCS-OU2-PH2-0005-51LOU-W2-49.5-7		FCS-OU2-PH2-0006-51LOU-W3-49.5-7	
				48.9 to 49.4 ft. MSL		49.6 to 50.1 ft. MSL		49.5 ft. MSL		49.5 ft. MSL		49.5 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0.5 ft. BGS		0.5 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	63	J	320	J	219		330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	110	J	550		381		330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	U	170	J	396		330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	66	J	260	J	254		86.2		330	U
218-01-9	Chrysene	90000	ug/kg	88	J	450		351		116		330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	400	U	45	J	330	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	U	160	J	134		330	U	330	U

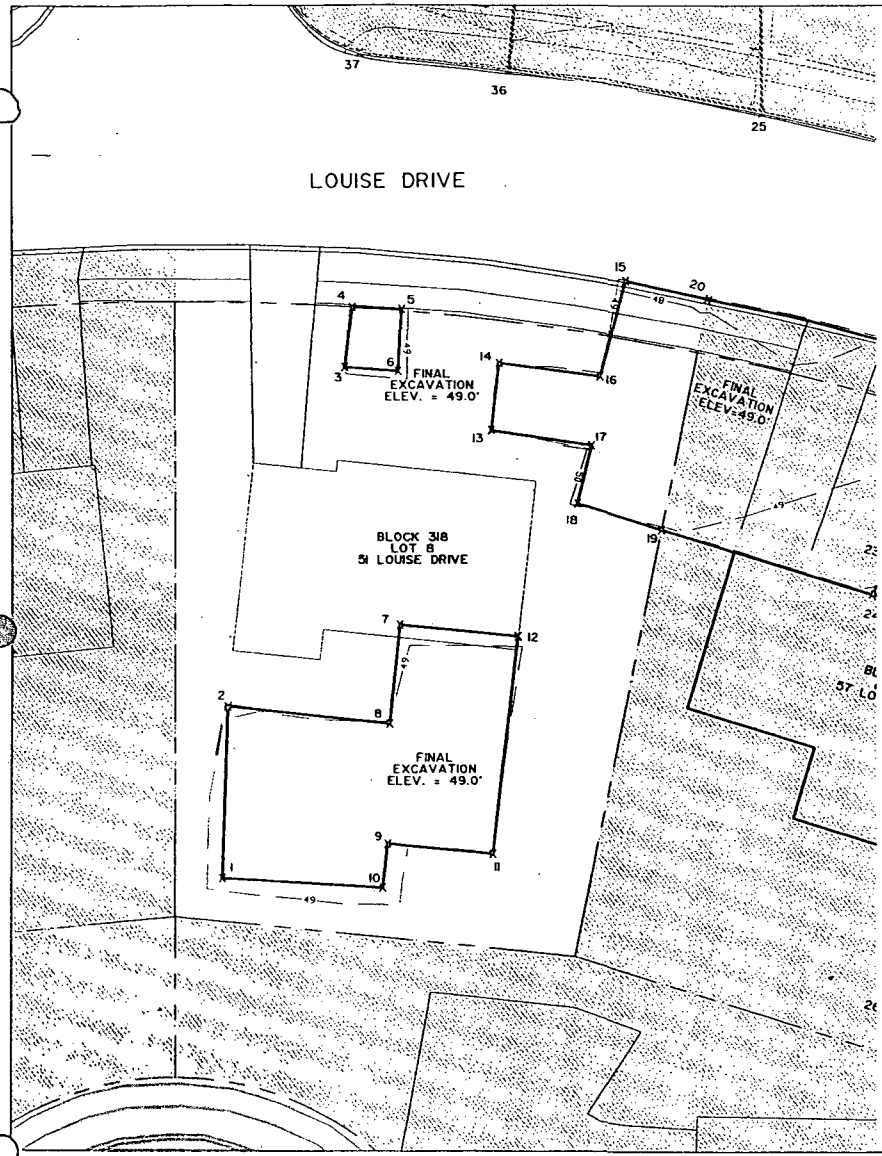
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0003-51LOU-F-49.0-7	
				49.0 ft. MSL	
				1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501366



FINAL EXCAVATION COORDINATES 51 LOUISE DRIVE			
1	N 623080.8 E 469154.6	11	N 623117.7 E 469178.4
2	N 623098.4 E 469133.3	12	N 623142.3 E 469153.1
3	N 623147.2 E 469101.2	13	N 623159.5 E 469123.9
4	N 623154.2 E 469094.1	14	N 623167.4 E 469116.0
5	N 623160.2 E 469099.5	15	N 623191.7 E 469117.7
6	N 623153.7 E 469107.0	16	N 623178.8 E 469127.6
7	N 623128.5 E 469140.0	17	N 623170.7 E 469135.6
8	N 623117.4 E 469151.6	18	N 623163.1 E 469141.7
9	N 623105.3 E 469166.7	19	N 623171.3 E 469153.4
10	N 623100.4 E 469171.7	20	N 623200.4 E 469128.4

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

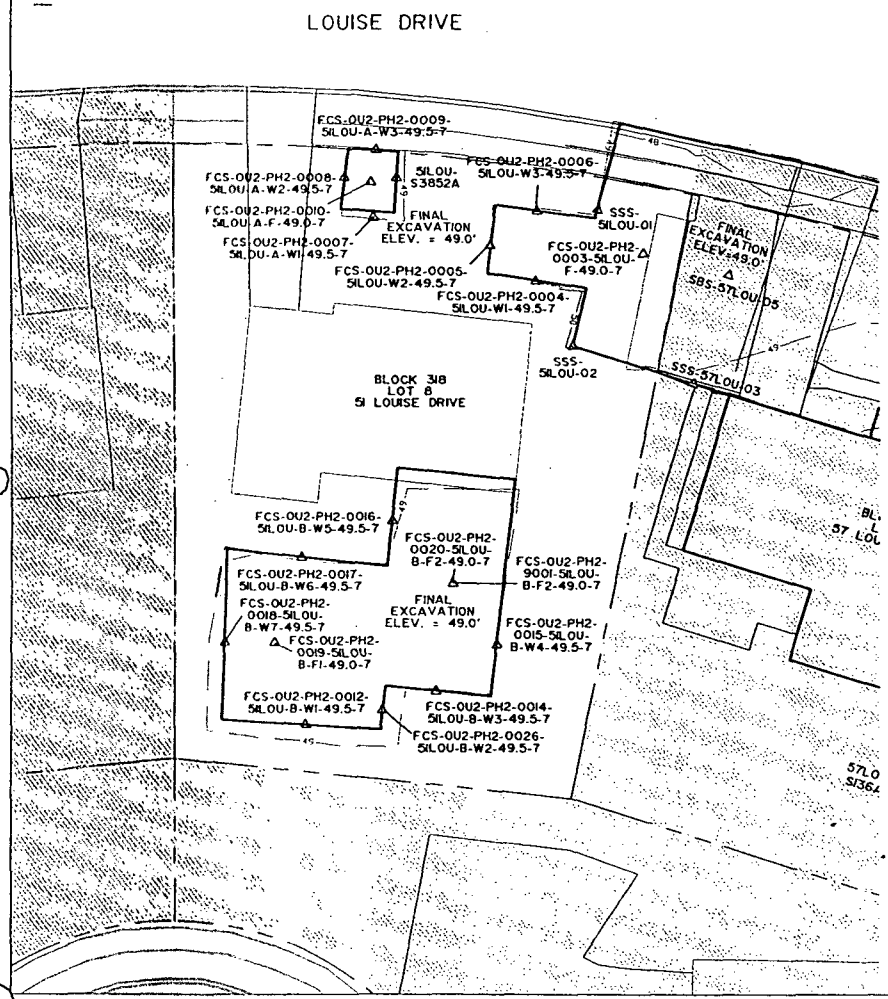
(IN FEET)
1 inch = 20 ft.

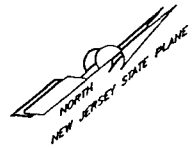
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
51 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501367





LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
51 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-7-04

Confirmation Sample Results for 52 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				52LOU-S096A		SBS-52LOU-02	
				47.7 to 49.2 ft. MSL		48.0 to 48.5 ft. MSL	
				0.5 to 2 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	J	150	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	510	J	300	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	140	J
50-32-8	Benzo(a)pyrene	660	ug/kg	260	J	150	J
218-01-9	Chrysene	90000	ug/kg	470		230	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	79	J	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	220	J	100	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 52 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				52LOU-S3140B		52LOU-S3141B	
				45.7 to 47.5 ft. MSL		45.8 to 47.8 ft. MSL	
				2 to 3.8 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	400	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	400	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	400	U	390	U
218-01-9	Chrysene	90000	ug/kg	400	U	390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	400	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 52 Louise Drive

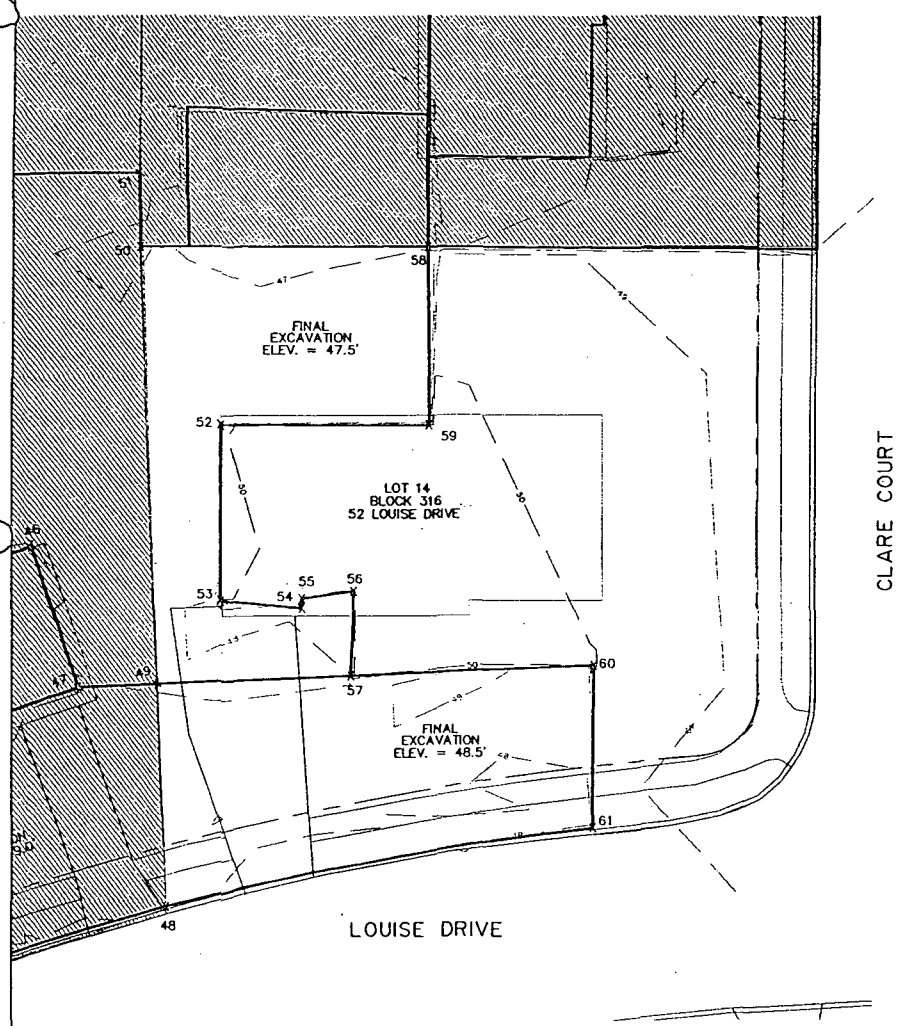
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				52LOU-S3139A		SSS-52LOU-01		52LOU-007		FCS-OU2-PH2-0044-52LOU-WW-49.5-7	
				47.9 to 49.4 ft. MSL		49.7 to 50.2 ft. MSL		48.9 to 49.2 ft. MSL		49.5 ft. MSL	
				0.5 to 2 ft. BGS		0 to 0.5 ft. BGS		0 to 0.25 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	210	J	280	J	420		330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	J	390	J	550		330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	120	J	180	J	570		330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	160	J	250	J	380	J	330	U
218-01-9	Chrysene	90000	ug/kg	260	J	370	J	530		330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	50	J	100	J	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	110	J	160	J	200	J	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501371



FINAL EXCAVATION COORDINATES 52 LOUISE DRIVE			
48	N 623051.8 E 468982.3	56	N 623106.7 E 468960.5
49	N 623072.6 E 468953.1	57	N 623097.9 E 468971.0
50	N 623113.9 E 468895.2	58	N 623150.5 E 468923.6
52	N 623106.7 E 468926.2	59	N 623133.1 E 468946.8
53	N 623089.1 E 468948.8	60	N 623130.3 E 468994.0
54	N 623098.6 E 468957.7	61	N 623114.1 E 469014.6
55	N 623099.6 E 468956.5		

LEGEND

- —38— FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

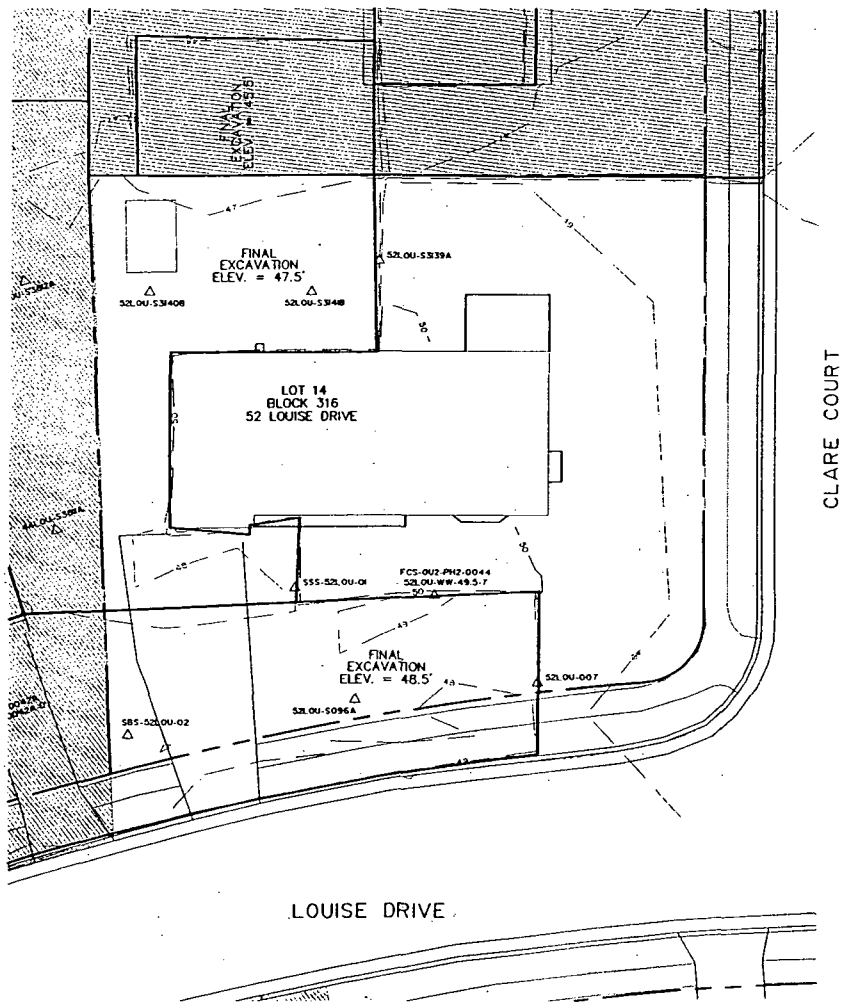
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
52 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-24-04

501372



LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX △ CONFIRMATION SAMPLE
- XXXX □ DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX ⊡ DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
52 LOUISE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-2-05

Confirmation Sample Results for 56 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4			
				56LOU-S3825A		56LOU-S3826A		56LOU-S3827A		56LOU-S3828A		56LOU-S3828A-D (Duplicate)	
				46.2 to 48.1 ft. MSL		45.9 to 47.7 ft. MSL		45.9 to 47.7 ft. MSL		46.4 to 48.1 ft. MSL		46.4 to 48.1 ft. MSL	
				2 to 3.9 ft. BGS		2 to 3.8 ft. BGS		2 to 3.8 ft. BGS		2 to 3.7 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	320	J	380	U	380	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	220	J	380	U	380	U	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	120	J	380	U	380	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	110	J	380	U	380	U	380	U
218-01-9	Chrysene	90000	ug/kg	390	U	260	J	380	U	380	U	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	380	U	380	U	380	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	43	J	380	U	380	U	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501373

Confirmation Sample Results for 56 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				SBS-56LOU-13		SBS-56LOU-15		56LOU-S125A	
				47.8 to 48.3 ft. MSL		48.0 to 48.5 ft. MSL		47.4 to 48.9 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	68	J	140	J	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	94	J	210	J	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	44	J	62	J	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	45	J	100	J	380	U
218-01-9	Chrysene	90000	ug/kg	69	J	170	J	380	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	390	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	63	J	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 56 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				56LOU-S3111A	
				46.0 to 47.7 ft. MSL	
				2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U
218-01-9	Chrysene	90000	ug/kg	350	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 56 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				56LOU-001		56LOU-002		SSS-56LOU-01		SSS-56LOU-02		SSS-56LOU-06	
				49.3 to 49.6 ft. MSL		49.3 to 49.6 ft. MSL		49.7 to 50.2 ft. MSL		49.7 to 50.2 ft. MSL		48.9 to 49.4 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	180		110		140	J	420		240	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	200		120		240	J	670		400	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	220		160		140	J	220	J	180	J
50-32-8	Benzo(a)pyrene	660	ug/kg	150		100		130	J	280	J	200	J
218-01-9	Chrysene	90000	ug/kg	260		160		170	J	550		270	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	52		390	U	400	U	64	J	39	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	130		86		96	J	210	J	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 56 Louise Drive

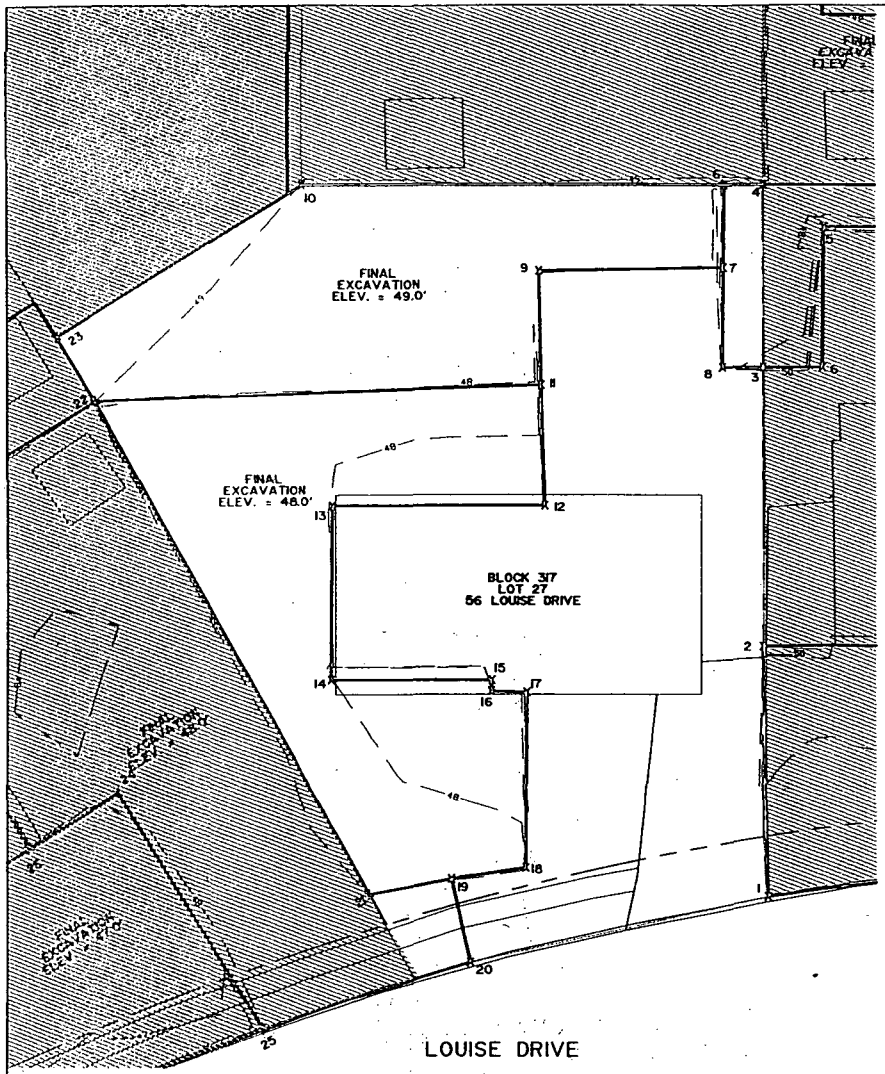
SIDEWALL SAMPLES

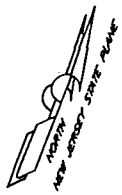
CAS#	COMPOUND	ACG CRITERIA	UNITS	6	
				56LOU-S3108A	
				47.6 to 49.1 ft. MSL	
				0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	67	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	99	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	53	J
218-01-9	Chrysene	90000	ug/kg	94	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U

**NOTE: All data has been validated*

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501378





FINAL EXCAVATION COORDINATES 56 LOUISE DRIVE			
1	N 623274.9 E 469179.3	13	N 623309.2 E 469090.5
2	N 623312.4 E 469164.2	14	N 623282.5 E 469100.4
3	N 623355.0 E 469148.1	15	N 623291.7 E 469124.7
4	N 623382.7 E 469137.6	16	N 623289.9 E 469125.2
6	N 623380.5 E 469131.8	17	N 623291.9 E 469130.8
7	N 623368.0 E 469136.4	18	N 623265.3 E 469140.6
8	N 623352.7 E 469142.0	19	N 623259.4 E 469130.0
9	N 623356.8 E 469108.4	20	N 623247.9 E 469137.6
10	N 623356.2 E 469067.5	21	N 623252.4 E 46988.5
11	N 623339.6 E 46985.3	22	N 623315 E 469048.3
12	N 623321.4 E 469122.8	23	N 623318.9 E 469038.7

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

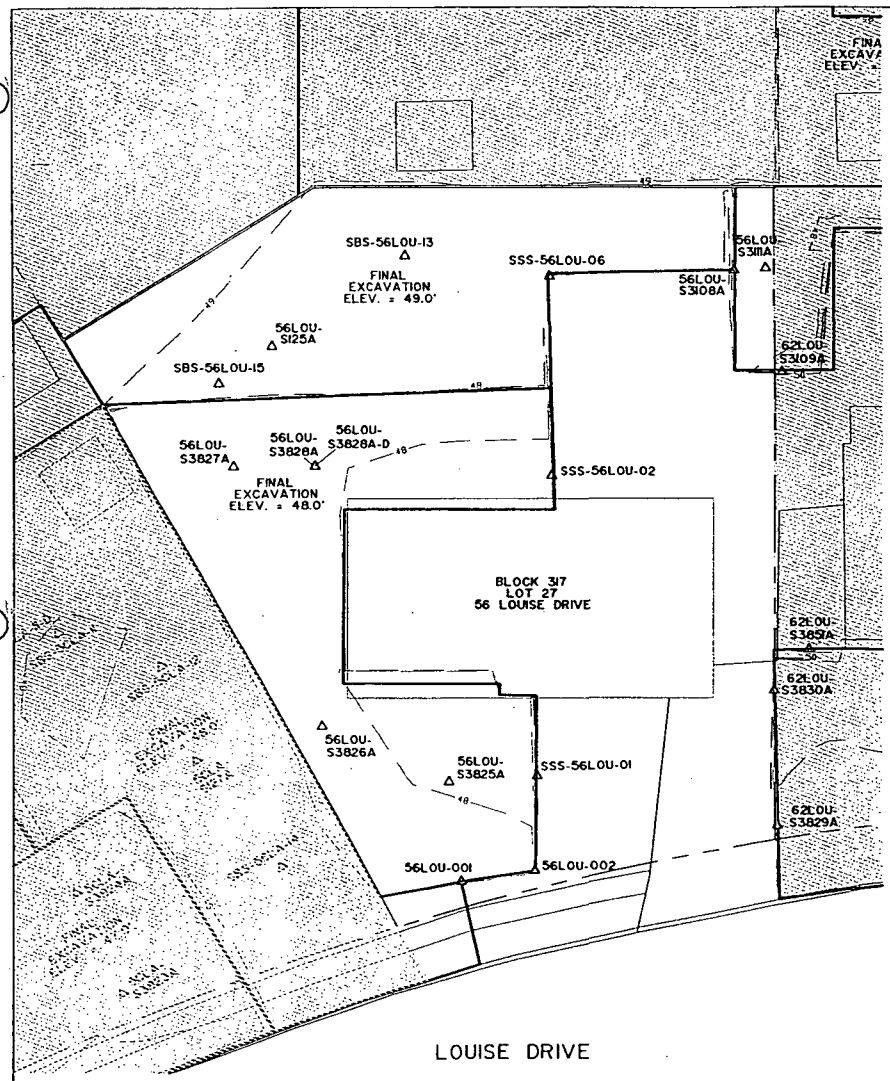
EPA

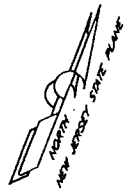
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
56 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

6-18-04

501379





LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
56 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-7-04

Confirmation Sample Results for 57 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				SSS-57LOU-03		SSS-57LOU-04		57LOU-018	
				49.5 to 50.0 ft. MSL		49.1 to 49.6 ft. MSL		49.8 to 50.1 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	J	43	J	76	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	660		76	J	110	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	300	J	380	U	120	J
50-32-8	Benzo(a)pyrene	660	ug/kg	340	J	43	J	96	J
218-01-9	Chrysene	90000	ug/kg	460		59	J	100	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	62	J	380	U	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	240	J	380	U	47	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				57LOU-S135A		SBS-57LOU-05	
				47.7 to 49.2 ft. MSL		48.2 to 48.7 ft. MSL	
				0.5 to 2 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	460	U	160	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	45	J	370	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	460	U	160	J
50-32-8	Benzo(a)pyrene	660	ug/kg	460	U	150	J
218-01-9	Chrysene	90000	ug/kg	55	J	230	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	460	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	460	U	120	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 57 Louise Drive

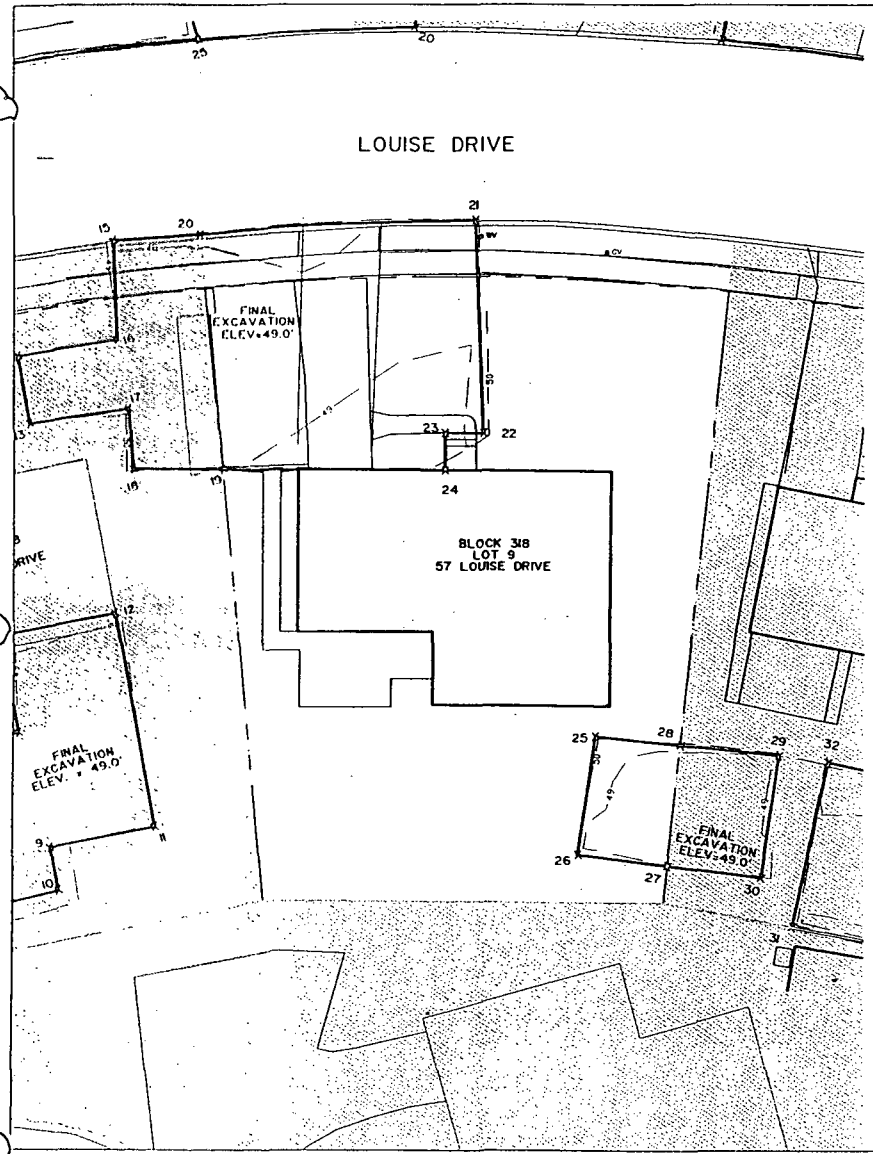
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				57LOU-S136A	
				47.6 to 49.1 ft. MSL	
				0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	130	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	180	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	110	J
218-01-9	Chrysene	90000	ug/kg	160	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	33	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	69	J

*NOTE: All data has been validated

Data Qualifier
ND - No Data
U - Non Dete
J - Estimated
D - Diluted Sample Results

501382



FINAL EXCAVATION COORDINATES 57 LOUISE DRIVE			
19	N 623171.3 E 469153.4	24	N 623192.1 E 469183.1
20	N 623200.4 E 469128.4	25	N 623170.7 E 469228.0
21	N 623228.1 E 469163.5	26	N 623153.5 E 469236.8
22	N 623200.6 E 469184.6	27	N 623160.4 E 469249.6
23	N 623197.0 E 469179.6	28	N 623177.5 E 469240.0

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

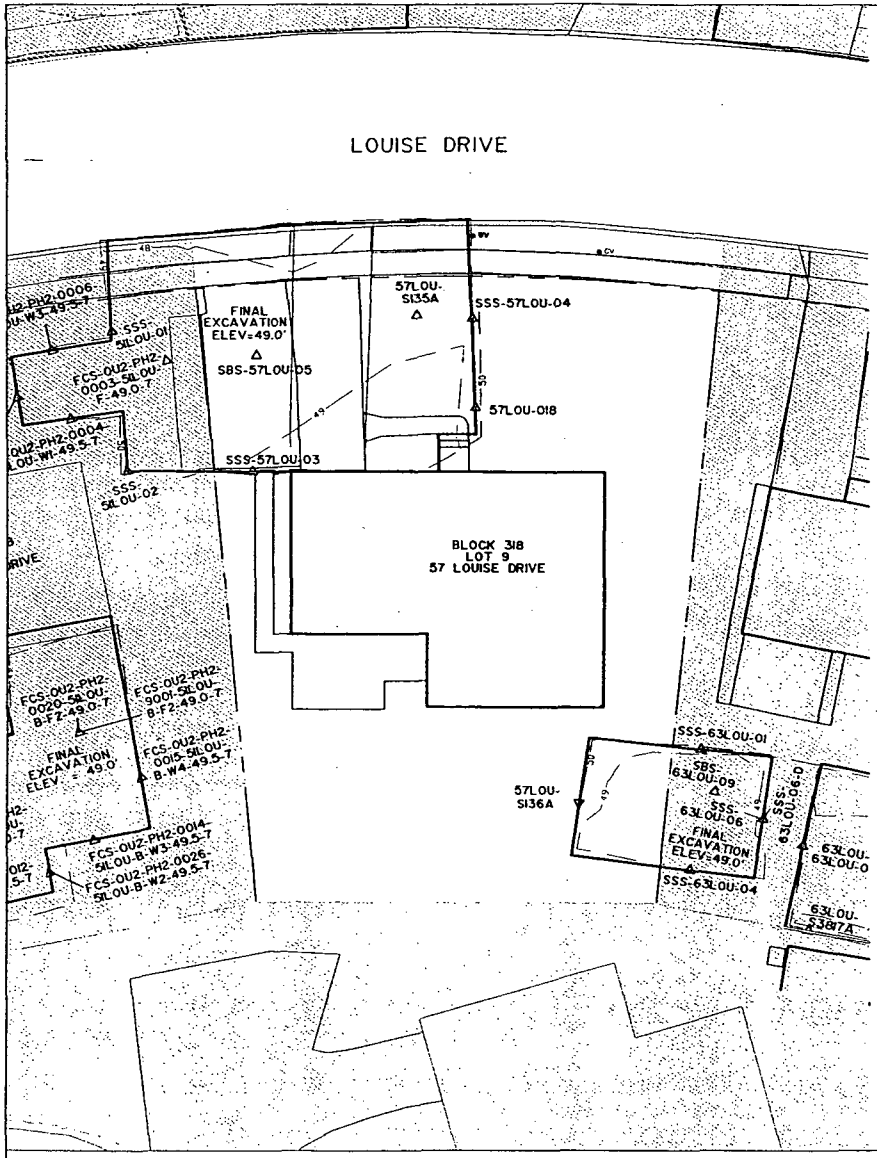
EPA

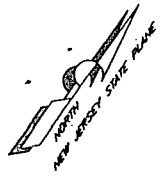
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
57 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-7-04

501383





LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
57 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-7-04

Confirmation Sample Results for 62 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				62LOU-S3833A	
				46.7 to 48.4 ft. MSL	
				2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U
218-01-9	Chrysene	90000	ug/kg	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 62 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				62LOU-S3109A		62LOU-S3834A		62LOU-S3835A		62LOU-056		SSS-62LOU-01	
				48.2 to 49.7 ft. MSL		47.7 to 49.2 ft. MSL		47.5 to 49.0 ft. MSL		49.9 to 50.2 ft. MSL		49.9 to 50.4 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	280	J	96	J	240	J	390		290	J
205-99-2	Benzo(b)fluor	900	ug/kg	680		180	J	500		600		470	
207-08-9	Benzo(k)fluor	9000	ug/kg	240	J	78	J	120	J	460		130	J
50-32-8	Benzo(a)pyre	660	ug/kg	300	J	110	J	190	J	420		270	J
218-01-9	Chrysene	90000	ug/kg	480		140	J	320	J	420		300	J
53-70-3	Dibenz(a,h)ar	660	ug/kg	380	U	390	U	42	J	100	J	46	J
193-39-5	Indeno(1,2,3-	900	ug/kg	220	J	74	J	130	J	200	J	160	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 62 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				62LOU-S3829A		62LOU-S3830A		62LOU-S3851A		FCS-OU2-PH2-0028-62LOU-WW-49.0-7	
				47.7 to 49.2 ft. MSL		48.6 to 50.1 ft. MSL		48.7 to 50.2 ft. MSL		49.0 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		1 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	54	J	64	J	160	J	769	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	62	J	95	J	180	J	737	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	40	J	48	J	72	J	704	
50-32-8	Benzo(a)pyrene	660	ug/kg	39	J	47	J	110	J	622	
218-01-9	Chrysene	90000	ug/kg	53	J	75	J	150	J	770	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	370	U	390	U	202	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	370	U	65	J	337	

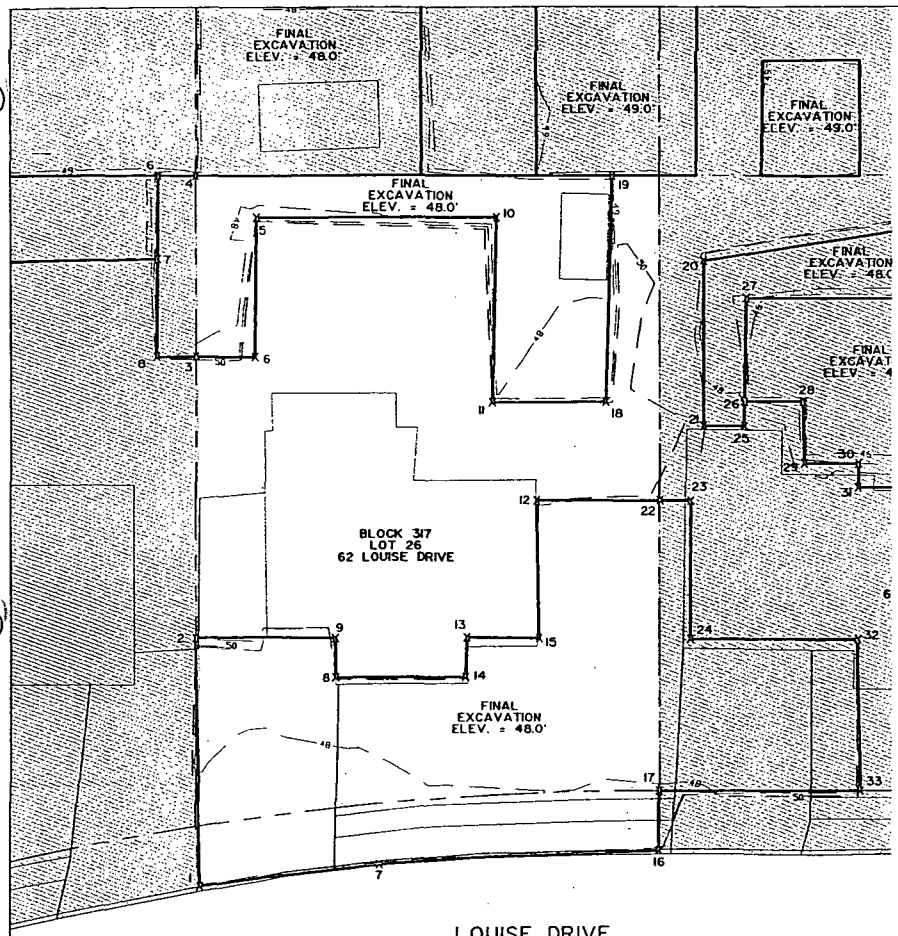
BOTTOM SAMPLES

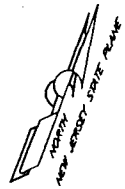
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				62LOU-S124B		62LOU-S3114B		62LOU-S3115A		62LOU-S3137A		62LOU-S3832A	
				46.2 to 48.2 ft. MSL		46.5 to 48.4 ft. MSL		46.1 48.0 48.1 ft. MSL		46.6 to 48.5 ft. MSL		47.4 to 48.7 ft. MSL	
				2 to 4 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS		2 to 3.3 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	94	J	380	U	380	U	38	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	210	J	380	U	68	J	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	90	J	380	U	380	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	88	J	380	U	380	U	370	U
218-01-9	Chrysene	90000	ug/kg	51	J	140	J	380	U	49	J	56	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	380	U	380	U	380	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	70	J	380	U	380	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501387





FINAL EXCAVATION COORDINATES 62 LOUISE DRIVE			
1	N 623274.9 E 469179.3	11	N 623365.0 E 469195.4
2	N 623312.4 E 469164.2	12	N 623352.8 E 469207.8
3	N 623355.0 E 469148.1	13	N 623328.1 E 469205.2
4	N 623382.7 E 469137.6	14	N 623322.0 E 469207.3
5	N 623379.9 E 469149.2	15	N 623332.1 E 469216.1
6	N 623358.4 E 469157.0	16	N 623306.7 E 469246.7
7	N 623288.6 E 469205.3	17	N 623315.8 E 469246.2
8	N 623314.5 E 469187.8	18	N 623371.7 E 469212.7
9	N 623320.5 E 469185.5	19	N 623406.6 E 469200.6
10	N 623393.6 E 469185.3	22	N 623360.0 E 469226.6

LEGEND

38 — *FINAL EXCAVATION CONTOURS*

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

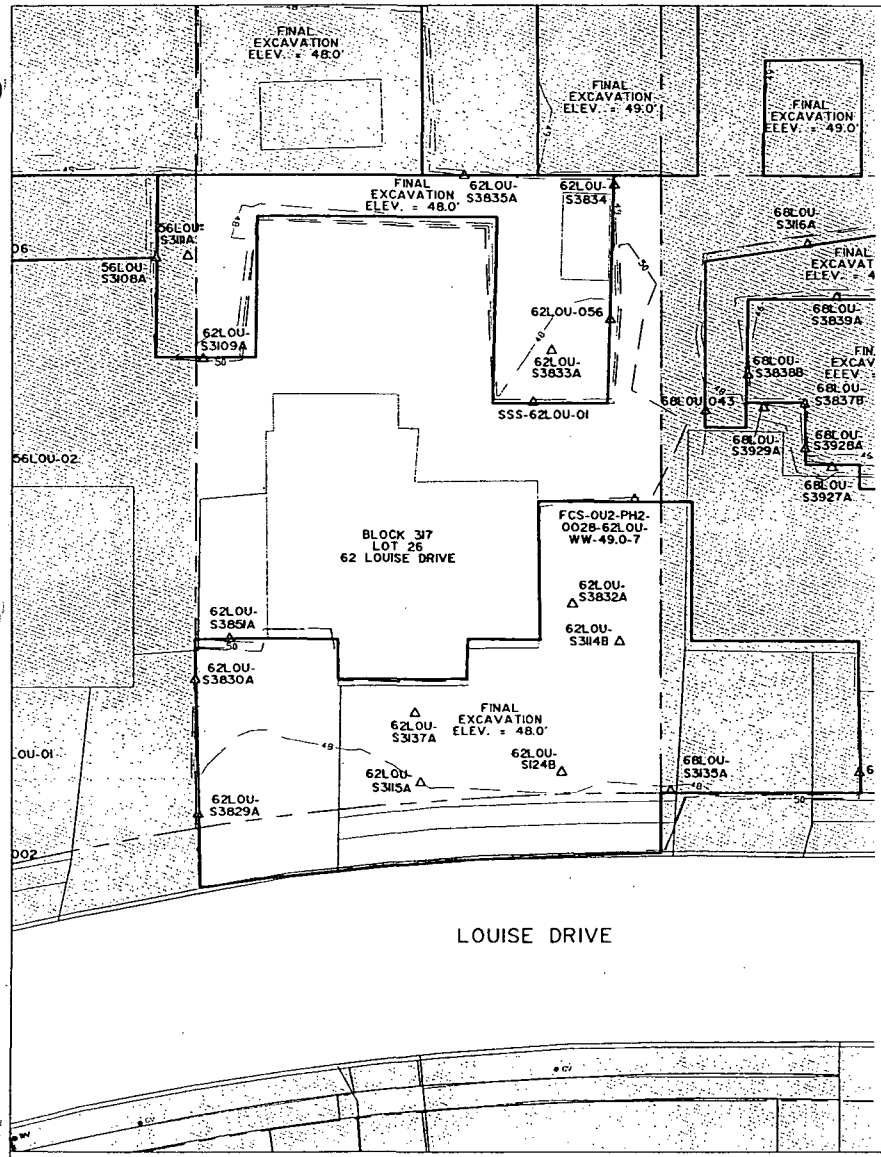
EPA

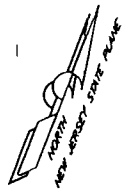
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
62 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501388





LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
62 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-7-04

Confirmation Sample Results for 63 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2		3		4		5	
				63LOU-068		63LOU-068-D (Duplicate)		SSS-63LOU-05		63LOU-S3817A		63LOU-S3818A		63LOU-S3819A	
				49.1 to 49.4 ft. MSL		49.1 to 49.4 ft. MSL		49.1 to 49.49.64 ft. MSL		47.0 to 48.5 ft. MSL		47.5 to 49.0 ft. MSL		47.5 to 49.0 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	290	J	230	J	150	J	350	U	370	U	96	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	700	J	590	J	300	J	350	U	370	U	250	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	U	400	UJ	98	J	350	U	370	U	130	J
50-32-8	Benzo(a)pyrene	660	ug/kg	180	J	220	J	130	J	350	U	370	U	99	J
218-01-9	Chrysene	90000	ug/kg	350	J	320	J	200	J	350	U	370	U	160	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	61	J	49	J	390	U	350	U	370	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	130	J	110	J	100	J	350	U	370	U	65	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2			
				63LOU-S3820A		63LOU-S3821A		63LOU-S3821A-D (Duplicate)	
				45.9 to 47.5 ft. MSL		45.8 to 47.5 ft. MSL		45.8 to 47.5 ft. MSL	
				2 to 3.6 ft. BGS		2 to 3.7 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	370	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	370	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	370	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	370	U	360	U
218-01-9	Chrysene	90000	ug/kg	360	U	370	U	360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	370	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	370	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 63 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3			
				SSS-63LOU-01		SSS-63LOU-04		SSS-63LOU-06		SSS-63LOU-06-D (Duplicate)	
				49.4 to 49.9 ft. MSL		49.0 to 49.5 ft. MSL		49.0 to 49.5 ft. MSL		49.0 to 49.5 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	200	J	56	J	400	J	290	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	300	J	130	J	840		580	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J	51	J	410		210	J
50-32-8	Benzo(a)pyrene	660	ug/kg	160	J	57	J	320	J	270	J
218-01-9	Chrysene	90000	ug/kg	200	J	96	J	600		400	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	400	U	56	J	49	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	110	J	49	J	200	J	170	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-63LOU-09	
				48.1 to 48.6 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	300	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	660	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	240	J
50-32-8	Benzo(a)pyrene	660	ug/kg	240	J
218-01-9	Chrysene	90000	ug/kg	440	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	200	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

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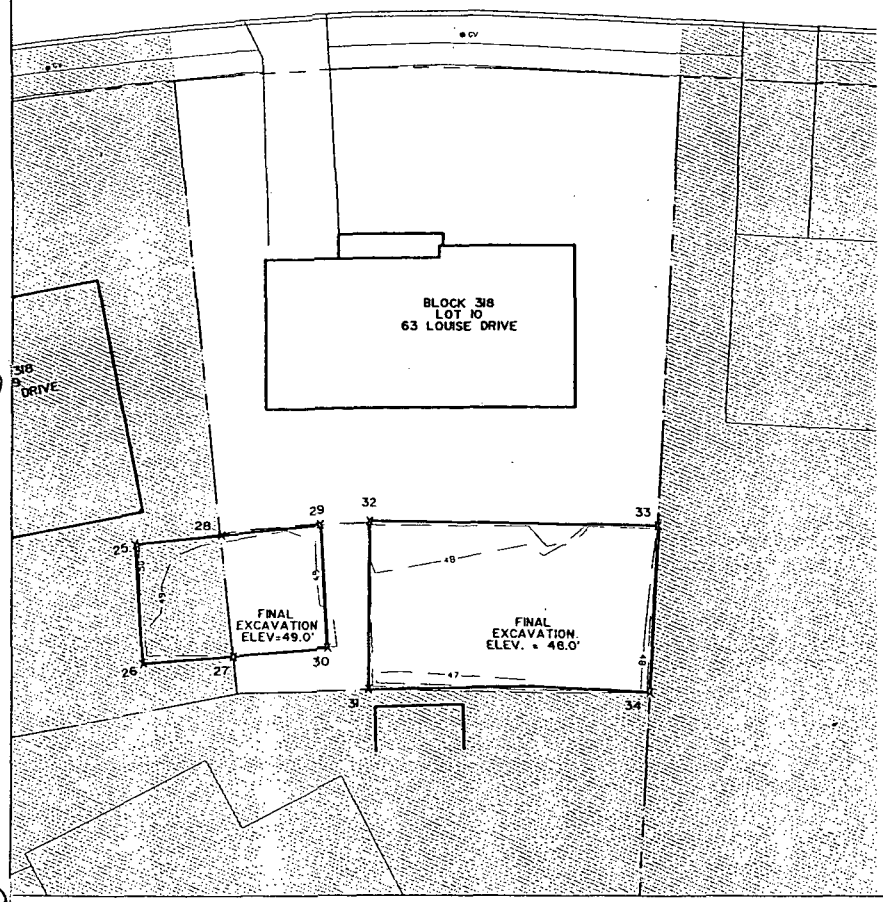
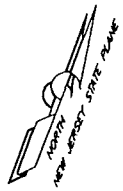




FINAL EXCAVATION COORDINATES 63 LUOISE DRIVE			
27	N 623160.4 E 469249.6	31	N 623164.2 E 469272.0
28	N 623177.5 E 469240.0	32	N 623189.3 E 469261.4
29	N 623185.7 E 469254.3	33	N 623207.6 E 469304.8
30	N 623167.8 E 469263.2	34	N 623182.3 E 469314.3

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

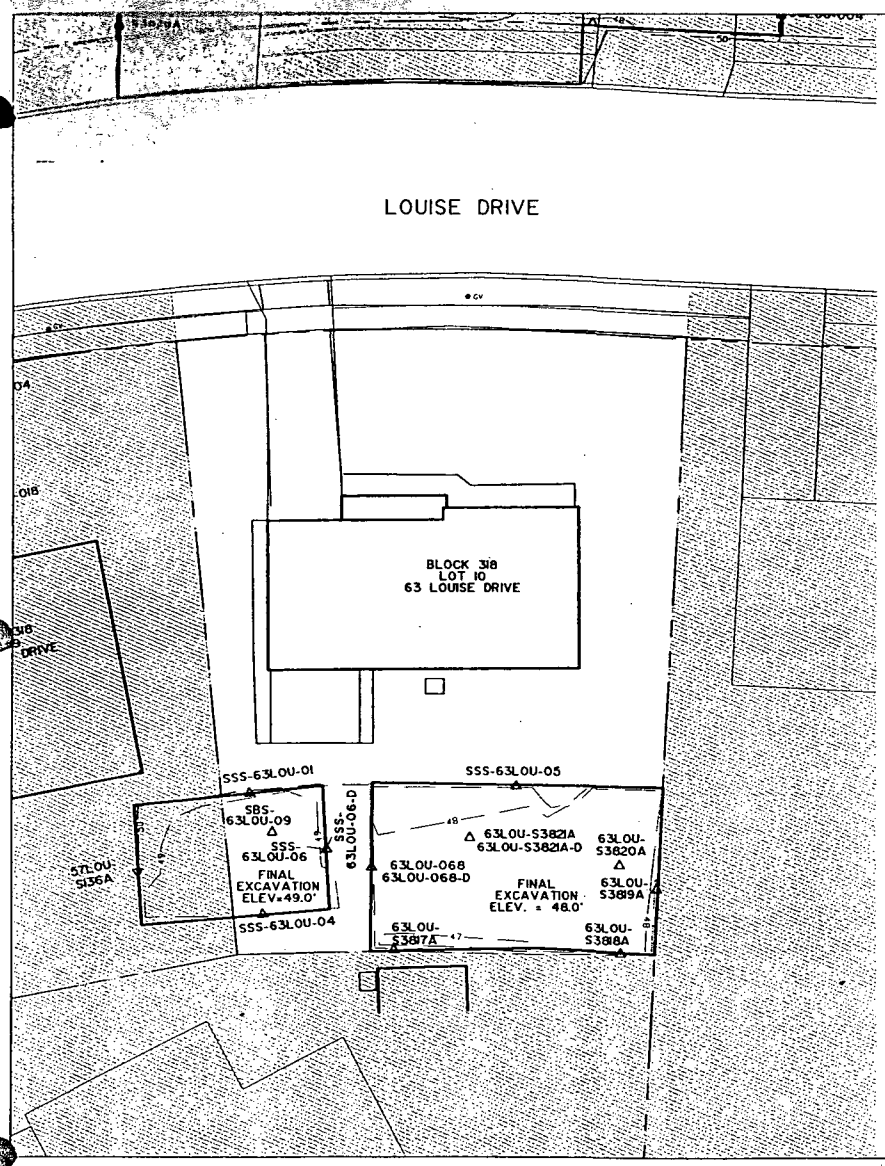
EPA

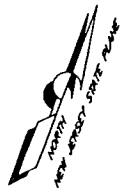
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
63 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501392





LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
63 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-7-04

Confirmation Sample Results for 68 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				68LOU-S3840A	
				46.8 to 47.5 ft. MSL	
				2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U
218-01-9	Chrysene	90000	ug/kg	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 68 Louise Drive

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				68LOU-S123B		68LOU-S3838B		68LOU-S3839A	
				46.5 to 48.5 ft. MSL		46.5 to 50.3 ft. MSL		47.0 to 48.5 ft. MSL	
				2 to 4 ft. BGS		2 to 3.8 ft. BGS		2 to 3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	370	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	370	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	370	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	370	U	390	U
218-01-9	Chrysene	90000	ug/kg	380	U	370	U	390	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	370	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	370	U	390	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				68LOU-S3836B		68LOU-S3837B	
				44.8 to 46.7 ft. MSL		44.6 to 46.6 ft. MSL	
				4 to 5.9 ft. BGS		4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	53	J	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	40	J	370	U
218-01-9	Chrysene	90000	ug/kg	370	U	370	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 68 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				68LOU-004		68LOU-S3135A	
				50.1 to 50.4 ft. MSL		47.9 to 49.4 ft. MSL	
				0 to 0.25 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J	130	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	J	240	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400	J	76	J
50-32-8	Benzo(a)pyrene	660	ug/kg	260	J	120	J
218-01-9	Chrysene	90000	ug/kg	370		140	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	20	J	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	130	J	77	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 68 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				68LOU-043		68LOU-S3116A		68LOU-S3119A		68LOU-S3128A	
				49.7 to 50.0 ft. MSL		47.5 to 49.0 ft. MSL		48.0 to 49.5 ft. MSL		49.7 to 50.0 ft. MSL	
				0 to 0.25 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	210	J	140	J	540		69	J
205-99-2	Benzo(b)fluor	900	ug/kg	260	J	210	J	780		110	J
207-08-9	Benzo(k)fluor	9000	ug/kg	280	J	100	J	520		57	J
50-32-8	Benzo(a)pyre	660	ug/kg	230	J	110	J	440		56	J
218-01-9	Chrysene	90000	ug/kg	300	J	200	J	720		100	J
53-70-3	Dibenz(a,h)ar	660	ug/kg	58	J	390	U	370	U	380	U
193-39-5	Indeno(1,2,3-	900	ug/kg	130	J	69	J	270	J	380	U

NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 68 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	5		6		7	
				68LOU-S3927A		68LOU-S3928A		68LOU-S3929A	
				48.4 to 49.0 ft. MSL		47.9 to 48.5 ft. MSL		47.7 to 49.0 ft. MSL	
				2 to 2.6 ft. BGS		2 to 2.6 ft. BGS		2 to 3.3 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	61	J	250	J	390	U
205-99-2	Benzo(b)fluor	900	ug/kg	130	J	560		390	U
207-08-9	Benzo(k)fluor	9000	ug/kg	58	J	230	J	390	U
50-32-8	Benzo(a)pyre	660	ug/kg	54	J	210	J	390	U
218-01-9	Chrysene	90000	ug/kg	90	J	410		390	U
53-70-3	Dibenz(a,h)ar	660	ug/kg	390	U	51	J	390	U
193-39-5	Indeno(1,2,3-	900	ug/kg	49	J	200	J	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 68 Louise Drive

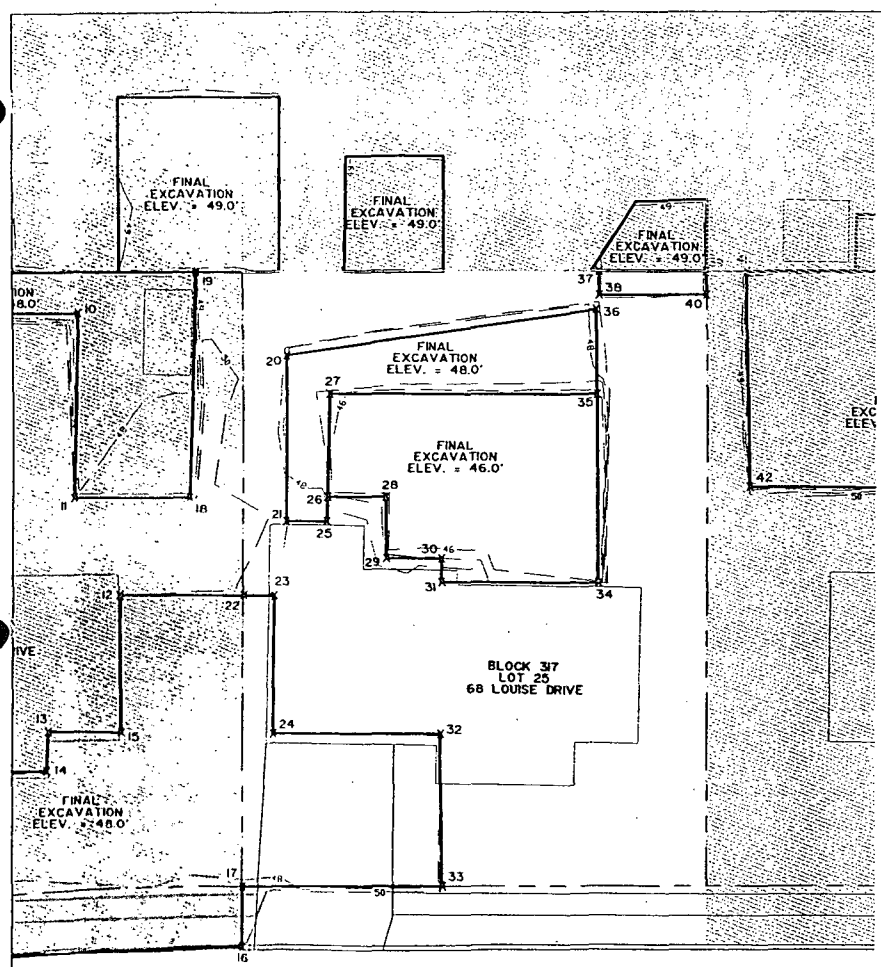
SIDEWALL SAMPLES

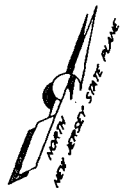
CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SSS-68LOU-01	
				49.2 to 49.7 ft. MSL	
				0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	400	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	530	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	170	J
50-32-8	Benzo(a)pyrene	660	ug/kg	350	J
218-01-9	Chrysene	90000	ug/kg	470	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	180	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501399





FINAL EXCAVATION COORDINATES 68 LOUISE DRIVE			
16	N 623306.7 E 469246.7	30	N 623376.9 E 469254.5
17	N 623315.8 E 469246.6	31	N 623373.3 E 469255.9
20	N 623398.9 E 469219.4	32	N 623350.2 E 469264.6
21	N 623373.7 E 469228.9	33	N 623327.3 E 469273.6
22	N 623360.0 E 469226.6	34	N 623362.1 E 469279.6
23	N 623361.7 E 469231.3	35	N 623410.8 E 469268.4
24	N 623340.7 E 469239.1	36	N 623423.8 E 469263.5
25	N 623376.0 E 469235.1	37	N 623429.7 E 469261.7
26	N 623379.8 E 469233.7	38	N 623426.1 E 469263.1
27	N 623395.6 E 469228.1	39	N 623435.9 E 469277.9
28	N 623383.2 E 469242.7	40	N 623432.3 E 469279.3
29	N 623373.8 E 469246.4		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

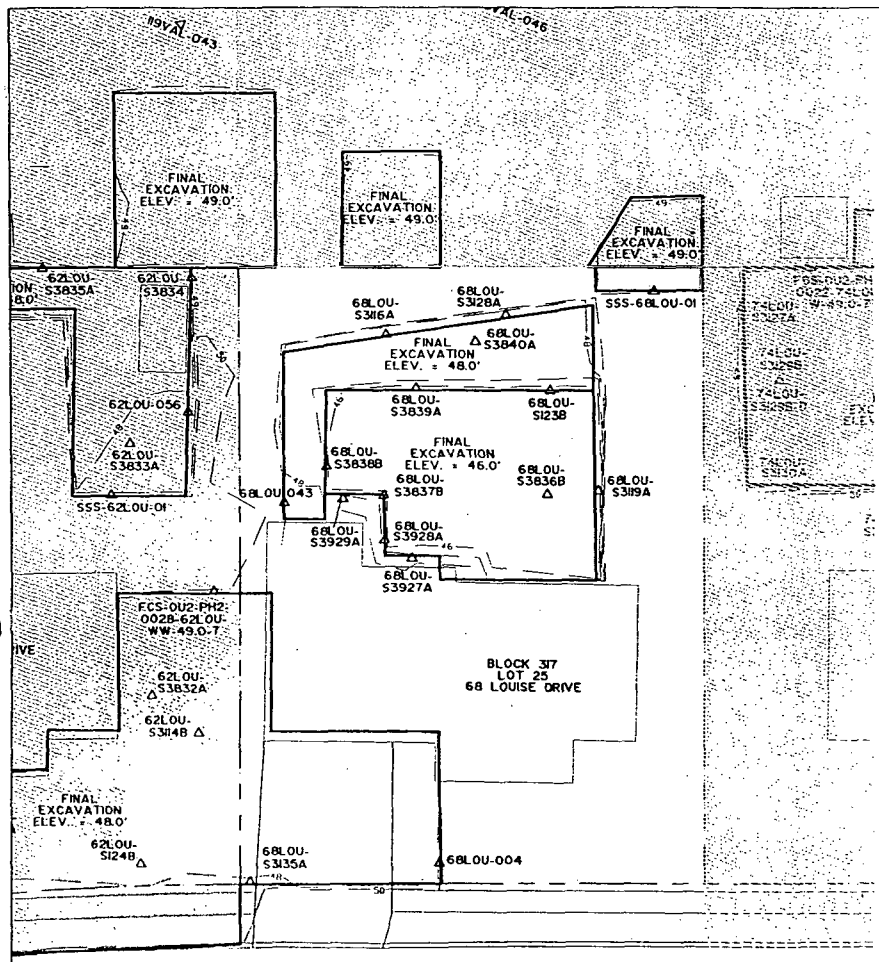
EPA

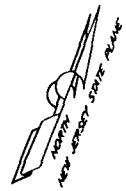
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
68 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

S-7-04

501400





LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
68 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
8-7-04

Confirmation Sample Results for 74 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	3	4	5		6
				74LOU-S3129B	74LOU-S3129B-D (Duplicate)	74LOU-S3131B	74LOU-S3845A	74LOU-S3132B	74LOU-S122B	74LOU-S122B-D (Duplicate)	74LOU-S3841B
				45.6 to 47.6 ft. MSL	45.6 to 47.6 ft. MSL	45.7 to 47.6 ft. MSL	45.9 to 47.7 ft. MSL	46.4 to 48.3 ft. MSL	45.7 to 47.7 ft. MSL	45.7 to 47.7 ft. MSL	47.2 to 48.6 ft. MSL
				2 to 4 ft. BGS	2 to 4 ft. BGS	2 to 3.9 ft. BGS	2 to 3.8 ft. BGS	2 to 3.9 ft. BGS	2 to 4 ft. BGS	2 to 4 ft. BGS	2 to 3.4 ft. BGS
56-55-3	Benzo(a)anthracene	900	ug/kg	380 U	370 U	390 U	380 U	120 J	360 U	380 U	66 J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380 U	370 U	390 U	380 U	280 J	360 U	380 U	120 J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380 U	370 U	390 U	380 U	87 J	360 U	380 U	54 J
50-32-8	Benzo(a)pyrene	660	ug/kg	380 U	370 U	390 U	380 U	140 J	360 U	380 U	55 J
218-01-9	Chrysene	90000	ug/kg	380 U	370 U	390 U	380 U	220 J	360 U	380 U	100 J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380 U	370 U	390 U	380 U	380 U	360 U	380 U	380 U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380 U	370 U	390 U	380 U	100 J	360 U	380 U	43 J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 74 Louise Drive

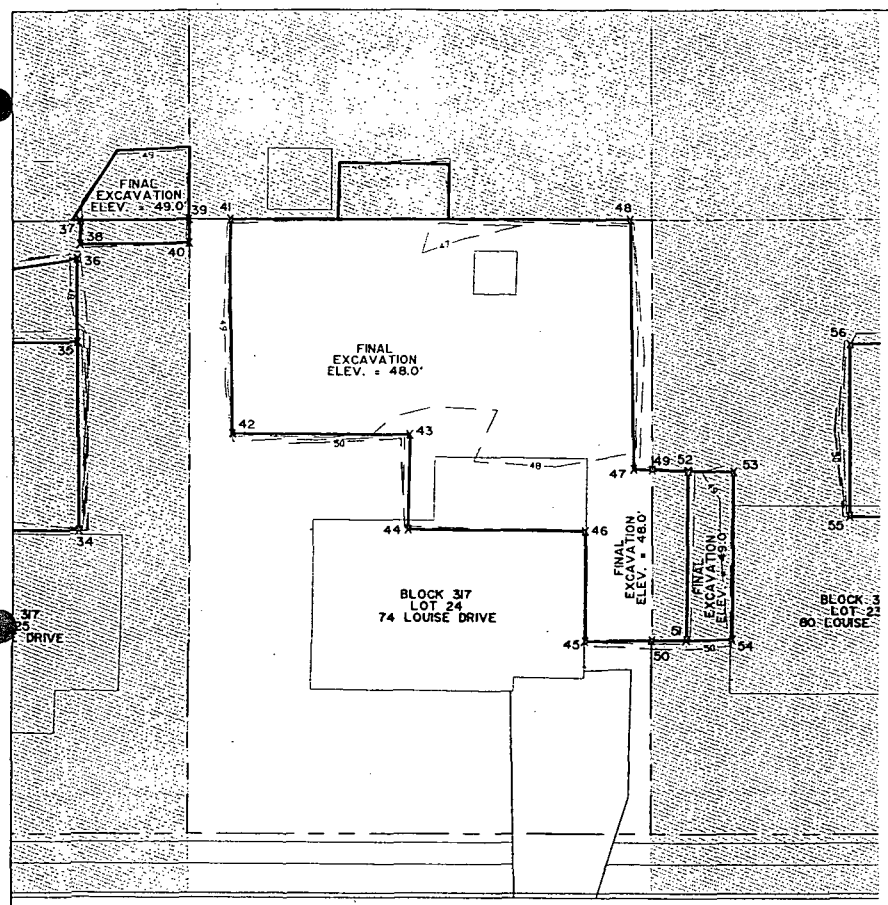
SIDEWALL SAMPLES

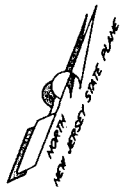
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	3	4	5	6	7	
				74LOU-S3123A	74LOU-S3123A-D (Duplicate)	74LOU-S3124A	74LOU-S3127A	74LOU-S3844A	74LOU-S3842A	74LOU-S3130A	FCS-OU2-PH2-0022-74LOU-W-49.0-7	
				48.5 to 50.0 ft. MSL	48.5 to 50.0 ft. MSL	48.6 to 50.1 ft. MSL	47.6 to 49.1 ft. MSL	47.3 to 48.8 ft. MSL	48.4 to 49.9 ft. MSL	47.9 to 49.4 ft. MSL	49.0 ft. MSL	
				0.5 to 2 ft. BGS	0.5 to 2 ft. BGS	0.5 to 2 ft. BGS	0.5 to 2 ft. BGS	0.5 to 2 ft. BGS	0.5 to 2 ft. BGS	0.5 to 2 ft. BGS	1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	48 J	67 J	56 J	72 J	88 J	130 J	280 J	330 U	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	93 J	99 J	120 J	110 J	180 J	230 J	440	107	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	39 J	36 J	39 J	63 J	79 J	81 J	220 J	104	
50-32-8	Benzo(a)pyrene	660	ug/kg	46 J	55 J	54 J	61 J	76 J	120 J	240 J	80	
218-01-9	Chrysene	90000	ug/kg	78 J	99 J	91 J	98 J	140 J	190 J	360 J	117	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370 U	360 U	370 U	370 U	370 U	370 U	370 U	330 U	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370 U	39 J	39 J	41 J	63 J	84 J	160 J	330 U	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501403





FINAL EXCAVATION COORDINATES 74 LOUISE DRIVE			
41	N 623438.3 E 469284.2	46	N 623410.9 E 469355.9
42	N 623405.5 E 469297.0	47	N 623423.1 E 469359.7
43	N 623415.5 E 469324.0	48	N 623461.2 E 469344.6
44	N 623401.0 E 469329.3	49	N 623424.1 E 469362.6
45	N 623394.2 E 469362.2	50	N 623398.2 E 469372.4

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

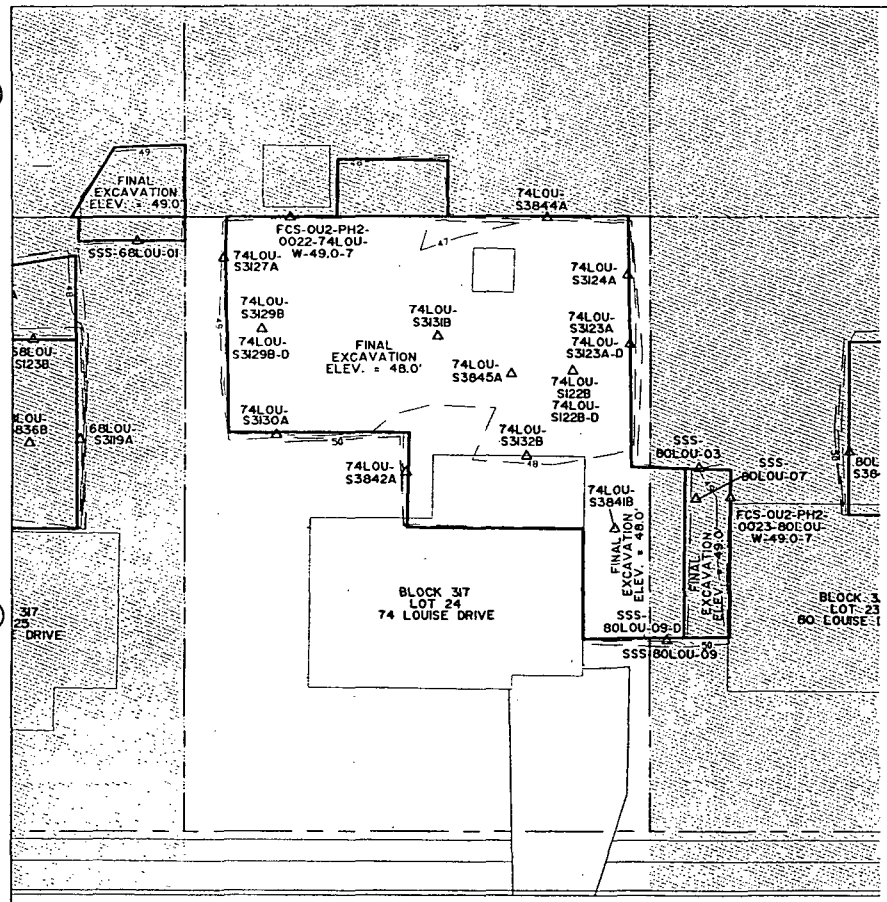
EPA

US Army Corps of Engineers

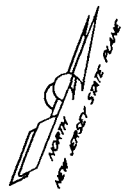
FINAL EXCAVATION LIMITS
74 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501404



LOUISE DRIVE



LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
74 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-7-04

Confirmation Sample Results for 80 Louise Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-80LOU-07	
				48.7 to 49.2 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	190	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	260	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	130	J
50-32-8	Benzo(a)pyrene	660	ug/kg	150	J
218-01-9	Chrysene	90000	ug/kg	240	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	100	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 80 Louise Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				80LOU-049		80LOU-S3846A		80LOU-S3847A		80LOU-S3848A	
				49.3 to 49.6 ft. MSL		48.1 to 49.6 ft. MSL		48.1 to 49.6 ft. MSL		47.5 to 49.0 ft. MSL	
				0 to 0.25 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	240	J	320	J	250	J	240	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	480		520		440		400	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	420	U	210	J	180	J	170	J
50-32-8	Benzo(a)pyrene	660	ug/kg	250	J	240	J	220	J	190	J
218-01-9	Chrysene	90000	ug/kg	300	J	390		340	J	310	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	420	U	380	U	370	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	150	J	130	J	120	J	100	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				80LOU-S3849A		80LOU-S3850A	
				46.4 to 47.9 ft. MSL		46.0 to 47.8 ft. MSL	
				2 to 3.5 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	390	U
218-01-9	Chrysene	90000	ug/kg	380	U	390	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 80 Louise Drive

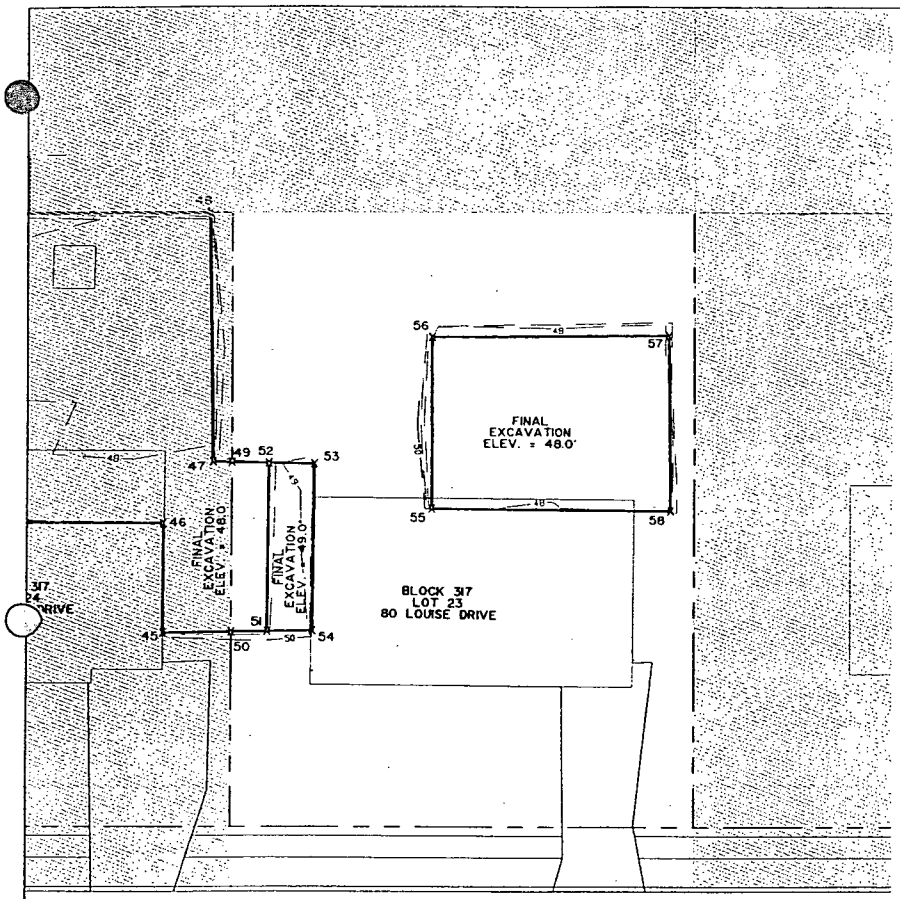
SIDEWALL SAMPLES

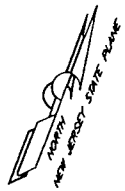
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2				3	
				SSS-80LOU-03		SSS-80LOU-09		SSS-80LOU-09-D (Duplicate)		FCS-OU2-PH2-0023-80LOU-W-49.0-7	
				49.7 to 50.2 ft. MSL		50.0 to 50.5 ft. MSL		50.0 to 50.5 ft. MSL		49.0 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	590		290	J	300	J	182	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	830		560		440		289	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	J	140	J	150	J	266	
50-32-8	Benzo(a)pyrene	660	ug/kg	420		250	J	250	J	188	
218-01-9	Chrysene	90000	ug/kg	690		370	J	340	J	273	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	98	J	400	U	390	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	290	J	140	J	150	J	130	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501408





FINAL EXCAVATION COORDINATES. 80 LOUISE DRIVE			
49	N 623424.1 E 469362.6	54	N 623403.0 E 469384.5
50	N 623398.2 E 469372.4	55	N 623428.4 E 469395.5
51	N 623400.3 E 469377.6	56	N 623454.8 E 469385.4
52	N 623426.0 E 469368.1	57	N 623468.8 E 469421.5
53	N 623428.5 E 469375.1	58	N 623442.0 E 469432.0

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

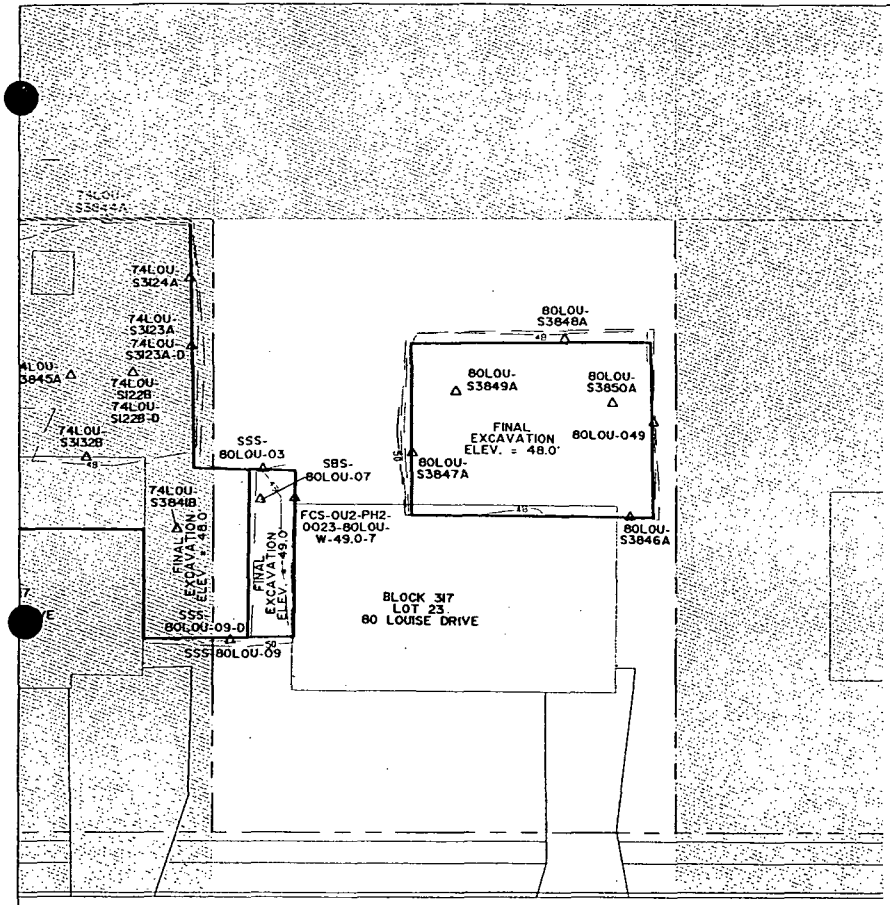
EPA

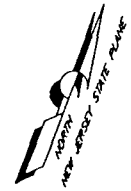
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
80 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

501409





LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
80 LOUISE DRIVE
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

5-7-04

Confirmation Sample Results for 12 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		1		2	
				12VAL-050		12VAL-050-D		12VAL-S3202A	
				52.1 to 52.4 ft. MSL		52.1 to 52.4 ft. MSL		50.2 to 51.7 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	730		810		140	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	820		850		270	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	840		890		120	J
50-32-8	Benzo(a)pyrene	660	ug/kg	630		650		110	J
218-01-9	Chrysene	90000	ug/kg	930		970		200	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	180	J	230	J	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	500		490		98	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				12VAL-S003B		12VAL-S3201B		12VAL-S3600A		12VAL-S3317A	
				47.9 to 49.9 ft. MSL		48.0 to 49.8 ft. MSL		49.0 to 50.1 ft. MSL		47.8 to 49.8 ft. MSL	
				2 to 4 ft. BGS		2 to 3.8 ft. BGS		2 to 3.1 ft. BGS		2 to 3.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U	350	U	360	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U	350	U	59	J	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U	350	U	360	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U	350	U	360	U	360	U
218-01-9	Chrysene	90000	ug/kg	340	U	350	U	360	U	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	340	U	350	U	360	UJ	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U	350	U	360	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 12 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				12VAL-068		FCS-OU2-PH2-0063-12VAL-W-51.5-7	
				52.0 to 52.3 ft. MSL		51.5 ft. MSL	
				0 to 0.25 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	410	J	303	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	570		425	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	500		394	
50-32-8	Benzo(a)pyrene	660	ug/kg	410	J	268	
218-01-9	Chrysene	90000	ug/kg	520		435	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	140	J	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	260	J	148	

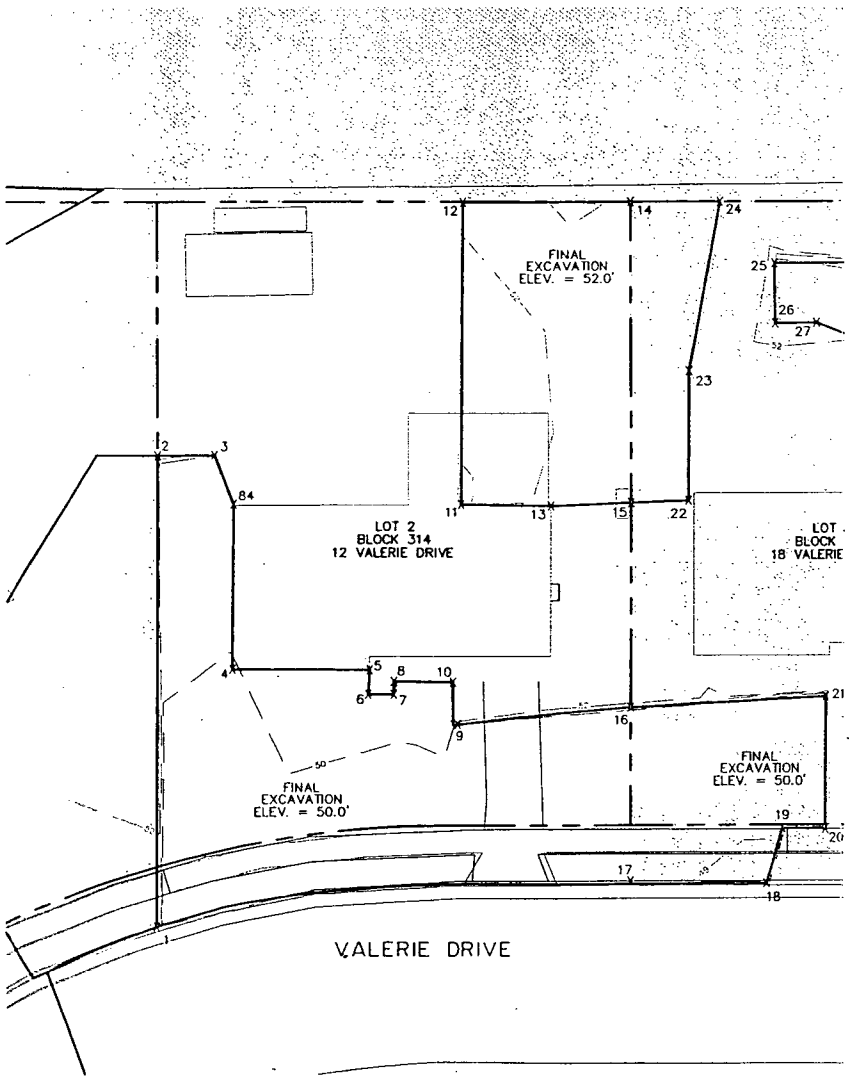
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				SBS-12VAL-08		SBS-12VAL-09	
				50.7 to 51.2 ft. MSL		50.8 to 51.3 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	400	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	400	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	400	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	400	U
218-01-9	Chrysene	90000	ug/kg	55	J	400	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	400	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	400	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501412



FINAL EXCAVATION COORDINATES 12 VALERIE DRIVE			
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2	N 622469.4 E 468578.5	11	N 622516.4 E 468591.6
3	N 622478.3 E 468579.4	12	N 622522.1 E 468544.9
4	N 622477.4 E 468613.9	13	N 622530.4 E 468593.4
5	N 622499.1 E 468616.4	14	N 622548.4 E 468546.2
6	N 622498.4 E 468620.3	15	N 622543.1 E 468594.3
7	N 622502.5 E 468620.8	16	N 622539.5 E 468627.0
8	N 622502.8 E 468618.7	17	N 622536.5 E 468654.4
9	N 622511.3 E 468626.7	84	N 622480.5 E 468587.6

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

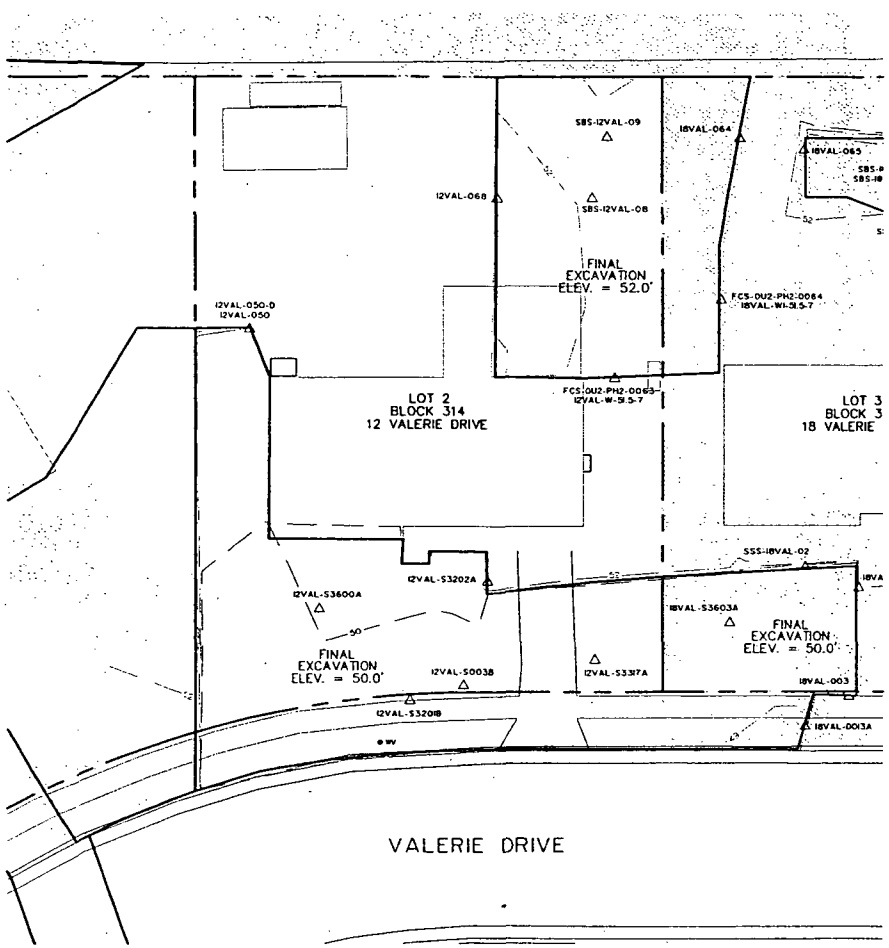
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
12 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-21-05

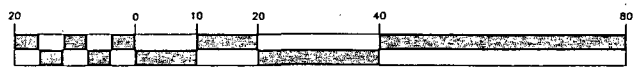
501413



LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ◘	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

US Army Corps
of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
12 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-21-05

Confirmation Sample Results for 17 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				17VAL-021		17VAL-S081A		FCS-OU2-PH2-0062-17VAL-W-51.5-7	
				51.5 to 51.8 ft. MSL		49.7 to 51.2 ft. MSL		51.5 ft. MSL	
				0 to 0.25 ft. BGS		0.5 to 2 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	240	J	97	J	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	J	160	J	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	290	J	97	J	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	250	J	81	J	330	U
218-01-9	Chrysene	90000	ug/kg	300	J	160	J	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	83	J	350	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	180	J	67	J	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				FCS-OU2-PH2-0060-17VAL-F-50.0-7		FCS-OU2-PH2-9003-17VAL-F-50.0-7	
				50.0 ft. MSL		50.0 ft. MSL	
				2.0 ft. BGS		2.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	330	U	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 17 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3			
				17VAL-009		17VAL-S3605A		17VAL-S3606A		17VAL-S3606A-D	
				51.2 to 51.5 ft. MSL		49.5 to 51.0 ft. MSL		49.2 to 50.7 ft. MSL		49.2 to 50.7 ft. MSL	
				0 to 0.25 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	490		240	J	380		340	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	720		510	J	750		640	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	630		230	J	300	J	210	J
50-32-8	Benzo(a)pyrene	660	ug/kg	520		240	J	430		590	J
218-01-9	Chrysene	90000	ug/kg	700		370		580		570	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	180	J	39	J	67	J	90	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	J	160	J	220	J	210	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				17VAL-S3607A	
				48.9 to 49.6 ft. MSL	
				2 to 2.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	130	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	230	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	90	J
50-32-8	Benzo(a)pyrene	660	ug/kg	99	J
218-01-9	Chrysene	90000	ug/kg	170	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	76	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 17 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				17VAL-050		17VAL-064		17VAL-067		SSS-17VAL-10	
				51.3 to 51.6 ft. MSL		51.0 to 51.2 ft. MSL		49.9 to 51.1 ft. MSL		51.2 to 51.7 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	500		190	J	140	J	320	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	810		490		200	J	840	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	740		410	U	190	J	250	J
50-32-8	Benzo(a)pyrene	660	ug/kg	390	J	210	J	160	J	330	J
218-01-9	Chrysene	90000	ug/kg	810		260	J	220	J	440	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	140	J	410	U	420	U	50	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	J	140	J	110	J	160	J

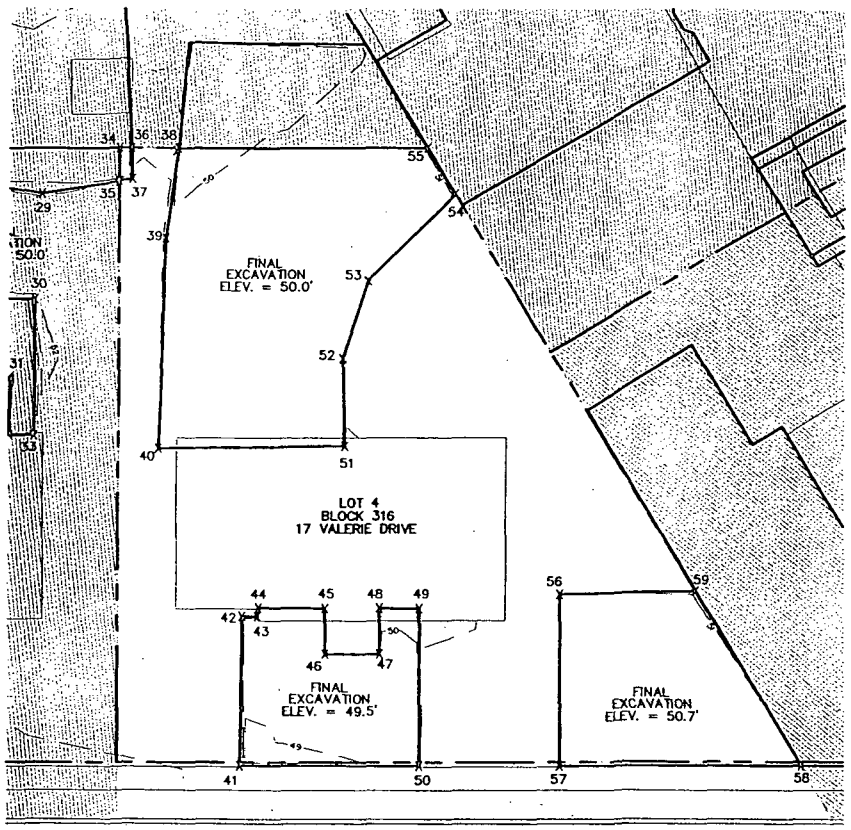
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				SBS-17VAL-08		SBS-17VAL-09	
				49.8 to 50.3 ft. MSL		49.9 to 50.4 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	41	J	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	390	U
218-01-9	Chrysene	90000	ug/kg	370	U	390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501417



FINAL EXCAVATION COORDINATES 17 VALERIE DRIVE			
34	N 622631.8 E 468806.9	47	N 622598.5 E 468720.3
35	N 622632.4 E 468801.6	48	N 622597.7 E 468727.7
36	N 622629.8 E 468806.7	49	N 622591.3 E 468727.0
37	N 622630.2 E 468801.7	50	N 622594.1 E 468701.6
38	N 622622.1 E 468805.8	51	N 622600.5 E 468754.6
39	N 622625.7 E 468791.4	52	N 622599.3 E 468768.7
40	N 622630.6 E 468757.5	53	N 622593.9 E 468780.9
41	N 622622.7 E 468704.8	54	N 622578.5 E 468793.5
42	N 622619.7 E 468728.8	55	N 622582.2 E 468801.5
43	N 622617.1 E 468728.5	56	N 622568.5 E 468726.7
44	N 622616.9 E 468729.9	57	N 622571.5 E 468699.0
45	N 622606.3 E 468728.6	58	N 622532.7 E 468694.8
46	N 622607.1 E 468721.2	59	N 622546.6 E 468724.8

LEGEND

FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

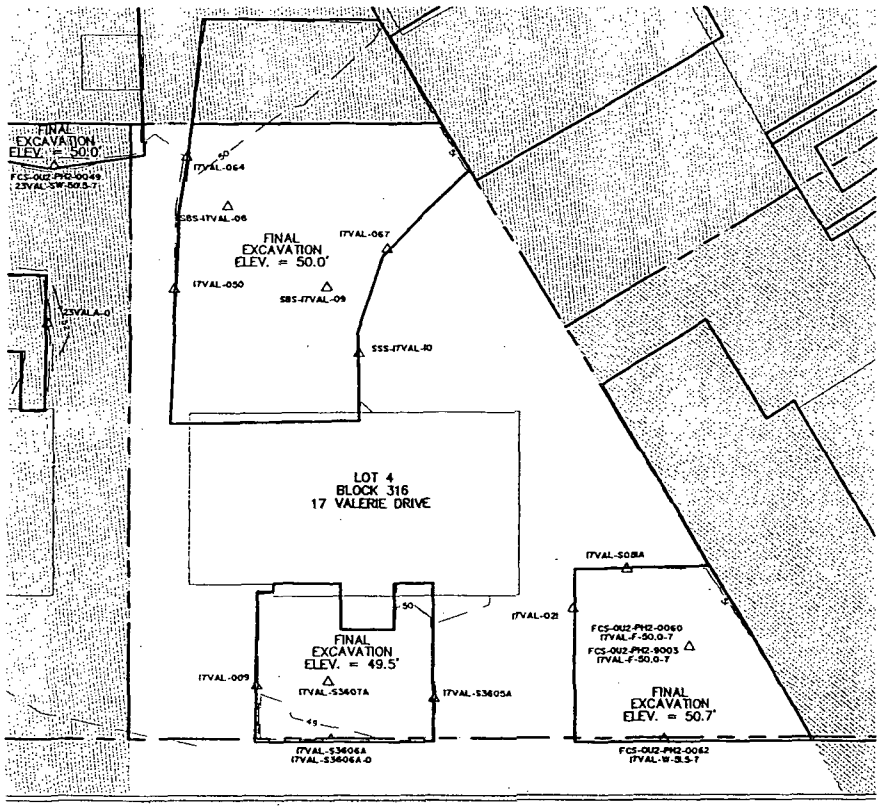
(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

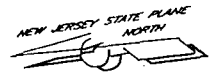
FINAL EXCAVATION LIMITS
17 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-20-04

501418



VALERIE DRIVE



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
17 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
9-27-04

Confirmation Sample Results for 18 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				SSS-18VAL-02		18VAL-003		18VAL-017		18VAL-D013A	
				51.8 to 52.3 ft. MSL		51.2 to 51.5 ft. MSL		52.0 to 52.3 ft. MSL		49.3 to 50.8 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.25 ft. BGS		0.25 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	420		180	J	210	J	140	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	880		270	J	340	J	240	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	440		240	J	300	J	300	J
50-32-8	Benzo(a)pyrene	660	ug/kg	390	J	180	J	200	J	150	J
218-01-9	Chrysene	90000	ug/kg	510		240	J	310	J	210	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	78	J	410	U	58	J	61	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	280	J	130	J	170	J	140	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				18VAL-S3603A	
				47.9 to 49.9 ft. MSL	
				2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U
218-01-9	Chrysene	90000	ug/kg	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 18 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				18VAL-064		FCS-OU2-PH2-0064-18VAL-W1-51.5-7	
				50.8 to 51.3 ft. MSL		51.5 ft. MSL	
				0 to 0.25 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	260	J	260	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	450		439	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	J	437	
50-32-8	Benzo(a)pyrene	660	ug/kg	280	J	230	
218-01-9	Chrysene	90000	ug/kg	360	J	402	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	110	J	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	220	J	108	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 18 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				18VAL-067-Z		18VAL-065		SSS-18VAL-03	
				51.8 to 52.1 ft. MSL		51.9 to 52.2 ft. MSL		51.5 to 52.0 ft. MS	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	300	J	340	J	310	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	780	J	570		610	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	UJ	470		260	J
50-32-8	Benzo(a)pyrene	660	ug/kg	290	J	290	J	280	J
218-01-9	Chrysene	90000	ug/kg	360	J	490		360	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	42	J	74	J	53	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	160	J	170	J	180	J

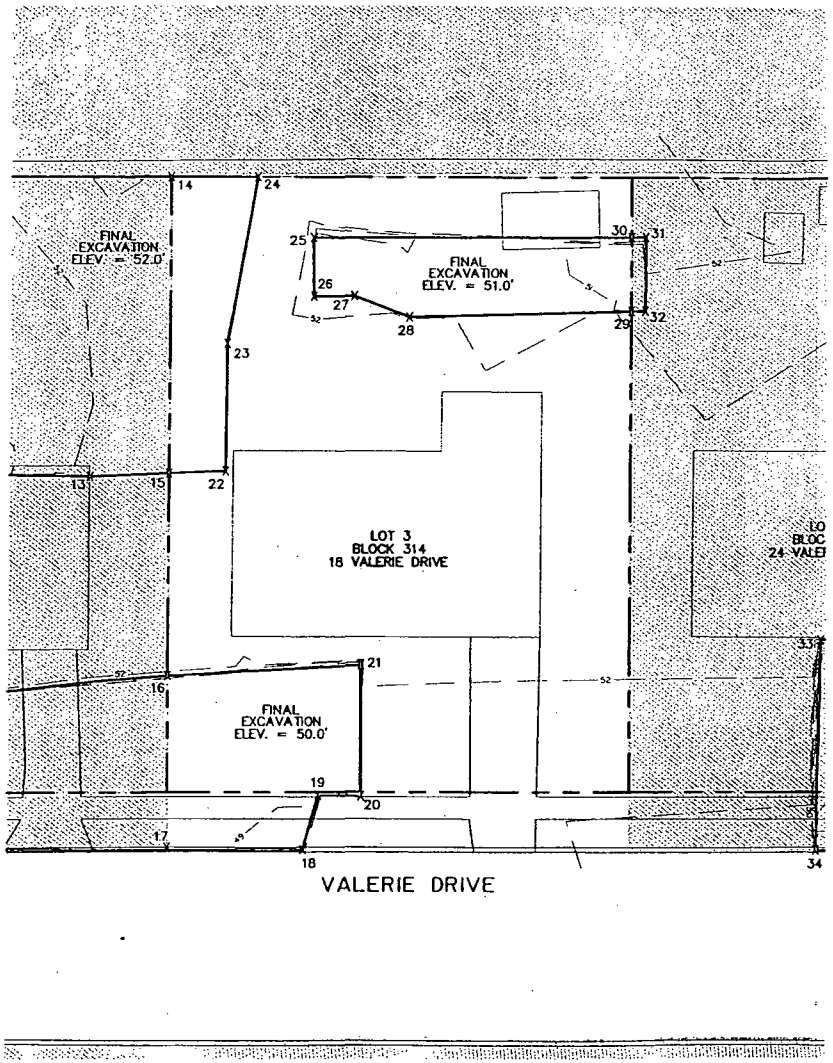
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				SBS-18VAL-07		SBS-18VAL-07-D	
				50.4 to 50.9 ft. MSL		50.4 to 50.9 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	J	310	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	710		700	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	250	J	290	J
50-32-8	Benzo(a)pyrene	660	ug/kg	270	J	270	J
218-01-9	Chrysene	90000	ug/kg	450		450	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	62	J	58	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	220	J	210	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501422



FINAL EXCAVATION COORDINATES 18 VALERIE DRIVE			
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15	N 622543.1 E 468594.3	24	N 622562.5 E 468547.8
16	N 622539.5 E 468627.0	25	N 622570.2 E 468558.6
17	N 622536.5 E 468654.4	26	N 622569.3 E 468568.2
18	N 622558.1 E 468657.2	27	N 622576.0 E 468568.9
19	N 622561.6 E 468648.8	28	N 622584.4 E 468573.2
20	N 622568.6 E 468649.7	29	N 622620.6 E 468576.2
21	N 622570.9 E 468628.7	30	N 622621.9 E 468564.2
22	N 622552.2 E 468595.0		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

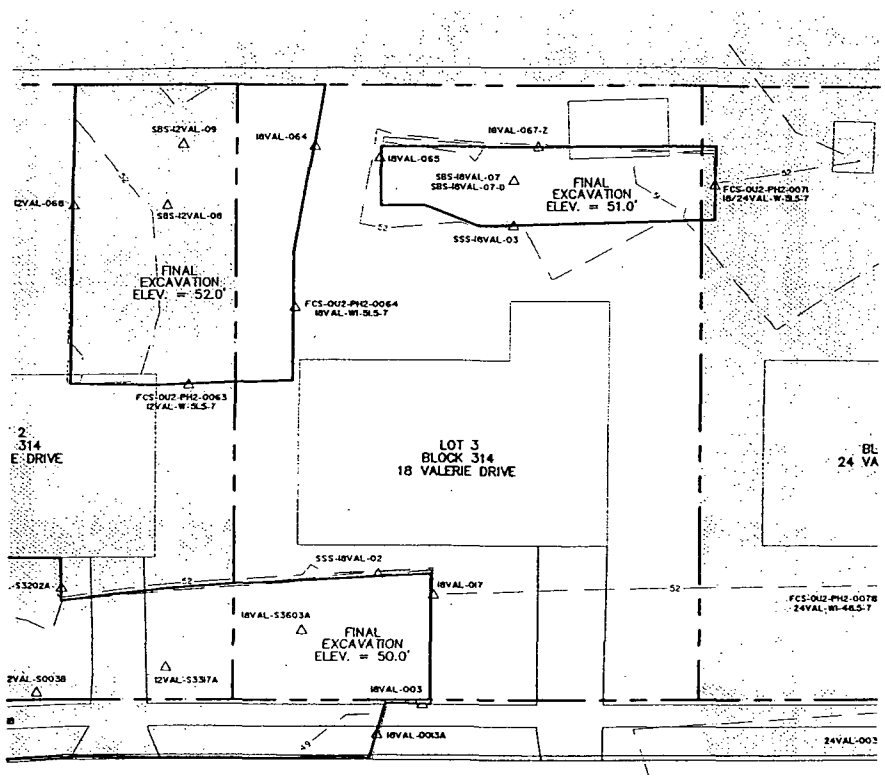
(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
18 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

10-13-04

501423

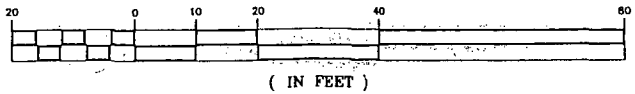


VALERIE DRIVE

LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ◘	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
18 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
10-25-04

Confirmation Sample Results for 23 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5		6	
				023VALA-0		23VAL-D038A		23VAL-S3224A		23VAL-S3225A		23VAL-S3403A		23VAL-S3404A	
				49.7 to 50.0 ft. MSL		49.1 to 50.6 ft. MSL		49.2 to 50.7 ft. MSL		49.2 to 50.7 ft. MSL		49.8 to 50.3 ft. MSL		49.8 to 50.3 ft. MSL	
				0 to 0.25 BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	500		49	J	420		370	U	380		270	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	500		82	J	470		370	U	640		380	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	400		94	J	170	J	370	U	340	J	220	J
50-32-8	Benzo(a)pyrene	660	ug/kg	400		46	J	260	J	370	U	380		220	J
218-01-9	Chrysene	90000	ug/kg	600		75	J	450		370	U	530		380	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	0	U	370	U	50	J	370	U	370	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	300	J	49	J	190	J	370	U	260	J	160	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				23VAL-S3084B		23VAL-S3223B		23VAL-S3608B		23VAL-S3609B		23VAL-S3610A	
				47.4 to 49.4 ft. MSL		48.0 to 49.6 ft. MSL		49.0 to 51.0 ft. MSL		48.1 to 49.9 ft. MSL		48.6 to 49.8 ft. MSL	
				2 to 4 ft. BGS		2 to 3.6 ft. BGS		2 to 3 ft. BGS		2 to 3.8 ft. BGS		2 to 3.2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U	370	U	380		340	J	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U	370	U	720		700		360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U	370	U	280	J	280	J	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U	370	U	280	J	290	J	360	U
218-01-9	Chrysene	90000	ug/kg	35	J	370	U	610		550		360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	340	U	370	U	40	J	45	J	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U	370	U	160	J	170	J	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 23 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				23VAL-S3223B		23VAL-S3608B		23VAL-S3609B		23VAL-S3610A	
				48.0 to 49.6 ft. MSL		49.0 to 50.0 ft. MSL		48.1 to 49.9 ft. MSL		48.6 to 49.8 ft. MSL	
				2 to 3.6 ft. BGS		2 to 3 ft. BGS		2 to 3.8 ft. BGS		2 to 3.2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	380		340	J	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	720		700		360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	280	J	280	J	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	280	J	290	J	360	U
218-01-9	Chrysene	90000	ug/kg	370	U	610		550		360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	40	J	45	J	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	160	J	170	J	360	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				23VAL-S3611A	
				45.9 to 47.9 ft. MSL	
				4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U
218-01-9	Chrysene	90000	ug/kg	350	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

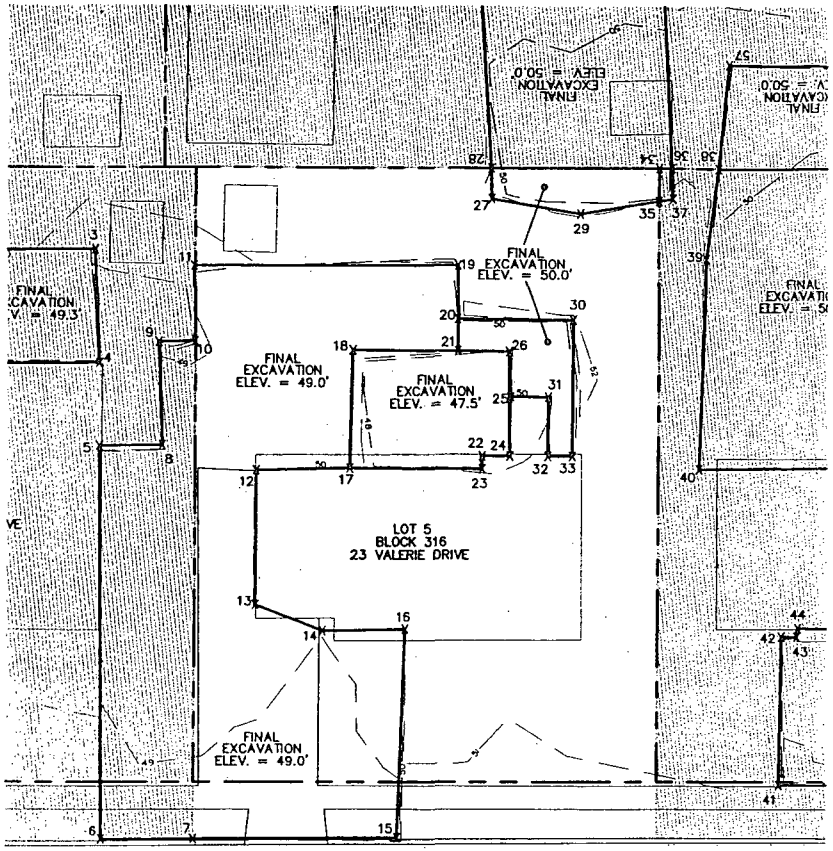
Confirmation Sample Results for 23 Valerie Drive

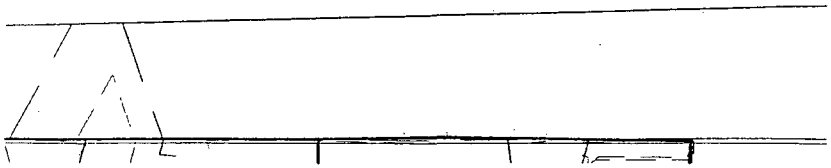
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0049-23VAL-SW-50.5-7	
				50.5 ft. MSL	
				0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	359	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	530	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	534	
50-32-8	Benzo(a)pyrene	660	ug/kg	328	
218-01-9	Chrysene	90000	ug/kg	480	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	165	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results





FINAL EXCAVATION COORDINATES 23 VALERIE DRIVE			
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10	N 622709.5 E 468787.1	24	N 622660.6 E 468763.0
11	N 622708.3 E 468799.3	25	N 622659.5 E 468772.6
12	N 622702.0 E 468765.2	26	N 622658.9 E 468779.9
13	N 622704.5 E 468743.4	27	N 622659.0 E 468804.9
14	N 622694.0 E 468737.9	28	N 622658.5 E 468809.9
15	N 622685.5 E 468703.1	29	N 622645.1 E 468800.9
16	N 622680.5 E 468736.8	30	N 622648.1 E 468783.8
17	N 622686.7 E 468763.9	31	N 622653.5 E 468771.8
18	N 622684.2 E 468782.9	32	N 622654.6 E 468762.3
19	N 622665.6 E 468794.7	33	N 622650.6 E 468761.9
20	N 622666.6 E 468786.1	34	N 622631.8 E 468806.9
21	N 622667.2 E 468780.9	35	N 622632.4 E 468801.6
22	N 622665.0 E 468763.5		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

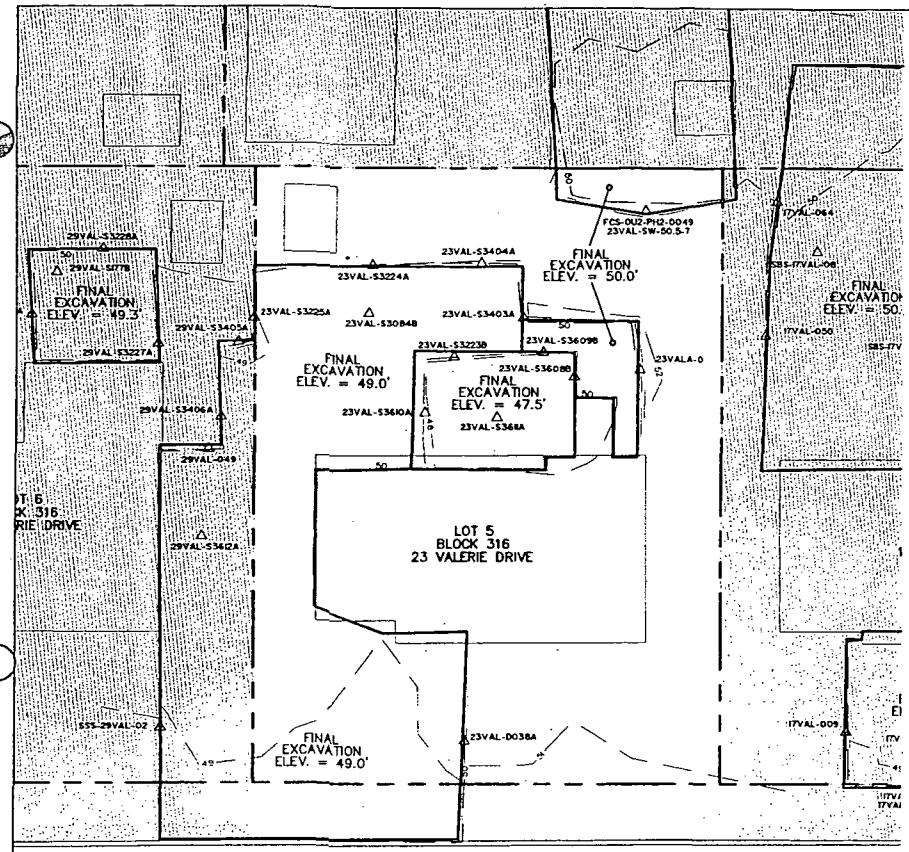
(IN FEET)
1 inch = 30 ft.

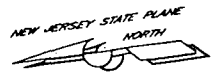
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
23 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

10-07-04

501427





LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
23 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
5-27-04

501428

Confirmation Sample Results for 24 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				24VAL-061		SSS-24VAL-04	
				51.8 to 52.1 ft. MSL		51.6 to 52.1 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	170	J	390	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	260	XJ	720	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	260	XJ	280	J
50-32-8	Benzo(a)pyrene	660	ug/kg	76	J	330	J
218-01-9	Chrysene	90000	ug/kg	180	J	510	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U	70	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	56	J	240	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-24VAL-07	
				50.6 to 51.1 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	200	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	290	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	150	J
218-01-9	Chrysene	90000	ug/kg	260	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	110	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 24 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0071-18/24VAL-W-51.5-7	
				51.5 ft. MSL	
				0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	379	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	657	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	480	
50-32-8	Benzo(a)pyrene	660	ug/kg	391	
218-01-9	Chrysene	90000	ug/kg	550	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	179	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 24 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5		6	
				24VAL-003		24VAL-077		24VAL-049		FCS-OU2-PH2-0078-24VAL-W1-48.5-7		FCS-OU2-PH2-0079-24VAL-W2-48.0-7		FCS-OU2-PH2-0080-24VAL-W3-47.3-7	
				50.9 to 51.2 ft. MSL		50.5 to 50.8 ft. MSL		51.6 to 51.9 ft. MSL		48.5 ft. MSL		48.0 ft. MSL		47.3 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		2.5 ft. BGS		3.0 ft. BGS		3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	190	J	600		370	J	330	U	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	300	J	840	XJ	500		330	U	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	220	J	860	XJ	440		330	U	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	190	J	280	J	350	J	330	U	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	260	J	600		430		330	U	330	U	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	64	J	120	J	120	J	330	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	130	J	260	J	210	J	330	U	330	U	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				SBS-24VAL-06		FCS-OU2-PH2-0077-24VAL-F-45.7-7	
				50.5 to 51.0 ft. MSL		45.7 ft. MSL	
				1 to 1.5 ft. BGS		5.3 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	87	J	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	220	J	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	95	J	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	66	J	330	U
218-01-9	Chrysene	90000	ug/kg	170	J	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	56	J	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 24 Valerie Drive

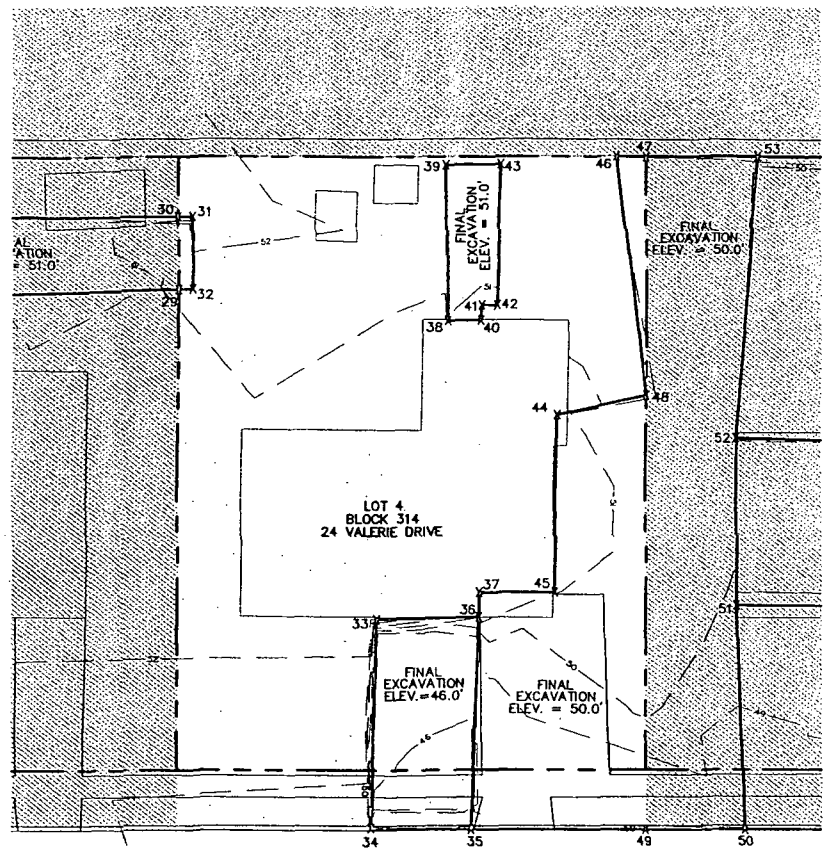
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SSS-30VAL-01	
				51.3 to 51.8 ft. MSL	
				0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	550	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	850	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	J
50-32-8	Benzo(a)pyrene	660	ug/kg	410	
218-01-9	Chrysene	90000	ug/kg	670	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	81	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	260	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501433



FINAL EXCAVATION COORDINATES 24 VALERIE DRIVE			
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30	N 622621.9 E 468564.2	41	N 622668.4 E 468584.1
31	N 622624.2 E 468564.5	42	N 622670.9 E 468584.4
32	N 622622.8 E 468576.4	43	N 622674.1 E 468561.4
33	N 622646.3 E 468632.9	44	N 622678.7 E 468603.2
34	N 622641.7 E 468666.6	45	N 622675.2 E 468631.7
35	N 622657.6 E 468668.6	46	N 622692.7 E 468562.1
36	N 622662.6 E 468634.4	47	N 622697.5 E 468562.7
37	N 622663.1 E 468630.4	48	N 622693.2 E 468601.6
38	N 622662.8 E 468586.0	49	N 622685.5 E 468671.7
39	N 622665.3 E 468560.5		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

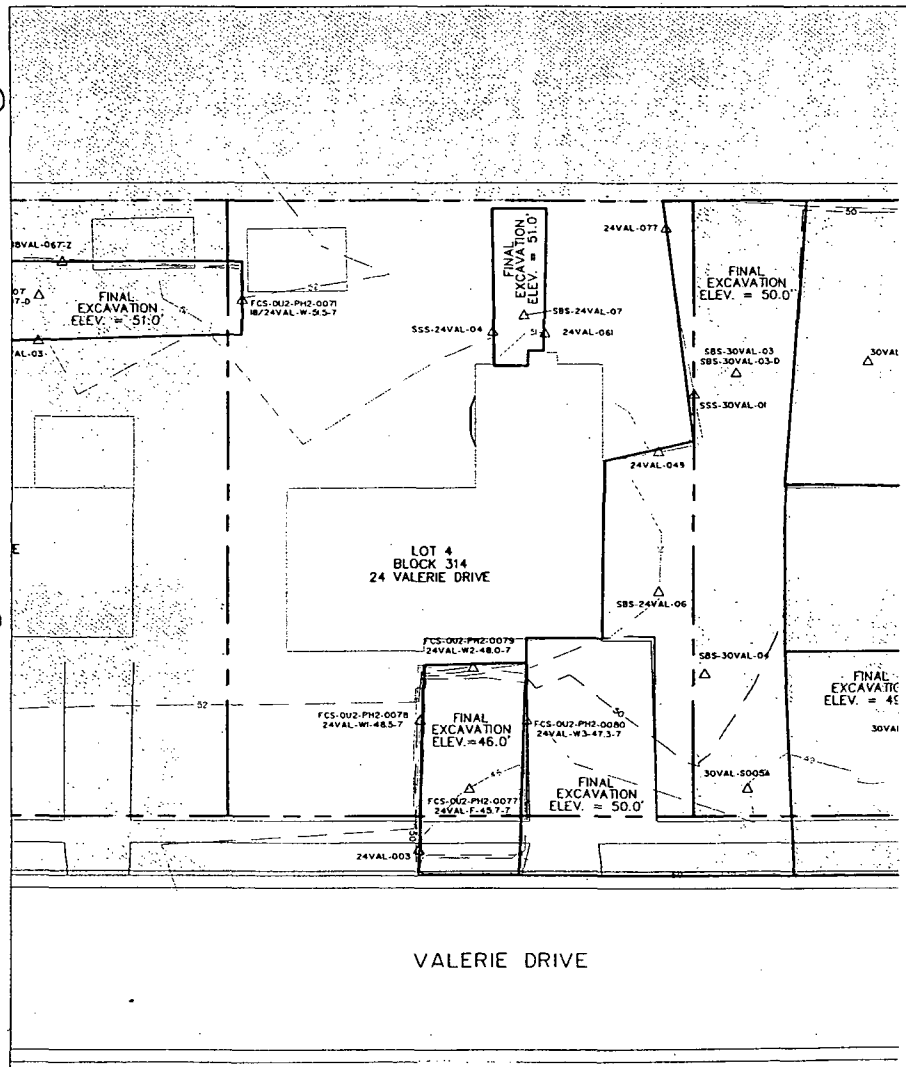
(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
24 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

10-03-04

501434



LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX CONFIRMATION SAMPLE
- XXXX DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
24 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-21-05

Confirmation Sample Results for 29 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				29VAL-S3227A		29VAL-S3228A		29VAL-S3229A	
				49.2 to 50.7 ft. MSL		47.1 to 49.0 ft. MSL		49.3 to 50.8 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	140	J	62	J	120	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	260	J	98	J	190	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	120	J	390	U	71	J
50-32-8	Benzo(a)pyrene	660	ug/kg	100	J	390	U	79	J
218-01-9	Chrysene	90000	ug/kg	200	J	86	J	170	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	400	U	390	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	87	J	390	U	64	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				29VAL-S177B	
				47.0 to 49.0 ft. MSL	
				2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	UJ
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	UJ
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	UJ
50-32-8	Benzo(a)pyrene	660	ug/kg	370	UJ
218-01-9	Chrysene	90000	ug/kg	370	UJ
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	UJ

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 29 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				29VAL-049		29VAL-S3405A		29VAL-S3406A		SSS-29VAL-02	
				50.9 to 51.2 ft. MSL		29.3 to 30.8 ft. MSL		49.4 to 49.9 ft. MSL		50.5 to 51.0 ft. MSL	
				0 to 0.25 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	180	J	76	J	100	J	140	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	XJ	140	J	170	J	260	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	XJ	65	J	94	J	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	110	J	60	J	90	J	140	J
218-01-9	Chrysene	90000	ug/kg	220	J	120	J	160	J	190	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U	400	U	380	U	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	100	J	400	U	380	U	87	J

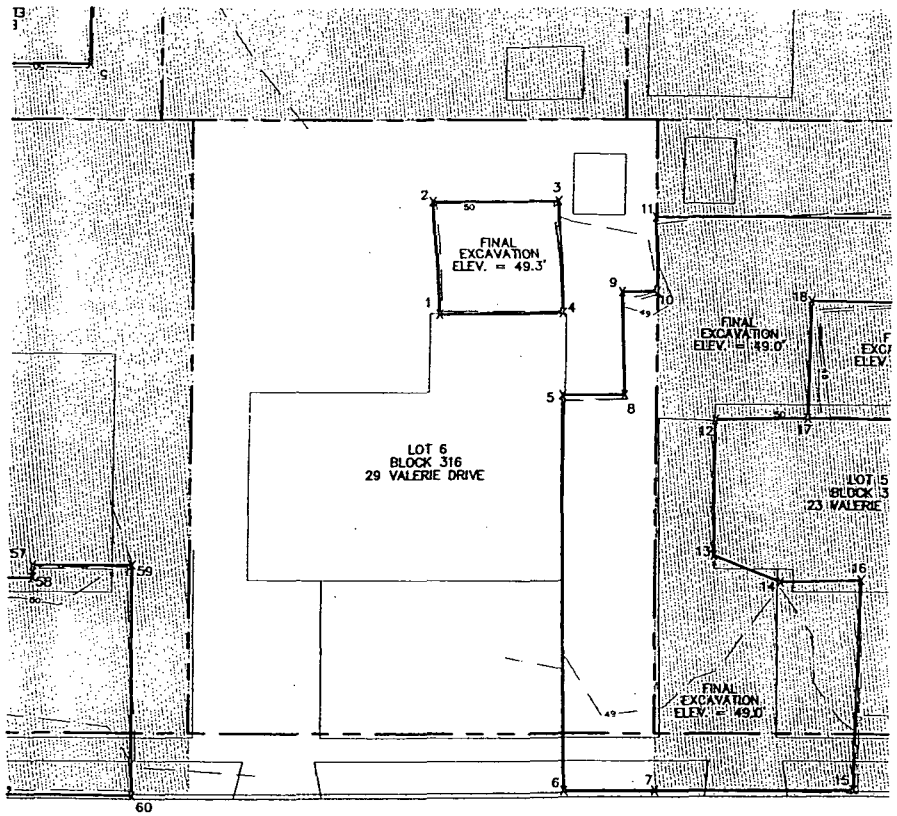
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				29VAL-S3612A	
				47.1 to 49.1 ft. MSL	
				2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U
218-01-9	Chrysene	90000	ug/kg	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501437



FINAL EXCAVATION COORDINATES 29 VALERIE DRIVE			
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2	N 622743.8 E 468805.8	8	N 622716.5 E 468770.9
3	N 622723.5 E 468803.7	9	N 622715.3 E 468787.6
4	N 622725.0 E 468785.2	10	N 622709.5 E 468787.1
5	N 622726.3 E 468771.9	11	N 622708.3 E 468799.3
6	N 622732.8 E 468708.1		

LEGEND

FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

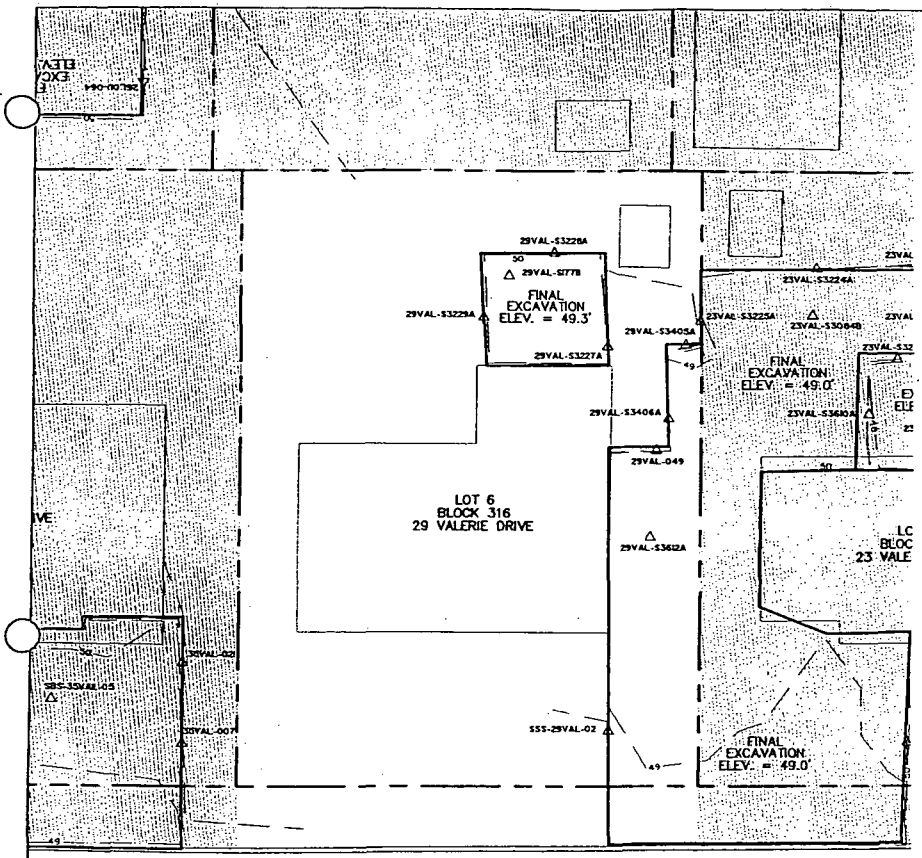
(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
29 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-20-04

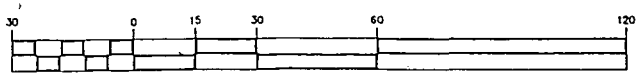
501438



LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX △ CONFIRMATION SAMPLE
- XXXX □ DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX □ DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
29 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-29-04

Confirmation Sample Results for 30 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5		6	
				30VAL-D014B		30VAL-S007B		30VAL-S3204B		30VAL-S3206B		30VAL-S3208B		30VAL-S3209B	
				46.2 to 48.2 ft. MSL		47.4 to 49.4 ft. MSL		48.3 to 49.3 ft. MSL		47.7 to 49.2 ft. MSL		47.9 to 49.4 ft. MSL		47.4 to 48.9 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 3.3 ft. BGS		2 to 3.5 ft. BGS		2 to 3.5 ft. BGS		2 to 3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	54	J	370	U	350	U	350	U	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	360	U	370	U	350	U	40	J	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	360	U	370	U	350	U	350	U	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	360	U	370	U	350	U	350	U	350	U
218-01-9	Chrysene	90000	ug/kg	350	U	45	J	370	U	350	U	350	U	350	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U	360	U	370	U	350	U	350	U	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	360	U	370	U	350	U	350	U	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 30 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SSS-30VAL-01	
				51.3 to 51.8 ft. MSL	
				0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	550	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	850	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	J
50-32-8	Benzo(a)pyrene	660	ug/kg	410	
218-01-9	Chrysene	90000	ug/kg	670	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	81	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	260	J

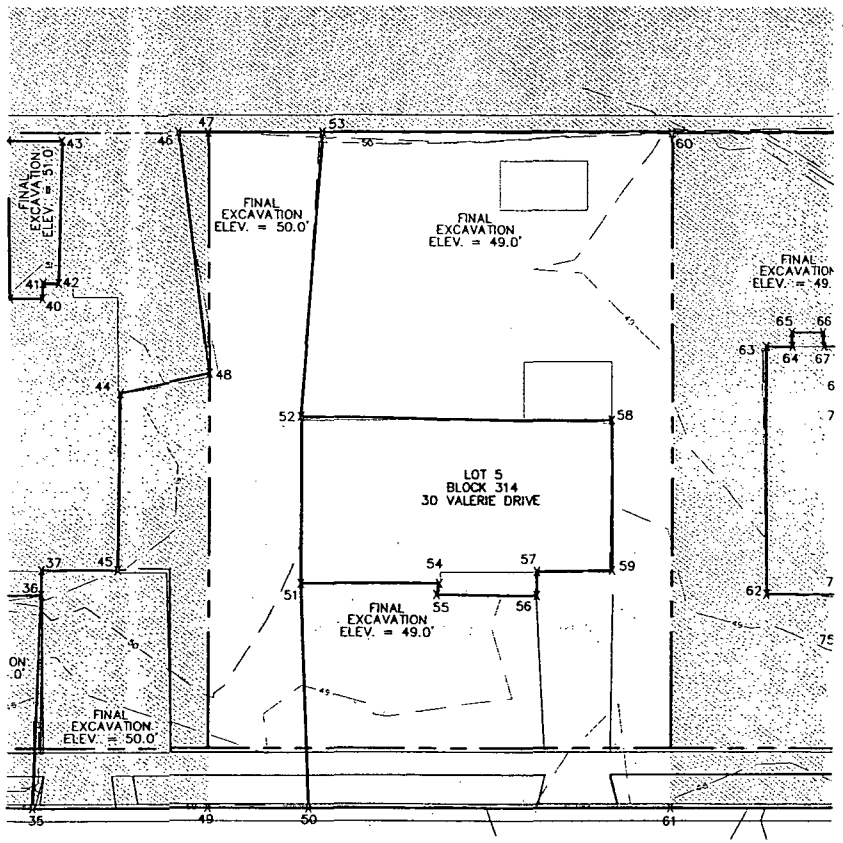
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2		3	
				SBS-30VAL-03		SBS-30VAL-03-D		SBS-30VAL-04		30VAL-S005A	
				50.2 to 50.7 ft. MSL		50.2 to 50.7 ft. MSL		50.1 to 50.6 ft. MSL		48.9 to 50.4 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	120	J	73	J	210	J	140	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	240	J	150	J	340	J	150	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	84	J	42	J	110	J	120	J
50-32-8	Benzo(a)pyrene	660	ug/kg	110	J	51	J	180	J	93	J
218-01-9	Chrysene	90000	ug/kg	150	J	100	J	220	J	140	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	380	U	380	UJ	35	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	79	J	45	J	96	J	80	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501441



FINAL EXCAVATION COORDINATES 30 VALERIE DRIVE			
47	N 622697.5 E 468562.7	55	N 622725.8 E 468641.4
48	N 622693.2 E 468601.6	56	N 622742.1 E 468643.3
49	N 622685.5 E 468671.7	57	N 622742.5 E 468639.4
50	N 622701.7 E 468673.5	58	N 622757.3 E 468616.3
51	N 622704.2 E 468637.1	59	N 622754.7 E 468640.6
52	N 622707.1 E 468610.1	60	N 622772.1 E 468570.9
53	N 622715.8 E 468564.6	61	N 622760.1 E 468679.9
54	N 622726.4 E 468639.6		

LEGEND

38 — FINAL EXCAVATION CONTOURS
PROPERTY LINES
CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

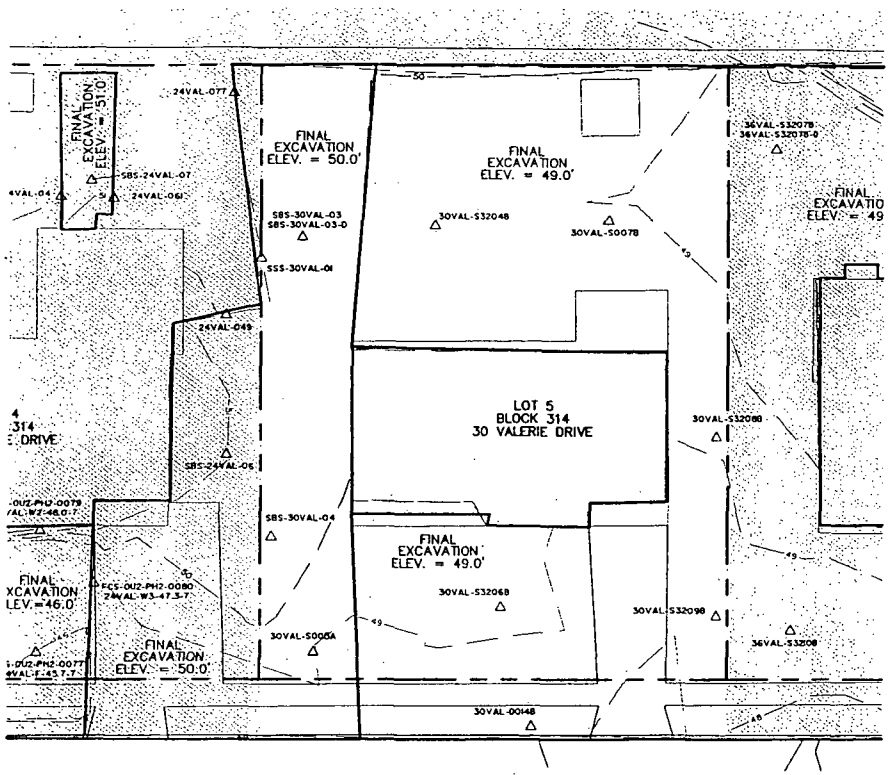
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
30 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-25-05

501442

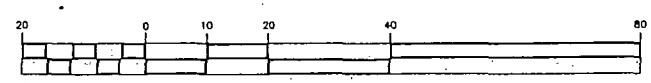


VALERIE DRIVE

LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ◘	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
30 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
10-21-04

Confirmation Sample Results for 35 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-35VAL-05	
				49.3 to 49.8 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	390	U
205-99-2	Benzo(b)fluor	900	ug/kg	390	U
207-08-9	Benzo(k)fluor	9000	ug/kg	390	U
50-32-8	Benzo(a)pyre	660	ug/kg	390	U
218-01-9	Chrysene	90000	ug/kg	390	U
53-70-3	Dibenzo(a,h)a	660	ug/kg	390	U
193-39-5	Indeno(1,2,3-	900	ug/kg	390	U
7440-38-2	Arsenic	20	mg/kg	4.5	J
		NJDEP RDCSCC			

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 35 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				35VAL-007		35VAL-021	
				50.4 to 50.7 ft. MSL		50.8 to 51.1 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	81	J	240	J
205-99-2	Benzo(b)fluor	900	ug/kg	180	J	460	
207-08-9	Benzo(k)fluor	9000	ug/kg	170	J	430	
50-32-8	Benzo(a)pyre	660	ug/kg	45	J	210	J
218-01-9	Chrysene	90000	ug/kg	110	J	270	J
53-70-3	Dibenzo(a,h)a	660	ug/kg	410	U	400	U
193-39-5	Indeno(1,2,3-	900	ug/kg	46	J	150	J
7440-38-2	Arsenic	20	mg/kg	7		7.7	
		NJDEP RDCSCC					

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

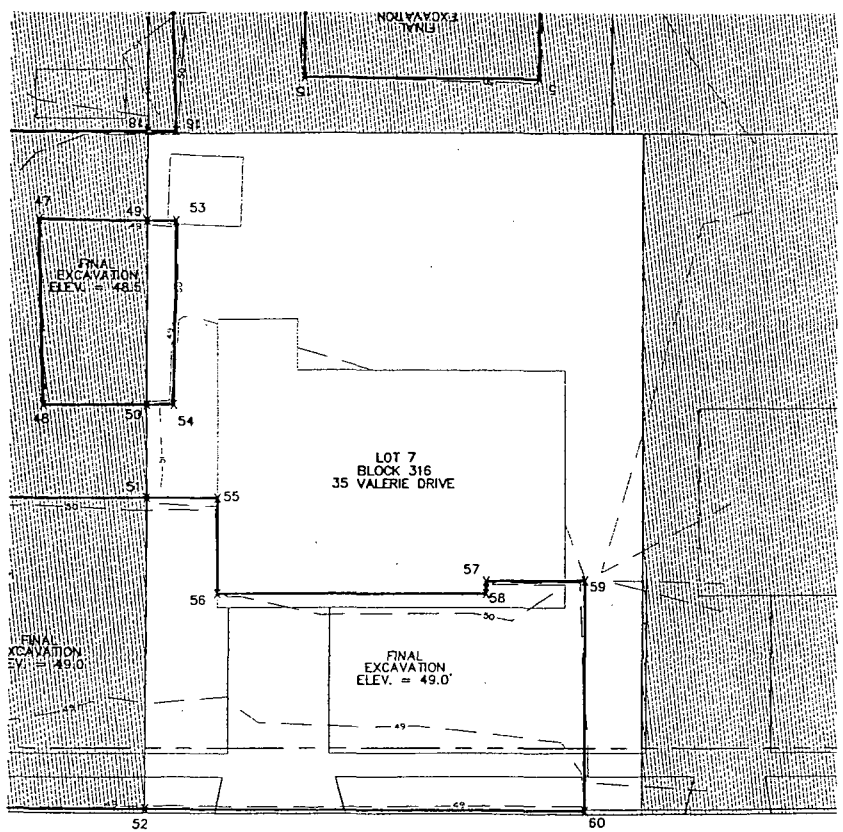
Confirmation Sample Results for 35 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				35VAL-050	
				50.5 to 50.8 ft. MSL	
				0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	190	J
205-99-2	Benzo(b)fluor	900	ug/kg	380	J
207-08-9	Benzo(k)fluor	9000	ug/kg	400	UJ
50-32-8	Benzo(a)pyre	660	ug/kg	120	J
218-01-9	Chrysene	90000	ug/kg	210	J
53-70-3	Dibenzo(a,h)a	660	ug/kg	400	U
193-39-5	Indeno(1,2,3-	900	ug/kg	95	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results



VALERIE DRIVE

FINAL EXCAVATION COORDINATES 35 VALERIE DRIVE			
49	N 622862.0 E 468818.1	55	N 622855.5 E 468771.9
50	N 622865.3 E 468788.3	56	N 622857.2 E 468756.4
51	N 622866.9 E 468773.2	57	N 622814.0 E 468753.7
52	N 622872.5 E 468723.1	58	N 622814.2 E 468751.6
53	N 622857.2 E 468817.6	59	N 622798.1 E 468752.0
54	N 622860.8 E 468787.8	60	N 622802.1 E 468714.9

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

EPA

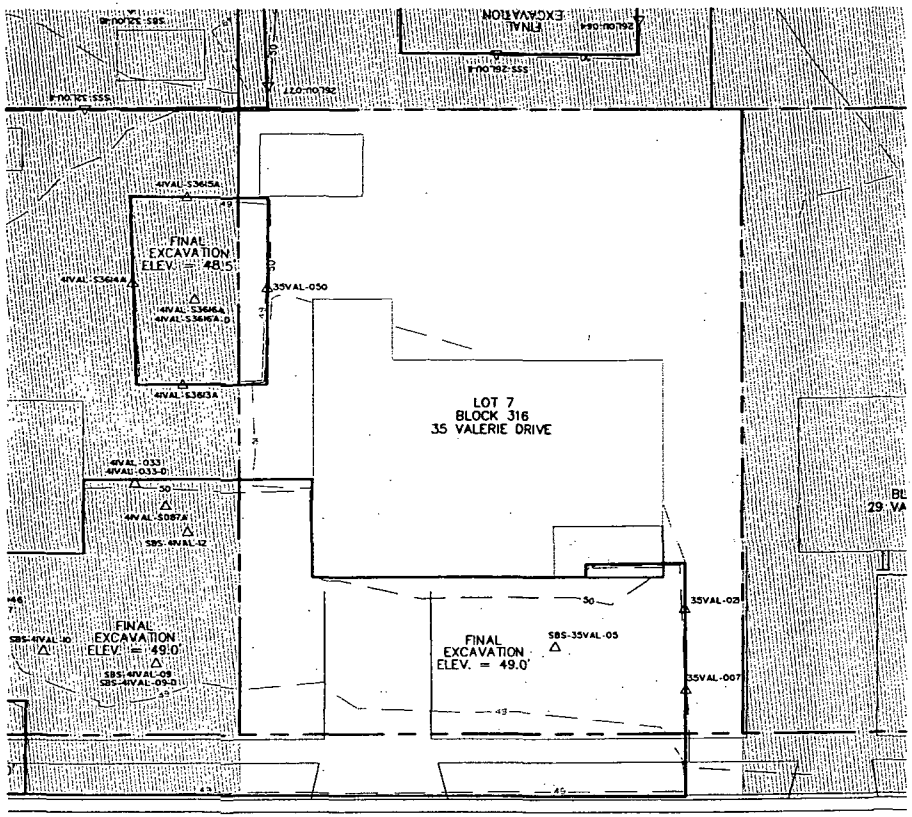
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
35 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-24-04

501446

501447



VALERIE DRIVE

LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
35 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-23-05

Confirmation Sample Results for 36 Valerie Drive

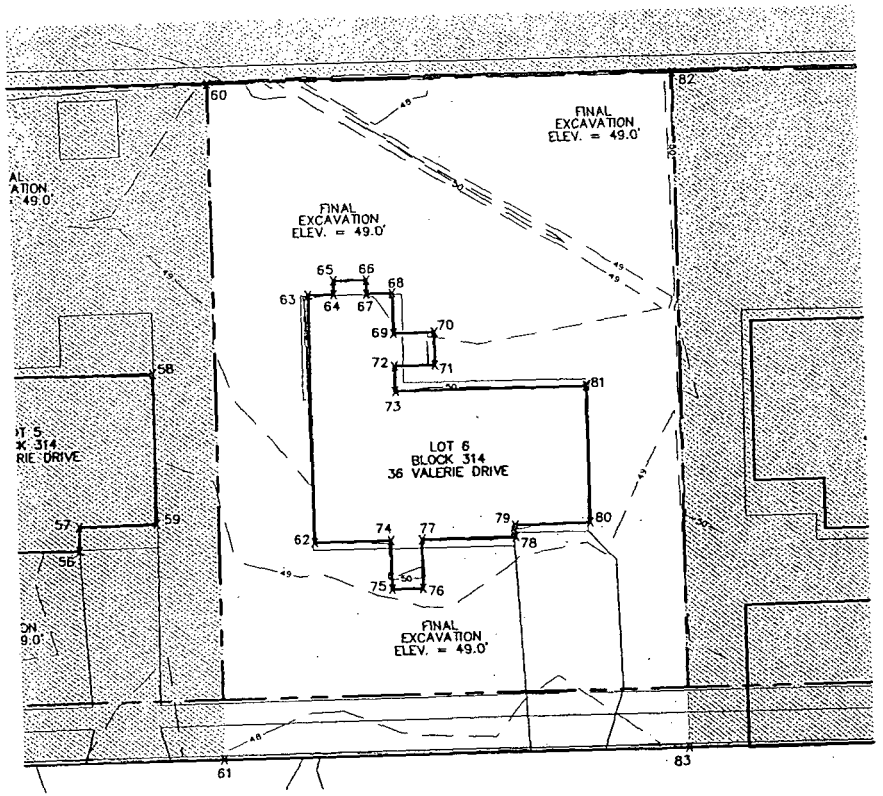
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2				3		4		5		6	
				36VAL-S008B		36VAL-S3207B		36VAL-S3207B-D		36VAL-S3210B		36VAL-S3211B		36VAL-S3212B		36VAL-S3213B	
				46.1 to 48.1 ft. MSL		47.6 to 49.0 ft. MSL		47.6 to 49.0 ft. MSL		47.1 to 48.9 ft. MSL		47.0 to 48.9 ft. MSL		48.4 to 49.2 ft. MSL		47.4 to 49.2 ft. MSL	
				2 to 4 ft. BGS		2 to 3.4 ft. BGS		2 to 3.4 ft. BGS		2 to 3.8 ft. BGS		2 to 3.9 ft. BGS		2 to 2.8 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	83	J	350	U	340	U	340	U	310	J	330	J	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	120	J	350	U	340	U	340	U	250	J	350	J	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	350	U	340	U	340	U	100	J	130	J	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	45	J	350	U	340	U	340	U	130	J	170	J	360	U
218-01-9	Chrysene	90000	ug/kg	100	J	350	U	340	U	340	U	320	J	360	J	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U	350	U	340	U	340	U	360	U	370	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	350	U	340	U	340	U	63	J	76	J	360	U

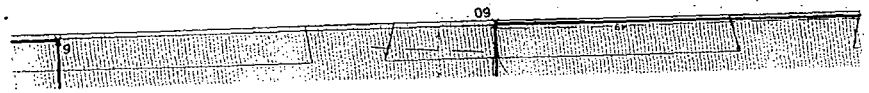
*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501449



VALERIE DRIVE



FINAL EXCAVATION COORDINATES 36 VALERIE DRIVE			
60	N 622772.1 E 468570.9	72	N 622795.6 E 468620.3
61	N 622760.1 E 468679.9	73	N 622795.2 E 468624.4
62	N 622779.1 E 468647.1	74	N 622791.2 E 468648.4
63	N 622783.4 E 468607.0	75	N 622790.4 E 468656.3
64	N 622787.5 E 468607.5	76	N 622795.4 E 468656.8
65	N 622787.7 E 468605.2	77	N 622796.3 E 468649.0
66	N 622793.0 E 468605.8	78	N 622811.3 E 468650.6
67	N 622792.7 E 468608.0	79	N 622811.5 E 468648.7
68	N 622796.9 E 468608.5	80	N 622823.6 E 468649.9
69	N 622796.2 E 468615.0	81	N 622825.9 E 468627.7
70	N 622802.8 E 468615.7	82	N 622846.6 E 468579.1
71	N 622802.2 E 468621.0	83	N 622834.6 E 468588.1

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

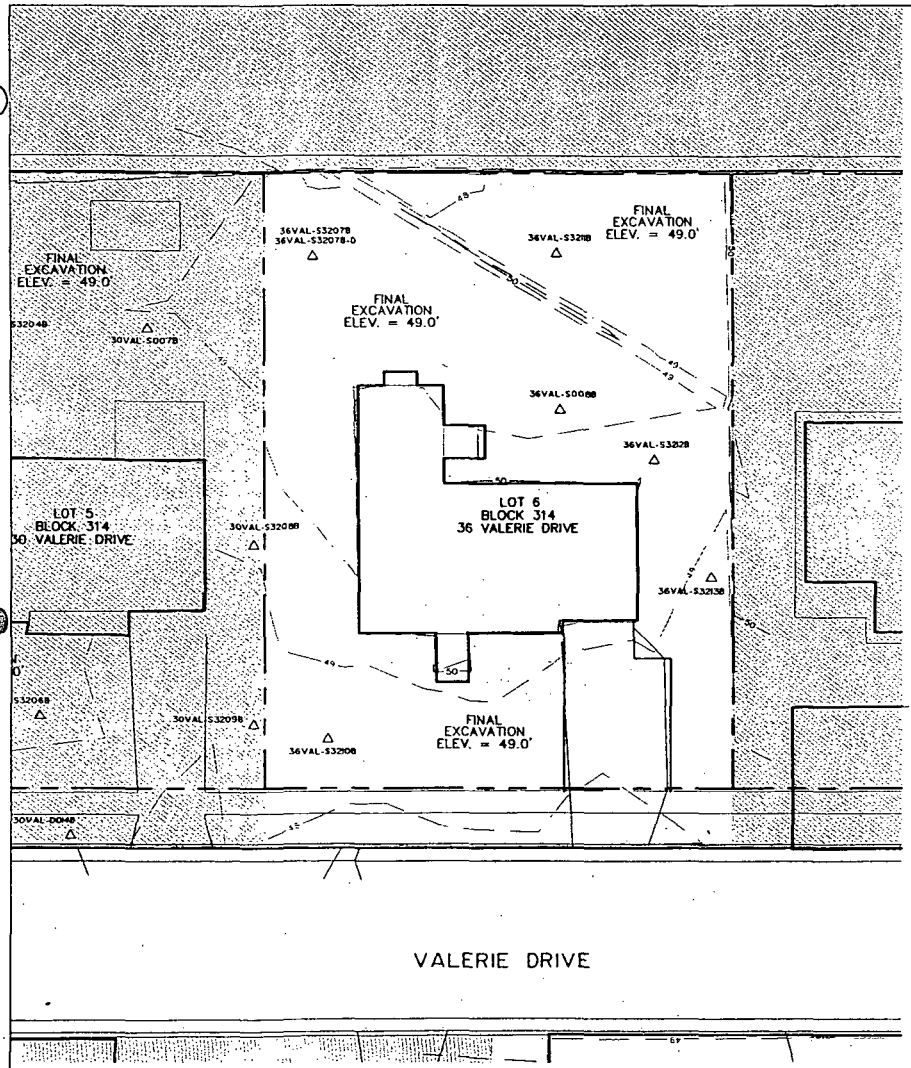
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
36 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

10-13-04

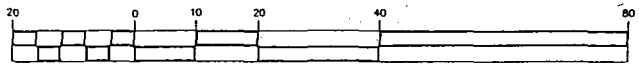
501450



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
36 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 41 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		2		3		4	
				41VAL-S087A		SBS-41VAL-09		SBS-41VAL-09-D		SBS-41VAL-10		SBS-41VAL-12	
				48.5 to 50.0 ft. MSL		49.0 to 49.5 ft. MSL		49.0 to 49.5 ft. MSL		49.4 to 49.9 ft. MSL		49.0 to 49.5 ft. MSL	
				0.5 to 2 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	140	J	380	U	430	U	390		390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	120	J	380	U	430	U	820		390	UJ
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	UJ	380	U	430	U	300	J	390	UJ
50-32-8	Benzo(a)pyrene	660	ug/kg	68	J	380	U	430	U	340	J	390	UJ
218-01-9	Chrysene	90000	ug/kg	130	J	380	U	430	U	580		390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	UJ	380	U	430	U	82	J	390	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	UJ	380	U	430	U	260	J	390	UJ
7440-38-2	Arsenic	20	mg/kg	4.4		5.4		11.1		10.1		5.5	J
		NJDEP RDCSCC											

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 41 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				41VAL-S3613A		41VAL-S3614A		41VAL-S3615A	
				48.5 to 50.0 ft. MSL		48.4 to 49.9 ft. MSL		48.4 to 49.9 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	210	J	350	U	94	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	570		350	U	140	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	210	J	350	U	61	J
50-32-8	Benzo(a)pyrene	660	ug/kg	160	J	350	U	53	J
218-01-9	Chrysene	90000	ug/kg	440		350	U	150	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	350	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	120	J	350	U	38	J

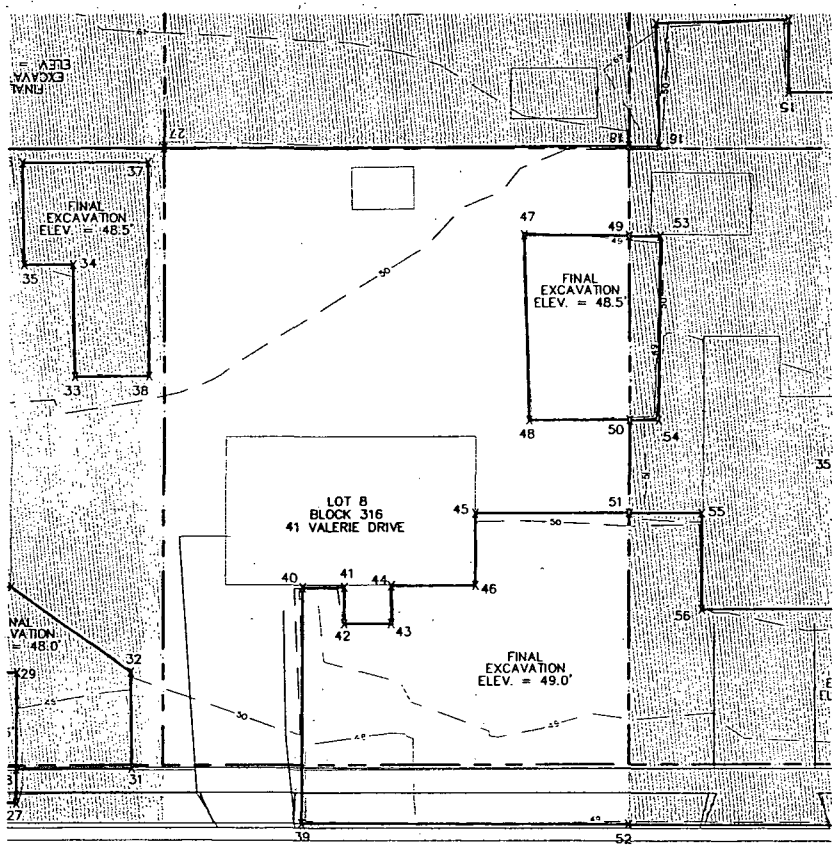
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				41VAL-S3616A		41VAL-S3616A-D	
				47.4 to 48.6 ft. MSL		47.4 to 48.6 ft. MSL	
				2 to 3.2 ft. BGS		2 to 3.2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	340	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	340	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	340	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	340	U
218-01-9	Chrysene	90000	ug/kg	360	U	340	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	340	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501453



FINAL EXCAVATION COORDINATES 41 VALERIE DRIVE			
39	N 622924.9 E 468729.1	46	N 622892.9 E 468764.2
40	N 622920.5 E 468767.0	47	N 622879.0 E 468820.2
41	N 622913.7 E 468766.3	48	N 622881.5 E 468790.1
42	N 622914.4 E 468760.4	49	N 622862.0 E 468818.1
43	N 622907.0 E 468759.6	50	N 622865.3 E 468788.3
44	N 622906.3 E 468765.7	51	N 622866.9 E 468773.2
45	N 622891.7 E 468775.9	52	N 622872.5 E 468723.1

LEGEND

FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

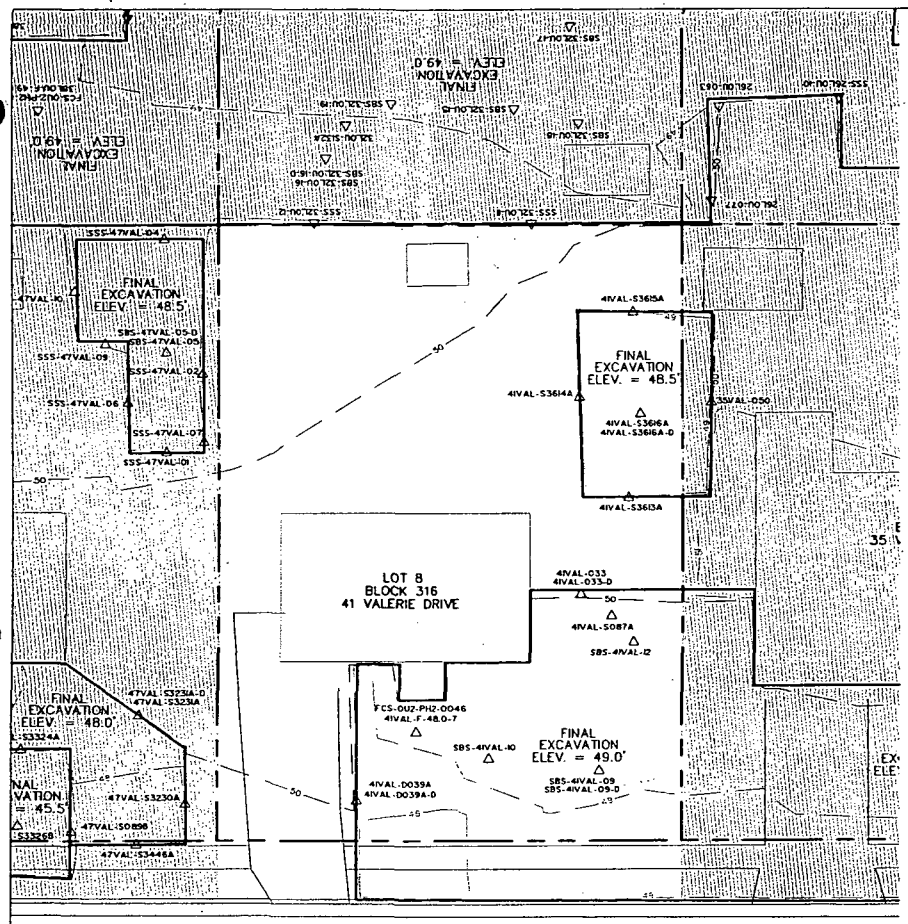
(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
41 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-22-05

501454



LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX △ CONFIRMATION SAMPLE
- XXXX □ DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX ■ DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
41 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-22-05

Confirmation Sample Results for 42 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				042VALA-24		42VAL-D002B		42VAL-S3214B		42VAL-S3318A		42VAL-S3319A	
				48.4 to 48.7 ft. MSL		46.0 to 48.0 ft. MSL		47.0 to 48.9 ft. MSL		46.7 to 48.6 ft. MSL		46.6 to 48.6 ft. MSL	
				2 to 2.25 BGS		2 to 4 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	0	U	350	U	62	J	390	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	0	U	350	U	74	J	390	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	0	U	350	UJ	360	U	390	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	0	U	350	U	37	J	390	U	360	U
218-01-9	Chrysene	90000	ug/kg	0	U	350	UJ	67	J	390	U	360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	0	U	350	U	360	U	390	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	0	U	350	U	360	U	390	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 42 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	6		7		8	
				42VAL-S3321A		42VAL-S3924A		42VAL-S009B	
				47.0 to 48.7 ft. MSL		48.5 to 49.0 ft. MSL		46.3 to 48.3 ft. MSL	
				2 to 3.7 ft. BGS		2 to 2.5 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	380	U	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	380	U	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	380	U	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	380	U	350	U
218-01-9	Chrysene	90000	ug/kg	370	U	380	U	350	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	380	U	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	380	U	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 42 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0169-BA-W-42VAL-46.5-7	
				46.5 ft. MSL	
				4.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0168-BA-F-42VAL-38.5-7	
				38.5 ft. MSL	
				12.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 42 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				42VAL-D002B		42VAL-S009B		42VAL-S3318A		42VAL-S3319A	
				46.0 to 48.0 ft. MSL		46.3 to 48.3 ft. MSL		46.7 to 48.6 ft. MSL		46.6 to 48.6 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 3.9 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	350	U	390	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	350	U	390	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	UJ	350	U	390	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	350	U	390	U	360	U
218-01-9	Chrysene	90000	ug/kg	350	UJ	350	U	390	U	360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	U	350	U	390	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	350	U	390	U	360	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2									
				42VAL-S3320A		42VAL-S3219B		42VAL-S3219C		42VAL-S3219D		42VAL-S3219E		42VAL-S3219F	
				44.0 to 46.0 ft. MSL		44.6 to 46.6 ft. MSL		43.6 to 44.6 ft. MSL		40.6 to 42.6 ft. MSL		39.2 to 40.6 ft. MSL		36.8 to 38.6 ft. MSL	
				4 to 6 ft. BGS		4 to 6 ft. BGS		6 to 7 ft. BGS		8 to 10 ft. BGS		10 to 11.4 ft. BGS		12 to 13.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	350	U	60	J	46	J	440	U	120	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	350	U	57	J	410	U	440	U	140	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	350	U	340	U	410	U	440	U	49	J
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	350	U	340	U	410	U	440	U	84	J
218-01-9	Chrysene	90000	ug/kg	360	U	350	U	73	J	44	J	440	U	130	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	350	U	340	U	410	U	440	U	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	350	U	340	U	410	U	440	U	54	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 42 Valerie Drive

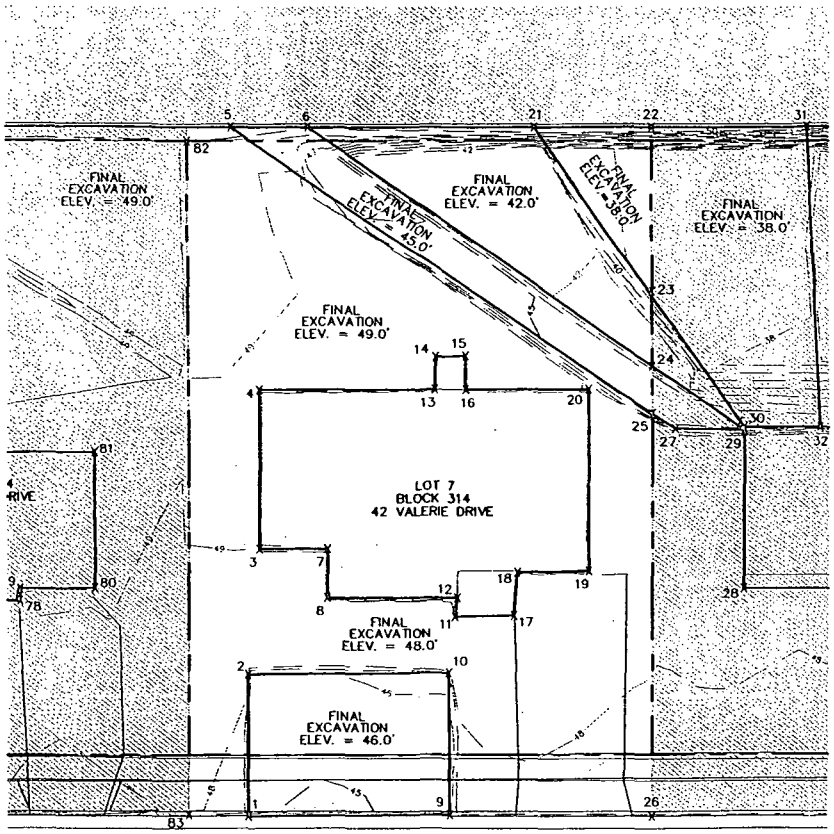
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2					
				42VAL-S6453A		RUSTIC-S6430C		RUSTIC-S6430D		RUSTIC-S6430D-D	
				45.0 to 47.0 ft. MSL		43.0 to 45.0 ft. MSL		41.0 to 43.0 ft. MSL		41.0 to 43.0 ft. MSL	
				4 to 6 ft. BGS		6 to 8 ft. BGS		8 to 10 ft. BGS		8 to 10 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	UJ	350	U	78	J	190	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	UJ	350	U	120	J	330	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	350	U	49	J	180	J
50-32-8	Benzo(a)pyrene	660	ug/kg	360	UJ	350	U	63	J	190	J
218-01-9	Chrysene	90000	ug/kg	360	UJ	350	U	80	J	220	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	350	U	330	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	350	U	36	J	65	J

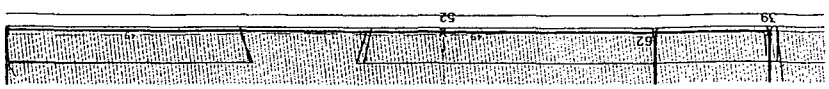
*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501460



VALERIE DRIVE



FINAL EXCAVATION COORDINATES 42 VALERIE DRIVE			
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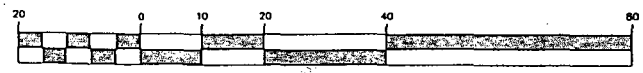
2	N 622846.9 E 468666.6	16	N 622886.8 E 468624.1
3	N 622850.9 E 468646.4	17	N 622890.4 E 468661.7
4	N 622853.8 E 468620.4	18	N 622891.7 E 468654.8
5	N 622854.1 E 468577.7	19	N 622903.4 E 468655.8
6	N 622866.8 E 468579.1	20	N 622906.7 E 468626.3
7	N 622862.1 E 468647.6	21	N 622902.6 E 468583.1
8	N 622861.2 E 468655.6	22	N 622921.4 E 468585.2
9	N 622876.7 E 468692.7	23	N 622918.5 E 468611.6
10	N 622879.0 E 468669.8	24	N 622917.2 E 468623.7
11	N 622881.0 E 468660.9	25	N 622916.3 E 468631.4
12	N 622881.7 E 468657.8	26	N 622909.1 E 468696.6
13	N 622881.8 E 468623.5	82	N 622846.6 E 468579.1
14	N 622882.5 E 468618.3	83	N 622834.6 E 468688.1

LEGEND

38 — FINAL EXCAVATION CONTOURS
PROPERTY LINES
CURB LINE

GRAPHIC SCALE

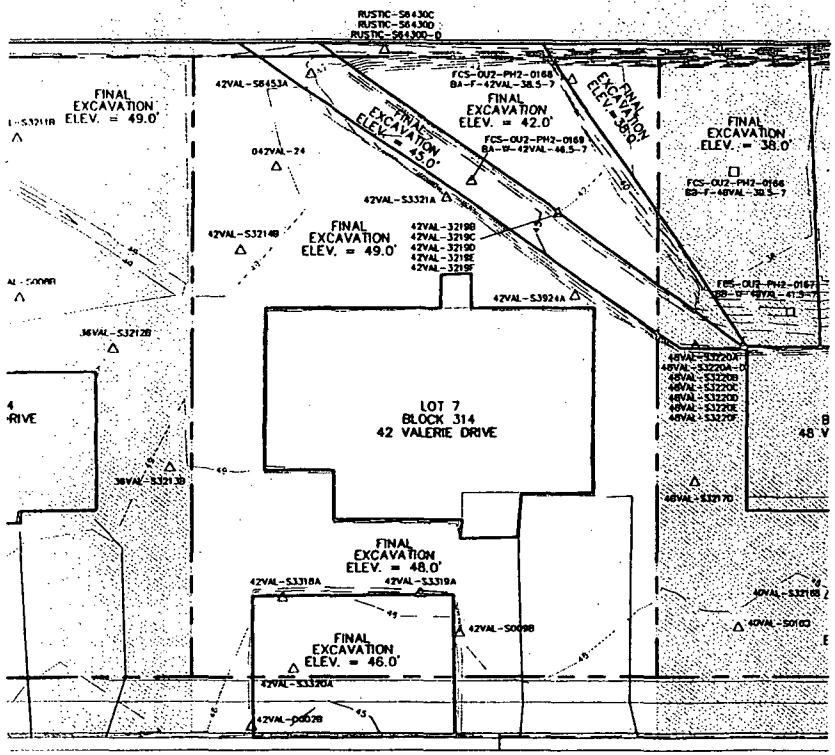


(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
42 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

501461



VALERIE DRIVE

NORTH
NEW JERSEY STATE PLANE

LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
1000X △	CONFIRMATION SAMPLE
1000X □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
1000X □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
42 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 47 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2				3		4	
				47VAL-S3232A		47VAL-S3231A		47VAL-S3231A-D		47VAL-S3230A		47VAL-S3446A	
				48.0 to 49.5 ft. MSL		48.0 to 49.5 ft. MSL		48.0 to 49.5 ft. MSL		47.6 to 49.1 ft. MSL		47.5 to 49.0 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	610		380	U	370	U	360	U	130	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	760		380	U	370	U	360	U	200	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	270	J	380	U	370	U	360	U	94	J
50-32-8	Benzo(a)pyrene	660	ug/kg	340	J	380	U	370	U	360	U	110	J
218-01-9	Chrysene	90000	ug/kg	790		380	U	370	U	39	J	160	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	83	J	380	U	370	U	360	U	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	300	J	380	U	370	U	360	U	83	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 47 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				47VAL-S3234A	
				46.1 to 47.9 ft. MSL	
				2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U
218-01-9	Chrysene	90000	ug/kg	350	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 47 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				47VAL-S089B		47VAL-S3324A		47VAL-S3325A	
				45.4 to 47.4 ft. MSL		47.1 to 48.5 ft. MSL		46.1 to 47.2 ft. MSL	
				2 to 4 ft. BGS		2 to 3.4 ft. BGS		2 to 3.1 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	880		360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	840		360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	320	J	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	440		360	U
218-01-9	Chrysene	90000	ug/kg	350	U	900		360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U	110	J	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	380		360	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				47VAL-S3326B	
				43.9 to 45.9 ft. MSL	
				4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U
218-01-9	Chrysene	90000	ug/kg	340	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 47 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				47VAL-S3235A		47VAL-S3236A	
				46.1 to 47.2 ft. MSL		47.6 to 49.1 ft. MSL	
				2 to 3.9 ft. BGS		2.5 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	370	U
218-01-9	Chrysene	90000	ug/kg	360	U	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 47 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				SSS-47VAL-01		SSS-47VAL-02		SSS-47VAL-04		SSS-47VAL-06	
				49.5 to 50.0 ft. MSL		49.3 to 49.8 ft. MSL		48.7 to 49.2 ft. MSL		49.5 to 50.0 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	70	J	370	J	190	J	44	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	120	J	690		430		74	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	46	J	260	J	150	J	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	63	J	300	J	180	J	41	J
218-01-9	Chrysene	90000	ug/kg	98	J	460		280	J	51	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	75	J	380	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	50	J	240	J	150	J	370	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				SBS-47VAL-05		SBS-47VAL-05-D	
				48.3 to 48.8 ft. MSL		48.3 to 48.8 ft. MSL	
				1 to 1.5 ft. BGS		1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390		280	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	690		500	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	270	J	190	J
50-32-8	Benzo(a)pyrene	660	ug/kg	340	J	240	J
218-01-9	Chrysene	90000	ug/kg	530		370	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	260	J	180	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 47 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	5		6		7	
				SSS-47VAL-07		SSS-47VAL-09		SSS-47VAL-10	
				49.4 to 49.9 ft. MSL		49.2 to 49.7 ft. MSL		48.8 to 49.3 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	120	J	310	J	280	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	250	J	780		580	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	94	J	240	J	200	J
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J	300	J	230	J
218-01-9	Chrysene	90000	ug/kg	170	J	410		300	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	46	J	40	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	85	J	150	J	120	J

*NOTE: All data has been validated

Data Qualifiers:

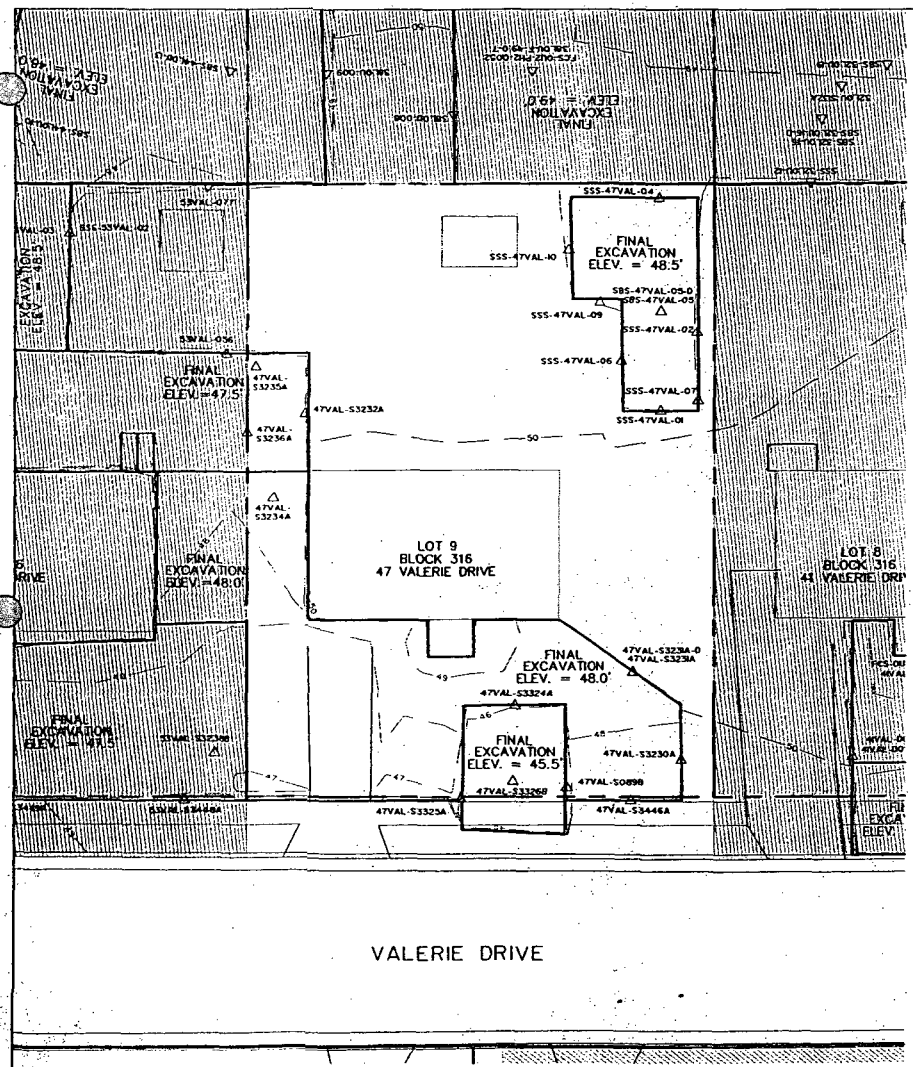
ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

501468



VALERIE DRIVE

LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
47 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
2-21-05

Confirmation Sample Results for 48 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				48VAL-S010B		48VAL-S011B		48VAL-S3217B		48VAL-S3218B	
				45.9 to 47.9 ft. MSL		46.0 to 48.0 ft. MSL		47.5 to 48.7 ft. MSL		46.6 to 48.1 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 3.2 ft. BGS		2 to 3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	340	U	350	U	220	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	340	U	350	U	250	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	340	U	350	U	120	J
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	340	U	350	U	140	J
218-01-9	Chrysene	90000	ug/kg	350	U	340	U	350	U	230	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	U	340	U	350	U	360	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	340	U	350	U	74	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation/Documentation Sample Results for 48 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1													
				48VAL-S3220A		48VAL-S3220A-D		48VAL-S3220B		48VAL-S3220C		48VAL-S3220D		48VAL-S3220E		48VAL-S3220F	
				46.2 to 48.0 ft. MSL		46.2 to 48.0 ft. MSL		44.0 to 46.0 ft. MSL		43.2 to 44.0 ft. MSL		40.0 to 42.0 ft. MSL		48.4 to 40.0 ft. MSL		36.4 to 38.0 ft. MSL	
				2 to 3.8 ft. BGS		2 to 3.8 ft. BGS		4 to 6 ft. BGS		6 to 6.8 ft. BGS		8 to 10 ft. BGS		10 to 11.6 ft. BGS		12 to 13.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U
218-01-9	Chrysene	90000	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	360	U	340	U	350	U	390	U	430	U	340	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2			
				48VAL-D1027A		54VAL-S3221E		54VAL-S3221F	
				38.1 to 39.7 ft. MSL		38.9 to 40.1 ft. MSL		36.4 to 38.1 ft. MSL	
				10.4 to 12 ft. BGS		10 to 11.2 ft. BGS		12 to 13.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	5900	J	7900		520	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	3700	J	4400	J	580	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	1400	J	2000	J	280	J
50-32-8	Benzo(a)pyrene	660	ug/kg	2500	J	3000	J	370	
218-01-9	Chrysene	90000	ug/kg	4500	J	6400	J	520	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	210	J	5500	U	45	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	530	J	820	J	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

Confirmation/Documentation Sample Results for 48 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				FCS-OU2-PH2-0167-BB-W-48 VAL-41.5-7		FCS-OU2-PH2-0163-BD-W-48 VAL-38.5-7		FCS-OU2-PH2-0160-BJ-W3-48/54 VAL-43.0-7		FCS-OU2-PH2-0008-BJ-W3-48/54 VAL-43.0-7		FCS-OU2-PH2-0170-BJ-W2-A-48/54 VAL-42.3-7	
				41.5 ft. MSL		38.5 ft. MSL		43.0 ft. MSL		43.0 ft. MSL		42.3 ft. MSL	
				8.5 ft. BGS		11.5 ft. BGS		7.0 ft. BGS		7.0 ft. BGS		7.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	10300	D	3440		143000	D	121000		330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	3490		2600		62900		50000		330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	4600		3030		71900		59100		330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	4340		2800		70300		58400		330	U
218-01-9	Chrysene	90000	ug/kg	6370		3220		125000		107000		330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	1090		820		15400		13500		330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	2130		1530		28900		22300		330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				FCS-OU2-PH2-0166-BB-F-48 VAL-38.5-7		FCS-OU2-PH2-0165-BC-F-48 VAL-36.4-7		FCS-OU2-PH2-0164-BD-F-48 VAL-38.5-7	
				38.5 ft. MSL		36.4 ft. MSL		38.5 ft. MSL	
				11.5 ft. BGS		13.6 ft. BGS		13.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	393		330	U	238	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	214		330	U	131	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	181		330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	189		330	U	104	
218-01-9	Chrysene	90000	ug/kg	257		330	U	180	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U

*NOTE: All data has been validated

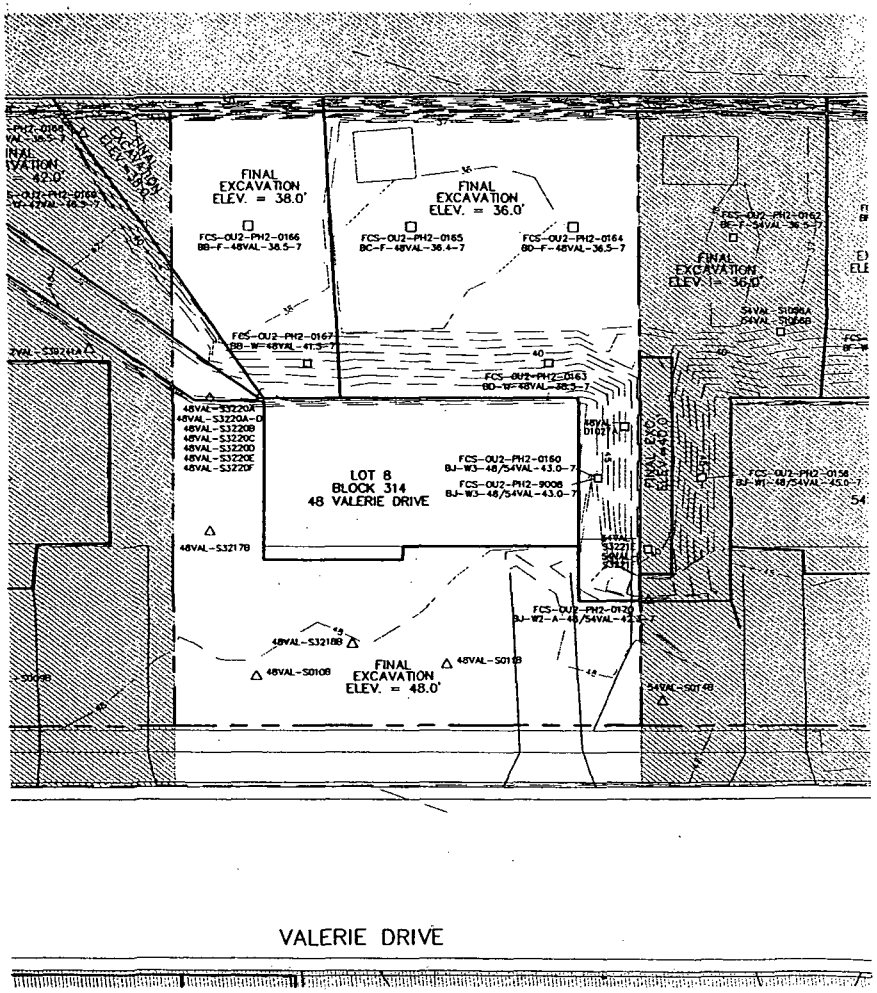
Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501471

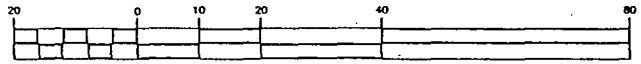
501472



LEGEND

--38--	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

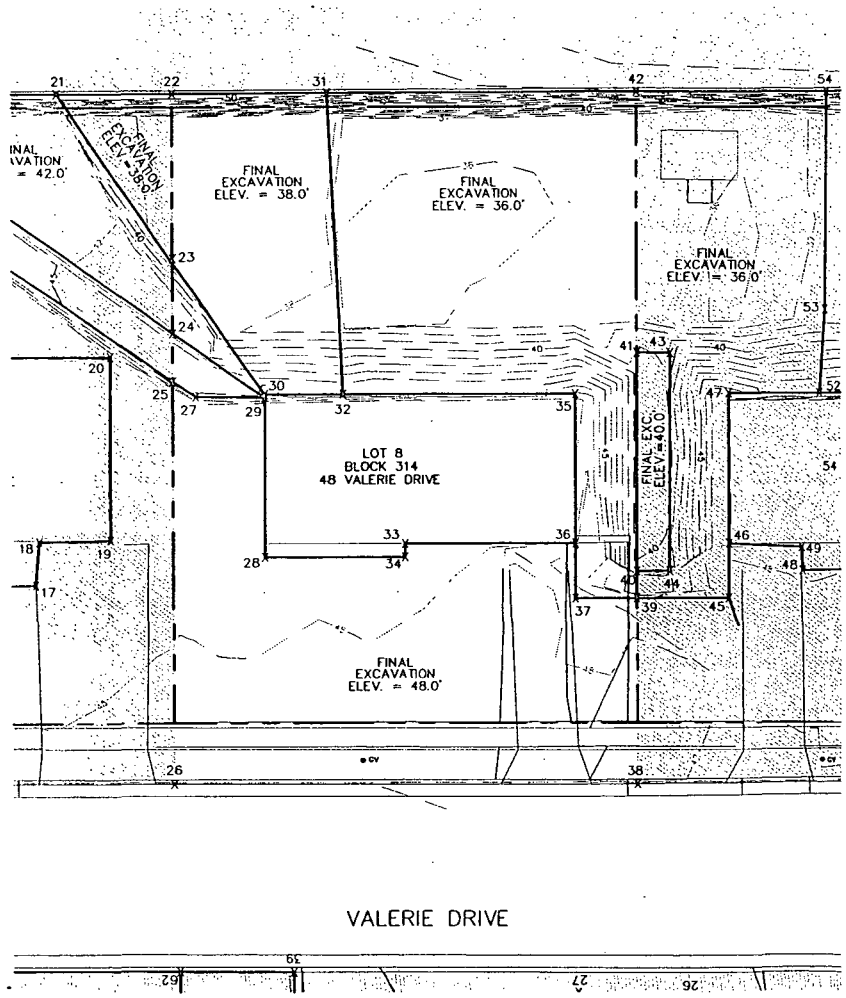
EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
48 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-24-06

501473



FINAL EXCAVATION COORDINATES 48 VALERIE DRIVE			
22	N 622921.4 E 468585.2	33	N 622950.2 E 468661.6
23	N 622918.5 E 468611.6	34	N 622949.9 E 468663.8
24	N 622917.2 E 468623.7	35	N 622980.6 E 468640.5
25	N 622916.3 E 468631.4	36	N 622978.0 E 468664.7
26	N 622909.1 E 468696.6	37	N 622977.0 E 468673.6
27	N 622919.6 E 468634.2	38	N 622983.7 E 468704.9
28	N 622927.7 E 468661.4	39	N 622987.0 E 468674.7
29	N 622930.6 E 468635.6	40	N 622987.5 E 468670.3
30	N 622930.6 E 468635.1	41	N 622991.4 E 468635.0
31	N 622945.9 E 468587.8	42	N 622996.0 E 468593.1
32	N 622943.0 E 468636.4		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
48 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

4-11-06

Confirmation Sample Results for 53 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				53VAL-S3448A		53VAL-S3449A		53VAL-S3450A	
				47.2 to 48.7 ft. MSL		47.0 to 48.5 ft. MSL		47.1 to 48.6 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J	150	J	450	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	460		200	J	520	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	270	J	120	J	340	J
50-32-8	Benzo(a)pyrene	660	ug/kg	280	J	120	J	330	J
218-01-9	Chrysene	90000	ug/kg	330	J	180	J	540	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U	370	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	160	J	83	J	220	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 53 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3				4	
				53VAL-S3238B		53VAL-S3239A		53VAL-S3240B		53VAL-S3240B-D		53VAL-S090B	
				46.2 to 47.6 ft. MSL		45.5 to 47.5 ft. MSL		45.8 to 47.6 ft. MSL		45.8 to 47.6 ft. MSL		45.9 to 47.9 ft. MSL	
				2 to 3.4 ft. BGS		2 to 3.8 ft. BGS		2 to 3.8 ft. BGS		2 to 3.8 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	360	U	330	J	380	U	370	U	61	J
205-99-2	Benzo(b)fluor	900	ug/kg	360	U	460		380	U	370	U	370	UJ
207-08-9	Benzo(k)fluor	9000	ug/kg	360	U	180	J	380	U	370	U	68	J
50-32-8	Benzo(a)pyre	660	ug/kg	360	U	250	J	380	U	370	U	370	U
218-01-9	Chrysene	90000	ug/kg	360	U	340	J	380	U	370	U	68	J
53-70-3	Dibenzo(a,h)a	660	ug/kg	360	U	45	J	380	U	370	U	370	U
193-39-5	Indeno(1,2,3-	900	ug/kg	360	U	170	J	380	U	370	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 53 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				SSS-53VAL-02		53VAL-056	
				49.0 to 49.5 ft. MSL		49.5 to 49.8 ft. MSL	
				0 to 0.5 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	430		640	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	710		780	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	260	J	640	
50-32-8	Benzo(a)pyrene	660	ug/kg	360	J	520	
218-01-9	Chrysene	90000	ug/kg	500		790	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	78	J	120	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	250	J	270	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

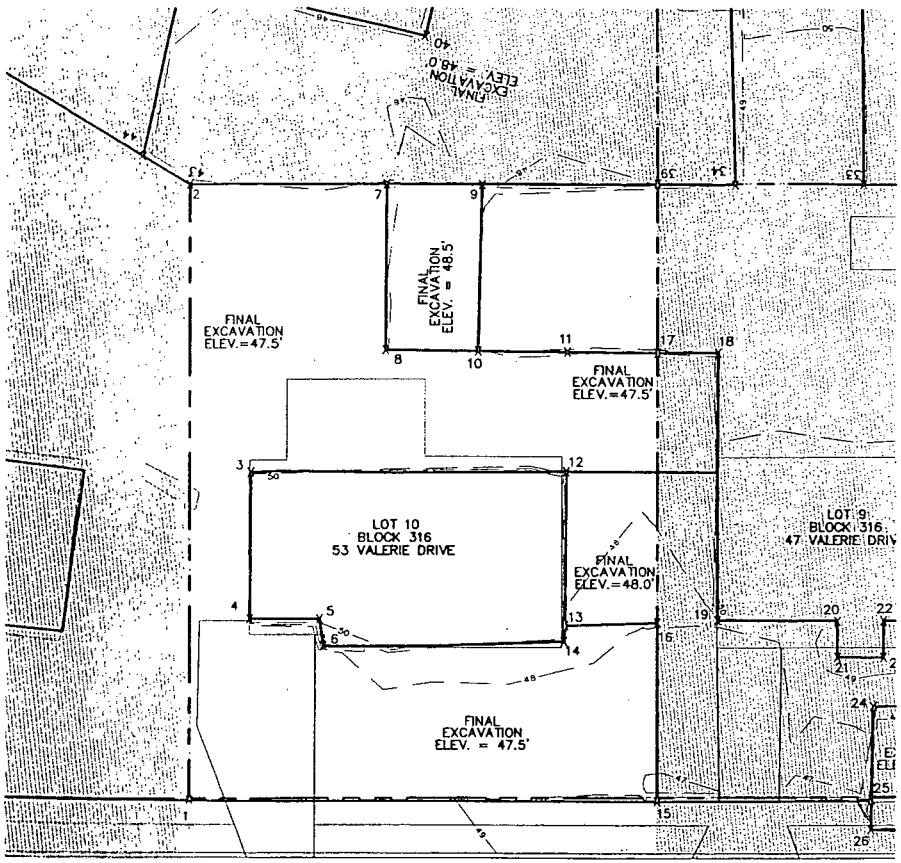
Confirmation Sample Results for 53 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-53VAL-03	
				47.8 to 48.3 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	130	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	250	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	91	J
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J
218-01-9	Chrysene	90000	ug/kg	170	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	86	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results



FINAL EXCAVATION COORDINATES 53 VALERIE DRIVE			
1	N 623095.1 E 468757.1	10	N 623041.1 E 468824.6
2	N 623084.1 E 468856.8	11	N 623026.8 E 468822.8
3	N 623079.3 E 468809.1	12	N 623029.1 E 468803.6
4	N 623082.1 E 468785.3	13	N 623032.0 E 468778.6
5	N 623070.9 E 468784.0	14	N 623032.5 E 468776.1
6	N 623070.7 E 468779.6	15	N 623020.6 E 468748.5
7	N 623052.6 E 468853.2	16	N 623017.4 E 468777.5
8	N 623055.7 E 468826.3	17	N 623012.6 E 468821.2
9	N 623037.5 E 468851.5		

LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- DESIGN EXCAVATION GRID LINE

GRAPHIC SCALE

30 0 15 30 60 120

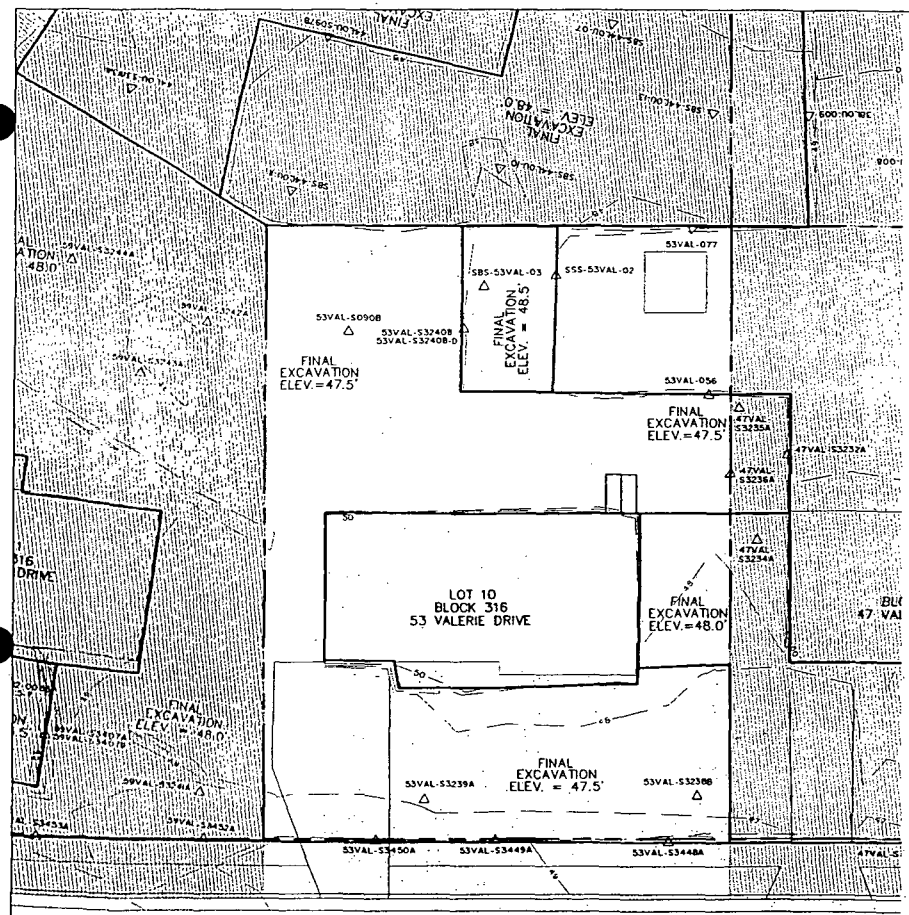
(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
53 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

10-07-04

501478



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
53 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-21-05

501479

Confirmation Sample Results for 54 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				54VAL-S014B		54VAL-S015B		54VAL-S3604A	
				45.8 to 47.8 ft. MSL		45.2 to 47.2 ft. MSL		45.9 to 47.7 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U	350	U	87	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U	350	U	120	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U	350	U	58	J
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U	350	U	68	J
218-01-9	Chrysene	90000	ug/kg	340	U	350	U	80	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	340	U	350	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U	350	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation/Documentation Sample Results for 54 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2									
				54VAL-S1056A		54VAL-S1056B		54VAL-S3222A		54VAL-S3222B		54VAL-S3222C		54VAL-S3222D		54VAL-S3222E	
				38.5 to 50.5 ft. MSL		36.5 to 38.5 ft. MSL		43.2 to 47.2 ft. MSL		43.2 to 45.2 ft. MSL		42.3 to 43.2 ft. MSL		39.2 to 41.2 ft. MSL		37.3 to 39.2 ft. MSL	
				10 to 12 ft. BGS		12 to 14 ft. BGS		2 to 3.1 ft. BGS		4 to 6 ft. BGS		6 to 6.9 ft. BGS		8 to 10 ft. BGS		10 to 11.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	10000	D	43000		350	U	350	U	340	U	420	U	430	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	8600	D	24000		350	U	350	U	340	U	420	U	430	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	4900		14000		350	U	350	U	340	U	420	U	430	U
50-32-8	Benzo(a)pyrene	660	ug/kg	7200	D	19000		350	U	350	U	340	U	420	U	430	U
218-01-9	Chrysene	90000	ug/kg	9100	D	36000		350	U	350	U	340	U	420	U	430	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	340	J	2000	J	350	U	350	U	340	U	420	U	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	1900		6000	J	350	U	350	U	340	U	420	U	430	U

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				54VAL-S3222F		54VAL-S3222F-D	
				33.6 to 37.2 ft. MSL		33.6 to 37.2 ft. MSL	
				12 to 13.6 ft. BGS		12 to 13.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	350	U
218-01-9	Chrysene	90000	ug/kg	350	U	350	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	U	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

Confirmation/Documentation Sample Results for 54 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				54VAL-S3221E		54VAL-S3221F	
				38.9 to 40.1 ft. MSL		36.4 to 38.1 ft. MSL	
				10 to 11.2 ft. BGS		12 to 13.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	7900		520	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	4400	J	580	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	2000	J	280	J
50-32-8	Benzo(a)pyrene	660	ug/kg	3000	J	370	
218-01-9	Chrysene	90000	ug/kg	6400	J	520	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	6500	U	45	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	820	J	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

Confirmation/Documentation Sample Results for 54 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				FCS-OU2-PH2-0158-BJ-W1-46/54 VAL-45.0-7		FCS-OU2-PH2-0157-BF-W-54 VAL-42.0-7		FCS-OU2-PH2-0153-BG-W-54 VAL-39.8-7		FCS-OU2-PH2-0148-BI-W-54 VAL-40.0-7	
				45.0 ft. MSL		42.0 ft. MSL		39.8 ft. MSL		40.0 ft. MSL	
				5.0 ft. BGS		8.0 ft. BGS		10.2 ft. BGS		10.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	31500		9810	D	5200		9000	D
205-99-2	Benzo(b)fluoranthene	900	ug/kg	24200		5410		2980		4090	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	27600		4670		2320		2870	
50-32-8	Benzo(a)pyrene	660	ug/kg	27200		5590		3050		3860	
218-01-9	Chrysene	90000	ug/kg	25500		8970	D	4750		10000	D
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	5280		1090		721		913	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	12500		2450		1580		1840	

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				FCS-OU2-PH2-0152-BE-F-54 VAL-36.5-7		FCS-OU2-PH2-0156-BF-F-54 VAL-38.0-7		FCS-OU2-PH2-0155-BG-F-54 VAL-35.15-7		FCS-OU2-PH2-0152-BH-F-54 VAL-35.4-7		FCS-OU2-PH2-0149-BI-F-54 VAL-35.5-7	
				36.5 ft. MSL		38.0 ft. MSL		35.15 ft. MSL		35.4 ft. MSL		35.5 ft. MSL	
				13.5 ft. BGS		12.0 ft. BGS		14.85 ft. BGS		14.6 ft. BGS		14.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	3960		40800	D	330	U	330	U	60200	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	1880		5210	D	330	U	330	U	27000	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	1500		5200		330	U	330	U	27000	
50-32-8	Benzo(a)pyrene	660	ug/kg	1780		6260	D	330	U	330	U	14600	
218-01-9	Chrysene	90000	ug/kg	3200		10400	D	330	U	330	U	54400	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	324		1450		330	U	330	U	5770	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	629		2870		330	U	330	U	29800	

*NOTE: All data has been validated

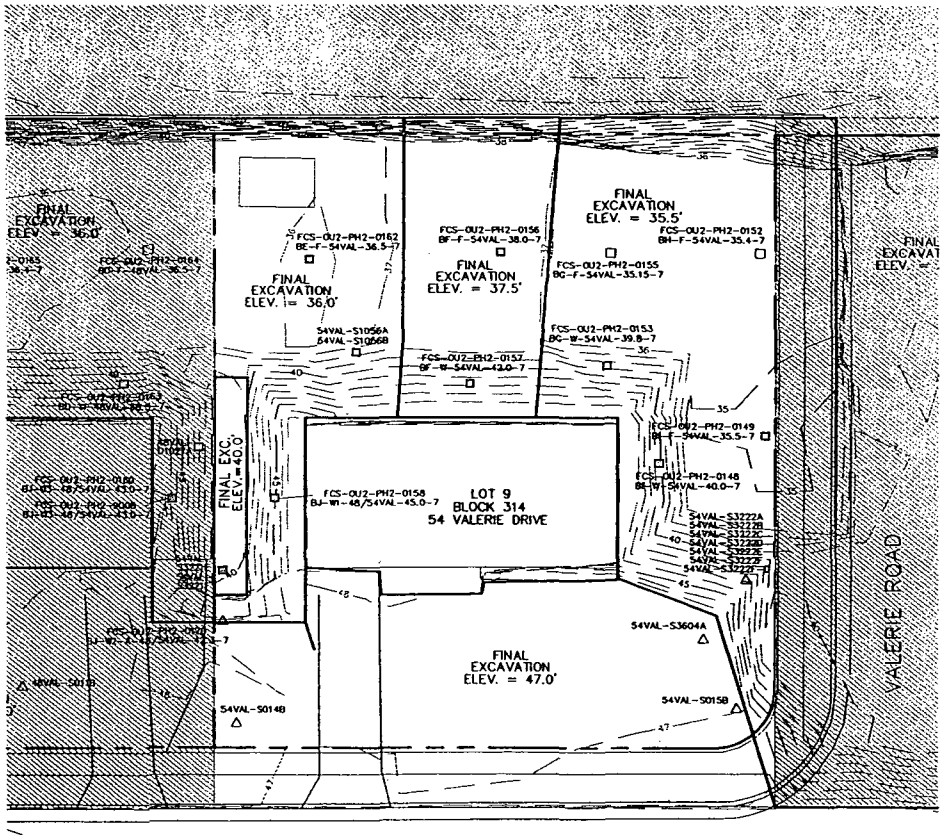
Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501483

501484



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ⊡	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

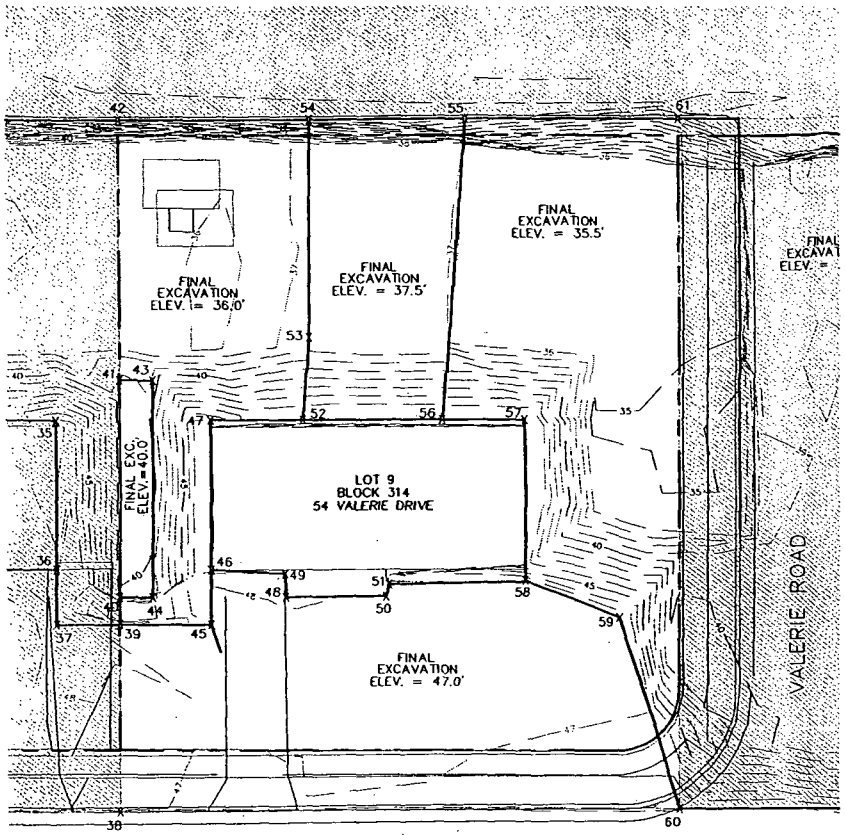
(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
54 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

501485

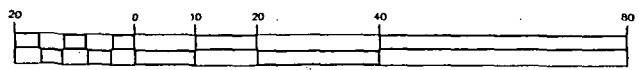


FINAL EXCAVATION COORDINATES 54 VALERIE DRIVE			
38	N 622983.7 E 468704.9	50	N 623030.1 E 468674.8
39	N 622987.0 E 468674.7	51	N 623030.8 E 468672.9
40	N 622987.5 E 468670.3	52	N 623019.9 E 468644.7
41	N 622991.4 E 468635.0	53	N 623022.3 E 468631.5
42	N 622996.0 E 468593.1	54	N 623026.4 E 468596.4
43	N 622996.7 E 468635.7	55	N 623051.5 E 468599.0
44	N 622992.7 E 468670.8	56	N 623042.1 E 468647.2
45	N 623001.5 E 468676.2	57	N 623055.4 E 468648.6
46	N 623002.5 E 468667.4	58	N 623052.5 E 468674.6
47	N 623005.2 E 468643.1	59	N 623067.3 E 468682.3
48	N 623014.0 E 468673.1	60	N 623073.2 E 468714.1
49	N 623014.3 E 468669.3	61	N 623085.5 E 468602.6

LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
54 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-24-08

Confirmation Sample Results for 59 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				59VAL-S3241A		59VAL-S3242A		59VAL-S3243A		59VAL-S3244A		59VAL-S3245A	
				45.6 to 47.5 ft. MSL		46.1 to 47.8 ft. MSL		46.0 to 47.9 ft. MSL		46.3 to 47.8 ft. MSL		46.6 to 48.5 ft. MSL	
				2 to 3.9 ft. BGS		2 to 3.7 ft. BGS		2 to 3.9 ft. BGS		2 to 3.5 ft. BGS		2 to 3.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	380	U	380	U	380	U	390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	380	U	380	U	380	U	390	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	380	U	380	U	380	U	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	380	U	380	U	380	U	390	U
218-01-9	Chrysene	90000	ug/kg	360	U	380	U	380	U	380	U	390	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	380	U	380	U	380	U	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	380	U	380	U	380	U	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 59 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				59VAL-S3452A		59VAL-S3453A	
				47.0 to 48.5 ft. MSL		46.0 to 47.5 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	230	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	440	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	160	J
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	180	J
218-01-9	Chrysene	90000	ug/kg	360	U	300	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 59 Valerie Drive

SIDEWALL SAMPLES

				3			4	5	6
CAS#	COMPOUND	ACG CRITERIA	UNITS	59VAL-S3263A	59VAL-S3263B	59VAL-S3263C	FCS-OU2-PH2-0087-AB-W-41.0-7	FCS-OU2-PH2-0086-AA-F-43.5-7	67VAL-S3410A
				43.6 to 45.6 ft. MSL	42.9 to 43.6 ft. MSL	39.8 to 41.6 ft. MSL	41.0 ft. MSL	43.5 ft. MSL	45.9 to 47.5 ft. MSL
				4 to 6 ft. BGS	6 to 6.7 ft. BGS	8 to 10 ft. BGS	9.0 ft. BGS	6.5 ft. BGS	2 to 3.6 ft. BGS
56-55-3	Benzo(a)anthracene	900	ug/kg	110 J	340 U	370 U	330 U	330 U	370 U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	120 J	340 U	370 U	330 U	330 U	370 U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	41 J	340 U	370 U	330 U	330 U	370 U
50-32-8	Benzo(a)pyrene	660	ug/kg	350 U	340 U	370 U	330 U	330 U	370 U
218-01-9	Chrysene	90000	ug/kg	110 J	340 U	370 U	330 U	330 U	370 U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350 U	340 U	370 U	330 U	330 U	370 U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350 U	340 U	370 U	330 U	330 U	370 U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 59 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2					
				59VAL-D040A		59VAL-D040B		59VAL-S3408C		59VAL-S3408C-D		59VAL-S3408D	
				46.1 to 47.6 ft. MSL		44.1 to 46.1 ft. MSL		41.1 to 43.1 ft. MSL		41.1 to 43.1 ft. MSL		40.0 to 41.1 ft. MSL	
				0.5 to 2 ft. BGS		2 to 4 ft. BGS		6 to 8 ft. BGS		6 to 8 ft. BGS		8 to 9.1 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	140	J	350	U	370	U	360	U	420	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	170	J	350	U	370	U	360	U	420	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	160	J	350	U	370	U	360	U	420	U
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J	350	U	370	U	360	U	420	U
218-01-9	Chrysene	90000	ug/kg	180	J	350	U	370	U	360	U	420	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	41	J	350	U	370	U	360	U	420	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	86	J	350	U	370	U	360	U	420	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				67VAL-S091D		FCS-OU2-PH2-0088-AC-F-38.5-7		FCS-OU2-PH2-0120-AB-F-38.2-7	
				36.1 TO 38.1 ft. MSL		38.5 ft. MSL		38.2 ft. MSL	
				10 to 12 ft. BGS		11.5 ft. BGS		11.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	66	J	330	U	7370	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	330	U	14300	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	39	J	330	U	10500	
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	330	U	12400	
218-01-9	Chrysene	90000	ug/kg	64	J	330	U	8330	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U	330	U	2330	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	330	U	4210	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

Confirmation Sample Results for 59 Valerie Drive

SIDEWALL SAMPLES

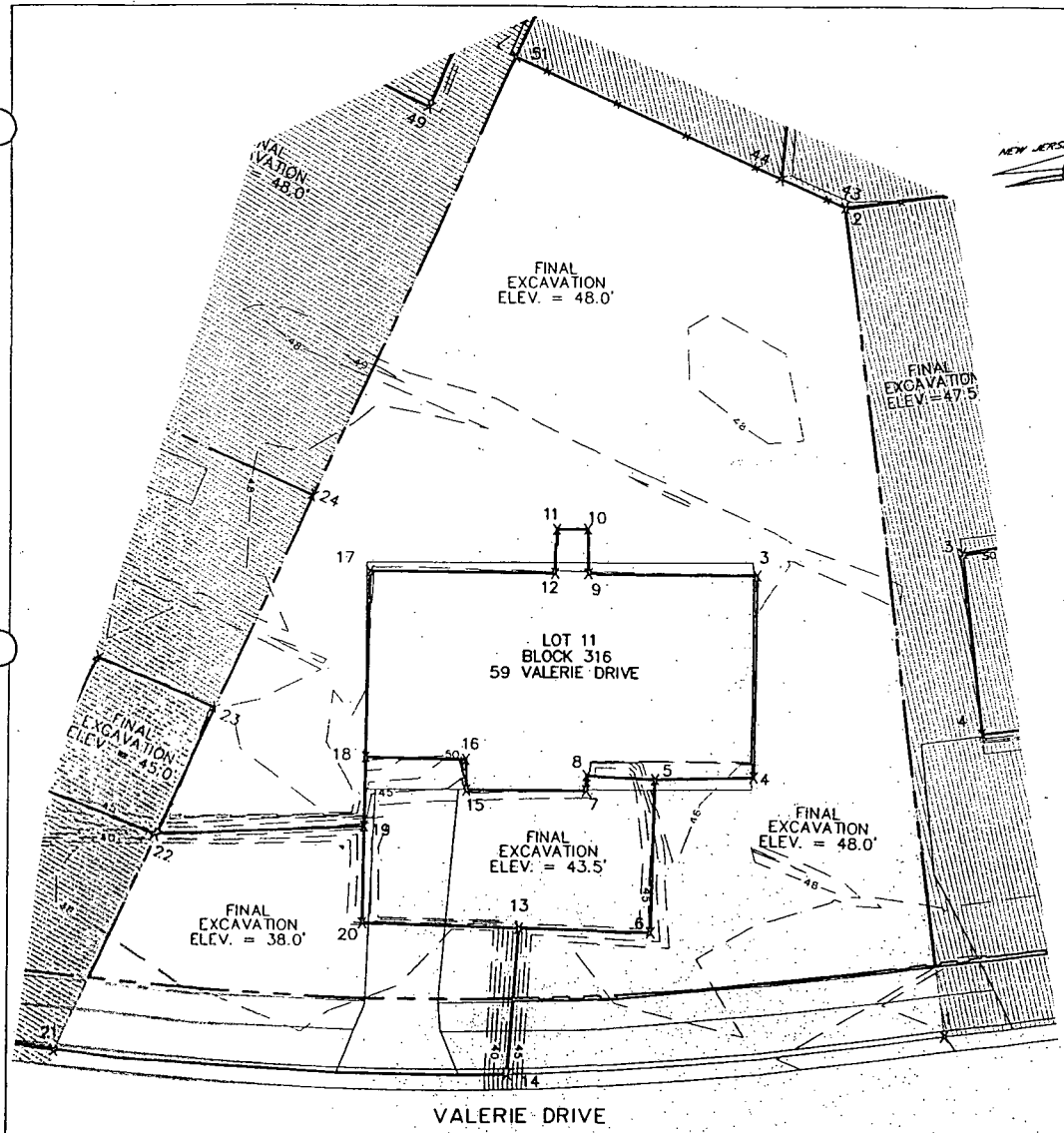
CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2			
				59VAL-S3407A		59VAL-S3407B		59VAL-S3408A		59VAL-S3408B	
				45.9 to 47.9 ft. MSL		44.9 to 45.9 ft. MSL		45.2 to 47.2 ft. MSL		44.2 to 45.2 ft. MSL	
				2 to 4 ft. BGS		4 to 5 ft. BGS		2 to 4 ft. BGS		4 to 5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	50	J	360	U	350	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	360	U	350	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	360	U	350	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	360	U	350	U	360	U
218-01-9	Chrysene	90000	ug/kg	38	J	360	U	350	U	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	360	U	350	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	360	U	350	U	360	U

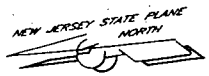
BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				59VAL-S3262B	
				43.9 to 44.4 ft. MSL	
				6 to 6.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U
218-01-9	Chrysene	90000	ug/kg	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results





FINAL EXCAVATION COORDINATES 59 VALERIE DRIVE			
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2	N 623084.1 E 468856.8	13	N 623146.8 E 468774.5
3	N 623106.1 E 468812.4	14	N 623152.6 E 468756.1
4	N 623112.4 E 468786.6	15	N 621416.4 E 469965.5
5	N 623125.0 E 468789.4	16	N 621415.5 E 469969.4
6	N 623130.2 E 468770.0	17	N 623155.0 E 468824.6
7	N 623134.1 E 468790.0	18	N 623161.0 E 468800.9
8	N 623133.6 E 468791.9	19	N 623163.2 E 468792.1
9	N 623127.4 E 468817.7	20	N 623166.3 E 468779.8
10	N 623126.1 E 468823.4	21	N 623208.9 E 468772.5
11	N 623130.1 E 468824.3	51	N 623121.3 E 468885.6

LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- DESIGN EXCAVATION GRID LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
59 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

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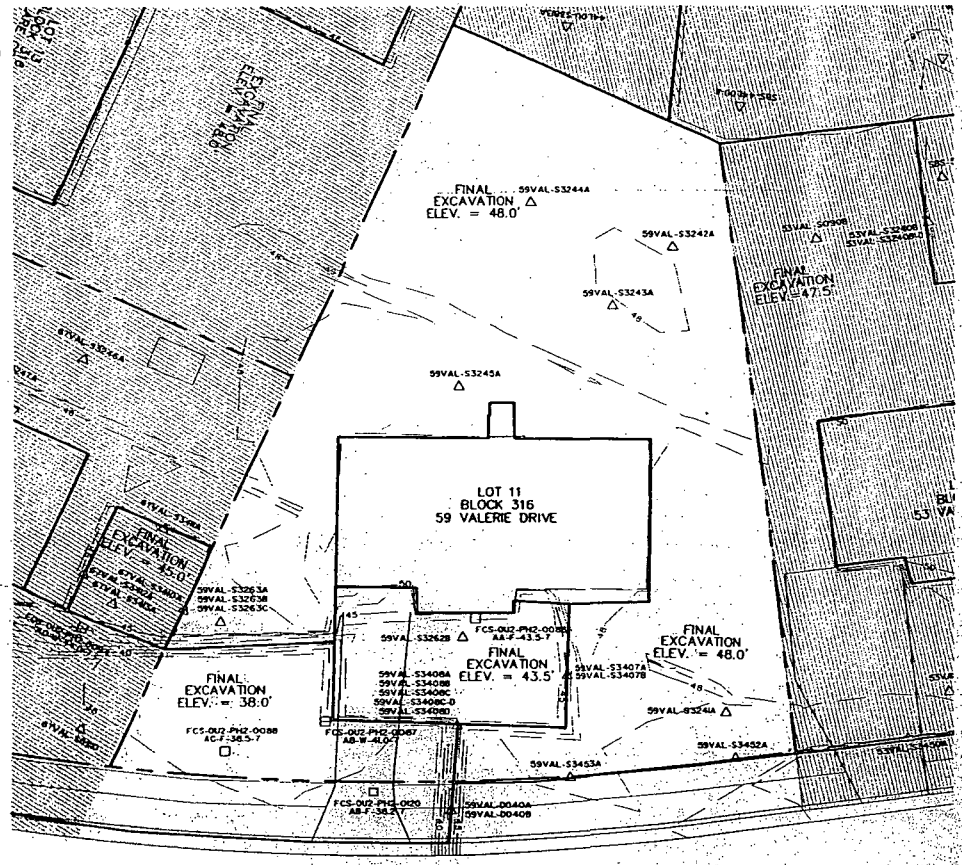

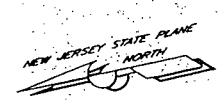

LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
59 VALERIE DRIVE OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, NJ

Confirmation Sample Results for 67 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				67VAL-S3410A		67VAL-S3411A		67VAL-S3412A	
				45.9 to 47.5 ft. MSL		45.8 to 47.7 ft. MSL		45.6 to 47.5 ft. MSL	
				2 to 3.6 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	360	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	360	U	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	360	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	360	U	380	U
218-01-9	Chrysene	90000	ug/kg	370	U	360	U	380	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	360	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	360	U	380	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				67VAL-S3413A	
				43.7 to 45.4 ft. MSL	
				4 to 5.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U
218-01-9	Chrysene	90000	ug/kg	350	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 67 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		4		5	
				67VAL-D041B		67VAL-S3246A		67VAL-S3247A		67VAL-S3248A		67VAL-S3248A-D		67VAL-S3249A	
				43.7 to 45.7 ft. MSL		46.0 to 47.4 ft. MSL		45.3 to 47.1 ft. MSL		44.9 to 46.6 ft. MSL		44.9 to 46.6 ft. MSL		45.4 to 46.5 ft. MSL	
				2 to 4 ft. BGS		2 to 3.4 ft. BGS		2 to 3.8 ft. BGS		2 to 3.7 ft. BGS		2 to 3.7 ft. BGS		2 to 3.1 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	380	U	370	U	350	U	350	U	180	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	380	U	370	U	350	U	350	U	230	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	UJ	380	U	370	U	350	U	350	U	96	J
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	380	U	370	U	350	U	350	U	120	J
218-01-9	Chrysene	90000	ug/kg	360	UJ	380	U	370	U	350	U	350	U	190	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	380	U	370	U	350	U	350	U	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	380	U	370	U	350	U	350	U	89	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 67 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	6		7		8	
				67VAL-S3410A		67VAL-S3411A		67VAL-S3412A	
				45.9 to 47.5 ft. MSL		45.8 to 47.7 ft. MSL		45.6 to 47.5 ft. MSL	
				2 to 3.6 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS	
56-55-3	Benzo(a)anth	900	ug/kg	370	U	360	U	380	U
205-99-2	Benzo(b)fluor	900	ug/kg	370	U	360	U	380	U
207-08-9	Benzo(k)fluor	9000	ug/kg	370	U	360	U	380	U
50-32-8	Benzo(a)pyre	660	ug/kg	370	U	360	U	380	U
218-01-9	Chrysene	90000	ug/kg	370	U	360	U	380	U
53-70-3	Dibenz(a,h)ar	660	ug/kg	370	U	360	U	380	U
193-39-5	Indeno(1,2,3-	900	ug/kg	370	U	360	U	380	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

onfirmation Sample Results for 67 Valerie Drive

DEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			1			1			2			2			2			3			4			5			6		
				67VAL-S3264A			67VAL-S3264B			67VAL-S3264C			67VAL-S3265A			67VAL-S3265B			67VAL-S3265C			FCS-OU2-PH2-0093-AE-W-43.75-7			FCS-OU2-PH2-0094-AD-W-44.0-7			67VAL-D041B			FCS-OU2-PH2-0111-S-W-44.0-7		
				43.1 to 45.1 ft. MSL			41.5 to 43.1 ft. MSL			39.1 to 41.1 ft. MSL			44.9 to 46.7 ft. MSL			42.7 to 44.7 ft. MSL			41.2 to 42.7 ft. MSL			43.75 ft. MSL			44.0 ft. MSL			43.7 to 45.7 ft. MSL			44.0 ft. MSL		
				4 to 6 ft. BGS			6 to 7.6 ft. BGS			8 to 10 ft. BGS			2 to 3.8 ft. BGS			4 to 6 ft. BGS			6 to 7.5 ft. BGS			6.25 ft. BGS			6.0 ft. BGS			2 to 4 ft. BGS			6.0 ft. BGS		
-55-3	Benzo(a)anthracene	900	ug/kg	350	U		350	U		2200	D		380	U		360	U		400	U		330	U		330	U		360	U		330	U	
5-99-2	Benzo(b)fluoranthene	900	ug/kg	90	J		350	U		2000	D		380	U		360	U		400	U		330	U		330	U		360	U		330	U	
7-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U		350	U		750	D		380	U		360	U		400	U		330	U		330	U		360	UJ		330	U	
-32-8	Benzo(a)pyrene	660	ug/kg	350	U		350	U		1300	D		380	U		360	U		400	U		330	U		330	U		360	U		330	U	
8-01-9	Chrysene	90000	ug/kg	350	U		350	U		2800	D		380	U		360	U		400	U		330	U		330	U		360	UJ		330	U	
-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U		350	U		190	JD		380	U		360	U		400	U		330	U		330	U		360	U		330	U	
3-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U		350	U		570	JD		380	U		360	U		400	U		330	U		330	U		360	U		330	U	

OTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			2			3			4		
				67VAL-S091D			FCS-OU2-PH2-0089-AG-F-38.5-7			FCS-OU2-PH2-0090-AF-F-38.0-7			FCS-OU2-PH2-0091-AE-F-38.5-7		
				36.1 TO 38.1 ft. MSL			38.5 ft. MSL			38.0 ft. MSL			38.5 ft. MSL		
				10 to 12 ft. BGS			11.5 ft. BGS			12.0 ft. BGS			11.5 ft. BGS		
-55-3	Benzo(a)anthracene	900	ug/kg	68	J		330	U		330	U		330	U	
5-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U		330	U		330	U		330	U	
7-08-9	Benzo(k)fluoranthene	9000	ug/kg	39	J		330	U		330	U		330	U	
-32-8	Benzo(a)pyrene	660	ug/kg	350	U		330	U		330	U		330	U	
8-01-9	Chrysene	90000	ug/kg	64	J		330	U		330	U		330	U	
-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U		330	U		330	U		330	U	
3-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U		330	U		330	U		330	U	

IOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

egend

onfirmation Sample >
ocumentation Sample below Cleanup Goals >
ocumentation Sample above Cleanup Goals >

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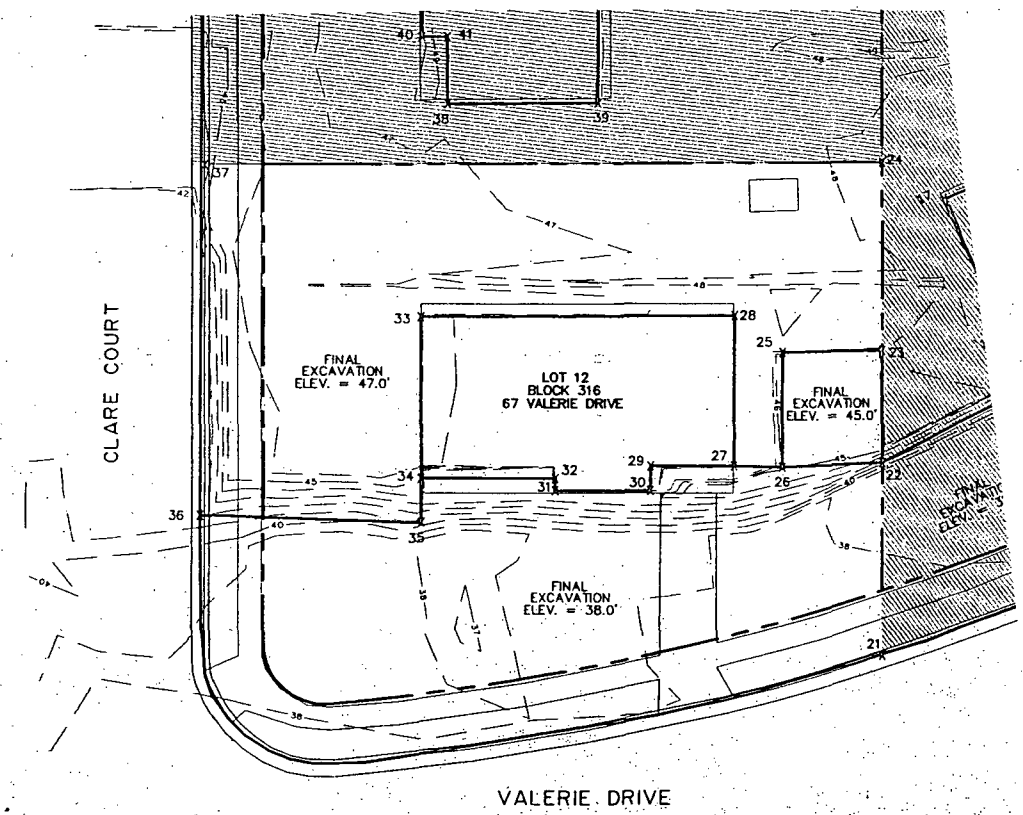

FINAL EXCAVATION COORDINATES 67 VALERIE DRIVE			
21	N 623208.9 E 468772.5	30	N 623222.5 E 468817.2
22	N 623189.7 E 468797.3	31	N 623234.4 E 468826.5
23	N 623178.5 E 468811.7	32	N 623233.2 E 468828.0
24	N 623159.8 E 468835.9	33	N 623234.3 E 468862.2
25	N 623191.8 E 468821.8	34	N 623250.3 E 468841.5
26	N 623203.4 E 468807.1	35	N 623254.6 E 468835.7
27	N 623209.3 E 468812.0	36	N 623281.7 E 468858.3
28	N 623194.2 E 468831.2	37	N 623246.2 E 468902.9
29	N 623220.0 E 468820.3		

LEGEND

- 38 — FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- DESIGN EXCAVATION GRID LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
67 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

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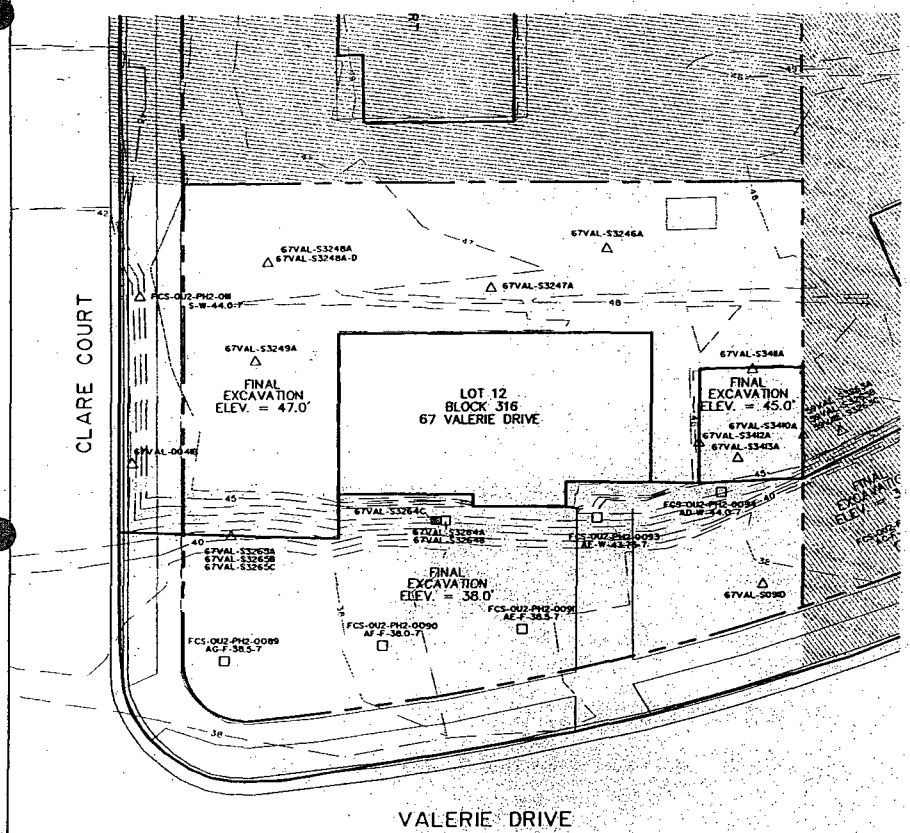

LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 10 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
67 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
4-20-95

Confirmation Sample Results for 107 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		3		4		5		6		7	
				107VAL-S3911A		107VAL-S3910A		107VAL-S3909A		107VAL-S3909A-D		107VAL-S3908A		107VAL-S3907A		107VAL-S106D		FCS-OU2-PH2-0096-AN-W-43.9-7	
				36.9 to 38.9 ft. MSL		37.0 to 38.9 ft. MSL		36.8 to 38.8 ft. MSL		36.8 to 38.8 ft. MSL		38.0 to 48.0 ft. MSL		37.0 to 39.0 ft. MSL		37.0 to 39.0 ft. MSL		43.9 ft. MSL	
				10 to 12 ft. BGS		10 to 11.9 ft. BGS		10 to 12 ft. BGS		10 to 12 ft. BGS		10 to 11.3 ft. BGS		10 to 12 ft. BGS		10 to 12 ft. BGS		6.1 ft. BGS	
56-55-3	*Benzo(a)anthracene*	900	ug/kg	350	U	140	J	350	U	340	U	420	U	440	U	360	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	71	J	350	U	340	U	420	U	440	U	360	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	48	J	350	U	340	U	420	U	440	U	360	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	46	J	350	U	340	U	420	U	440	U	360	U	330	U
218-01-9	Chrysene	90000	ug/kg	350	U	120	J	350	U	340	U	420	U	440	U	360	U	330	U
53-70-3	*Dibenzo(a,h)anthracene*	660	ug/kg	350	U	350	U	350	U	340	U	420	U	440	U	360	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	350	U	350	U	340	U	420	U	440	U	360	U	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 107 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	4							
				107VAL-S3903A		107VAL-S3903B		107VAL-S3903C		107VAL-S3903D	
				43.7 to 45.7 ft. MSL		41.7 to 43.7 ft. MSL		39.7 to 41.7 ft. MSL		37.9 to 39.7 ft. MSL	
				4 to 6 ft. BGS		6 to 8 ft. BGS		8 to 10 ft. BGS		10 to 11.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	370	U	420	U	440	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	370	U	420	U	440	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	370	U	420	U	440	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	370	U	420	U	440	U
218-01-9	Chrysene	90000	ug/kg	380	U	370	U	420	U	440	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	370	U	420	U	440	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	370	U	420	U	440	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 107 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	3									
				107VAL-S3904C		107VAL-S3904D		107VAL-S3904E		107VAL-S3904E-D		107VAL-S3904F	
				44.1 to 44.1 ft. MSL		42.8 to 44.1 ft. MSL		40.1 to 42.1 ft. MSL		40.1 to 42.1 ft. MSL		38.1 to 40.1 ft. MSL	
				4 to 6 ft. BGS		6 to 7.3 ft. BGS		8 to 10 ft. BGS		8 to 10 ft. BGS		10 to 12 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	370	U	410	U	400	U	440	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	370	U	410	U	400	U	440	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	370	U	410	U	400	U	440	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	370	U	410	U	400	U	440	U
218-01-9	Chrysene	90000	ug/kg	390	U	370	U	410	U	400	U	440	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	370	U	410	U	400	U	440	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	370	U	410	U	400	U	440	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 107 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	2									
				107VAL-S3905B		107VAL-S3905C		107VAL-S3905D		107VAL-S3905E		107VAL-S3905F	
				46.9 to 48.1 ft. MSL		44.1 to 46.1 ft. MSL		42.6 to 44.1 ft. MSL		40.1 to 42.1 ft. MSL		38.5 to 40.1 ft. MSL	
				2 to 3.2 ft. BGS		4 to 6 ft. BGS		6 to 7.5 ft. BGS		8 to 10 ft. BGS		10 to 11.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	340	J	410	U	440	U	450	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	540		410	U	440	U	450	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	270	J	410	U	440	U	450	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	280	J	410	U	440	U	450	U
218-01-9	Chrysene	90000	ug/kg	380	U	420		410	U	440	U	450	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	370	U	410	U	440	U	450	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	69	J	410	U	440	U	450	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 107 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	107VAL-S3906B		107VAL-S3906C		107VAL-S3906D		107VAL-S3906E		107VAL-S3906F	
				46.9 to 48.1 ft. MSL		44.1 to 46.1 ft. MSL		42.6 to 44.1 ft. MSL		40.1 to 42.1 ft. MSL		36.2 to 40.1 ft. MSL	
				2 to 3.2 ft. BGS		4 to 6 ft. BGS		6 to 7.5 ft. BGS		8 to 10 ft. BGS		10 to 11.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	86	J	380	U	400	U	U		420	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	110	J	380	U	400	U	U		420	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	57	J	380	U	400	U	U		420	U
50-32-8	Benzo(a)pyrene	660	ug/kg	53	J	380	U	400	U	U		420	U
218-01-9	Chrysene	90000	ug/kg	88	J	380	U	400	U	U		420	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	400	U	380	U	400	U	U		420	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	400	U	380	U	400	U	U		420	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 107 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		3		4	
				107VAL-S105B		107VAL-S3434B		107VAL-S3631B		107VAL-S3631B-D		107VAL-S3633A	
				44.9 to 46.9 ft. MSL		46.1 to 48.0 ft. MSL		45.9 to 47.8 ft. MSL		45.9 to 47.8 ft. MSL		46.2 to 47.9 ft. MSL	
				2 to 4 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS		2 to 3.9 ft. BGS		2 to 3.7 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	380	U	370	U	380	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	380	U	370	UJ	380	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	380	U	370	UJ	380	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	380	U	370	UJ	380	U	370	U
218-01-9	Chrysene	90000	ug/kg	360	U	380	U	370	U	380	U	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	360	U	380	U	370	UJ	380	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	380	UJ	370	UJ	380	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 107 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				107VAL-S3631B		107VAL-S3631B-D	
				45.9 to 47.8 ft. MSL		45.9 to 47.8 ft. MSL	
				2 to 3.9 ft. BGS		2 to 3.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	380	U
218-01-9	Chrysene	90000	ug/kg	370	U	380	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	380	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2	
				107VAL-S3913A		107VAL-S3913A-D		107VAL-S3912A	
				44.0 to 46.0 ft. MSL		44.0 to 46.0 ft. MSL		44.0 to 46.0 ft. MSL	
				4 to 6 ft. BGS		4 to 6 ft. BGS		4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	380	U	370	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	380	U	370	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	U	380	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	380	U	370	U
218-01-9	Chrysene	90000	ug/kg	380	U	380	U	370	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	380	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	380	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

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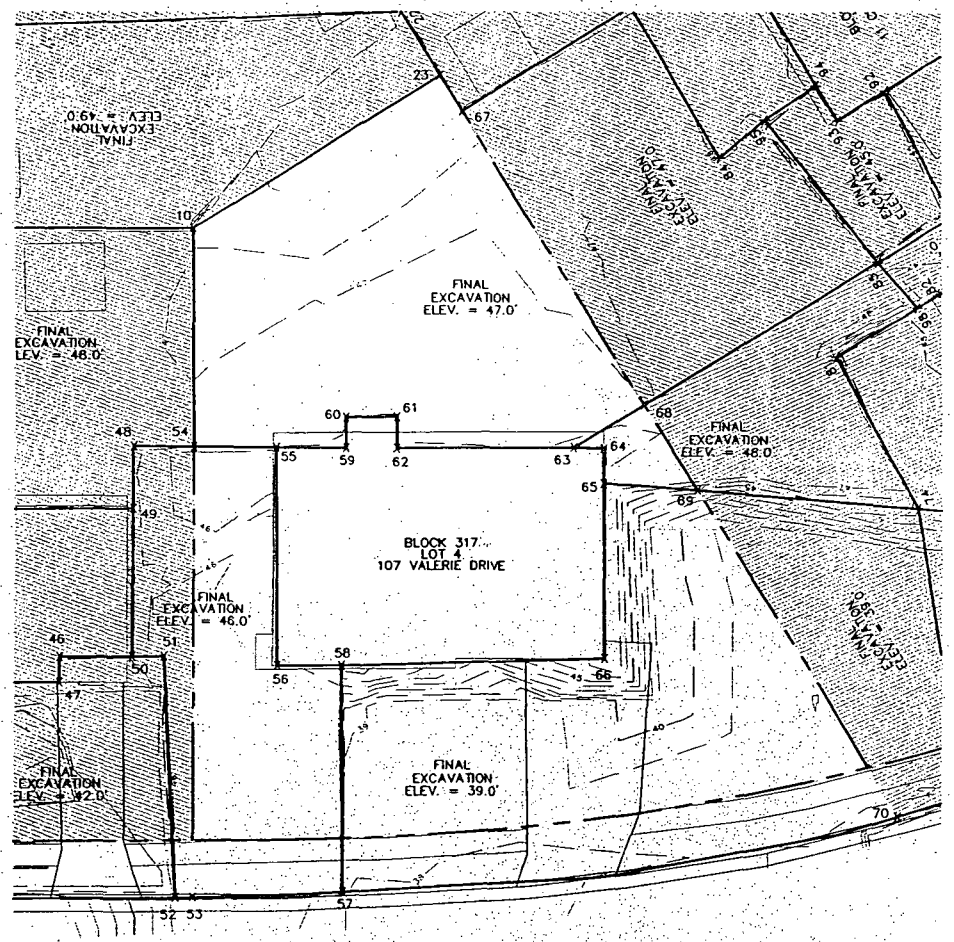


FINAL EXCAVATION COORDINATES 107 VALERIE DRIVE			
10	N 623356.2 E 469067.5	61	N 623373.5 E 469025.6
23	N 623318.9 E 469038.7	62	N 623378.3 E 469024.3
53	N 623458.2 E 469028.8	63	N 623368.1 E 468997.2
54	N 623389.7 E 469054.8	64	N 623366.5 E 468992.6
55	N 623385.1 E 469042.3	65	N 623371.9 E 468990.5
56	N 623418.6 E 469029.3	66	N 623398.7 E 468980.2
57	N 623448.9 E 469006.0	68	N 623357.4 E 468989.0
58	N 623414.8 E 469019.2	69	N 623367.5 E 468976.0
59	N 623381.1 E 469031.3	70	N 623405.8 E 468926.6
60	N 623376.5 E 469033.1		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

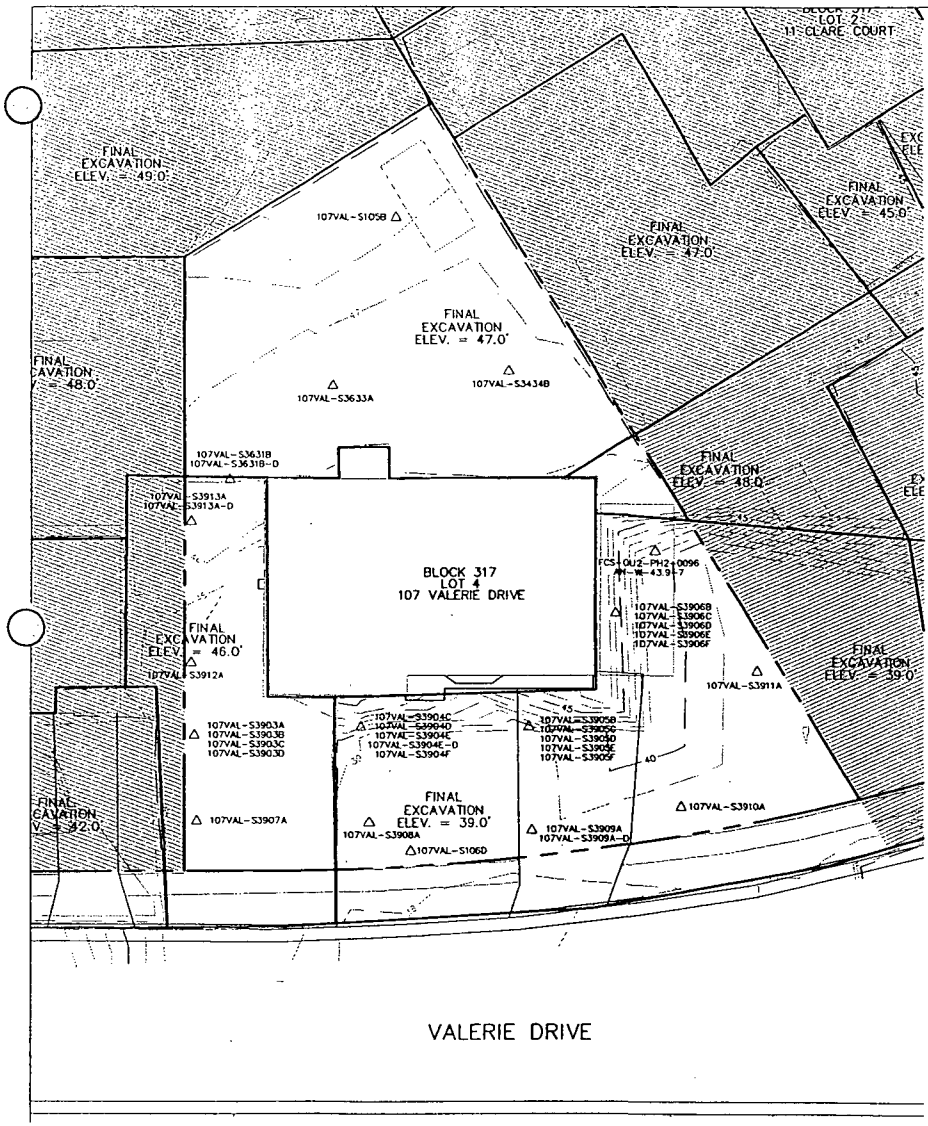
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
107 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

1-25-03

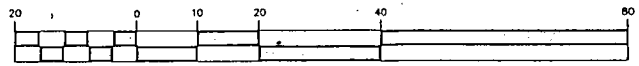
501507



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
107 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

12-1-05

Confirmation Sample Results for 113 Valerie Drive

BOTTOM SAMPLES *

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				113VAL-S3918A	
				44.0 to 46.0 ft. MSL	
				4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	150	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	140	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	100	J
50-32-8	Benzo(a)pyrene	660	ug/kg	86	J
218-01-9	Chrysene	90000	ug/kg	150	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	47	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 113 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3					
				113VAL-S3638A		113VAL-S3639A		113VAL-S3915D		113VAL-S3915E		113VAL-S3915F	
				43.7 to 45.5 ft. MSL		43.8 to 45.8 ft. MSL		42.7 to 43.8 ft. MSL		39.8 to 41.8 ft. MSL		37.8 to 39.8 ft. MSL	
				4 to 5.8 ft. BGS		4 to 6 ft. BGS		6 to 7.1 ft. BGS		8 to 10 ft. BGS		10 to 12 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	360	U	360	U	370	U	400	U	440	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	U	360	U	370	U	400	U	440	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	360	U	360	U	370	U	400	U	440	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	U	360	U	370	U	400	U	440	U
218-01-9	Chrysene	90000	ug/kg	360	U	360	U	370	U	400	U	440	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	360	U	360	U	370	U	400	U	440	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	360	U	360	U	370	U	400	U	440	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				113VAL-S3916A		113VAL-S3917A		113VAL-S107D	
				37.7 to 39.1 ft. MSL		37.0 to 38.9 ft. MSL		37.1 to 39.1 ft. MSL	
				10 to 11.4 ft. BGS		10 to 11.9 ft. BGS		10 to 12 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	350	U	340	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	350	U	340	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	350	U	340	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	350	U	340	U
218-01-9	Chrysene	90000	ug/kg	370	U	350	U	340	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	U	350	U	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	350	U	340	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 113 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				113VAL-S3638A		113VAL-S3639A	
				43.7 to 45.5 ft. MSL		43.8 to 45.8 ft. MSL	
				4 to 5.8 ft. BGS		4 to 6 ft. BGS	
56-55-3	Benzo(a)anthr	900	ug/kg	360	U	360	U
205-99-2	Benzo(b)fluora	900	ug/kg	360	U	360	U
207-08-9	Benzo(k)fluora	9000	ug/kg	360	U	360	U
50-32-8	Benzo(a)pyren	660	ug/kg	360	U	360	U
218-01-9	Chrysene	90000	ug/kg	360	U	360	U
53-70-3	Dibenz(a,h)an	660	ug/kg	360	U	360	U
193-39-5	Indeno(1,2,3-c	900	ug/kg	360	U	360	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				113VAL-S3916A		113VAL-S3917A		113VAL-S107D	
				37.7 to 39.1 ft. MSL		37.0 to 38.9 ft. MSL		37.1 to 39.1 ft. MSL	
				10 to 11.4 ft. BGS		10 to 11.9 ft. BGS		10 to 12 ft. BGS	
56-55-3	Benzo(a)anthr	900	ug/kg	370	U	350	U	340	U
205-99-2	Benzo(b)fluora	900	ug/kg	370	U	350	U	340	U
207-08-9	Benzo(k)fluora	9000	ug/kg	370	U	350	U	340	U
50-32-8	Benzo(a)pyren	660	ug/kg	370	U	350	U	340	U
218-01-9	Chrysene	90000	ug/kg	370	U	350	U	340	U
53-70-3	Dibenz(a,h)an	660	ug/kg	370	U	350	U	340	U
193-39-5	Indeno(1,2,3-c	900	ug/kg	370	U	350	U	340	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 113 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				FCS-OU2-PH2-0027-113VAL-EW-46.4-7	
				46.4 ft. MSL	
				3.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U
218-01-9	Chrysene	90000	ug/kg	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				113VAL-S3644A		113VAL-S3645A	
				45.8 to 47.7 ft. MSL		45.6 to 47.4 ft. MSL	
				2 to 3.9 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	40	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	44	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	370	U
218-01-9	Chrysene	90000	ug/kg	370	UJ	47	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	370	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 113 Valerie Drive

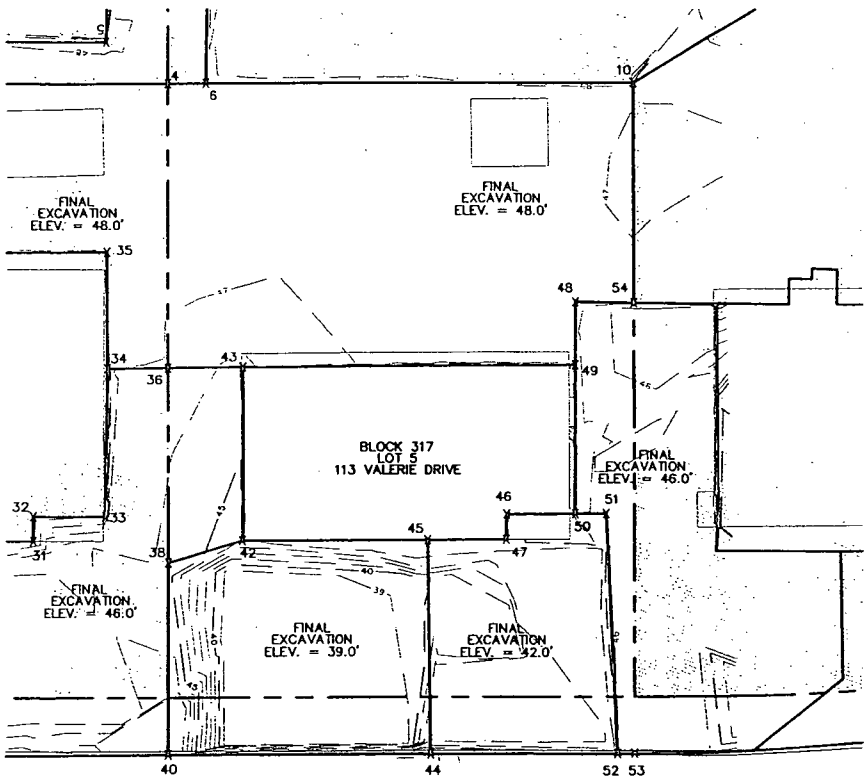
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				113VAL-S3914A	
				45.8 to 47.8 ft. MSL	
				2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	240	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	310	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	140	J
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J
218-01-9	Chrysene	90000	ug/kg	260	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	UJ

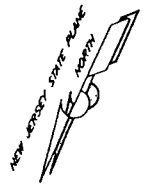
*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501513



VALERIE DRIVE



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6	N 623380.5 E 469131.8	47	N 623433.2 E 469060.5
10	N 623356.2 E 469067.5	48	N 623392.9 E 469063.6
36	N 623426.1 E 469121.2	49	N 623402.5 E 469060.0
38	N 623455.8 E 469109.9	50	N 623425.3 E 469051.4
40	N 623484.8 E 469098.9	51	N 623423.5 E 469046.9
42	N 623448.3 E 469101.2	52	N 623459.2 E 469031.4
43	N 621374.9 E 469685.5	53	N 623458.2 E 469028.8
44	N 623470.0 E 469059.6	54	N 623389.7 E 469054.8
45	N 623437.7 E 469072.4		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

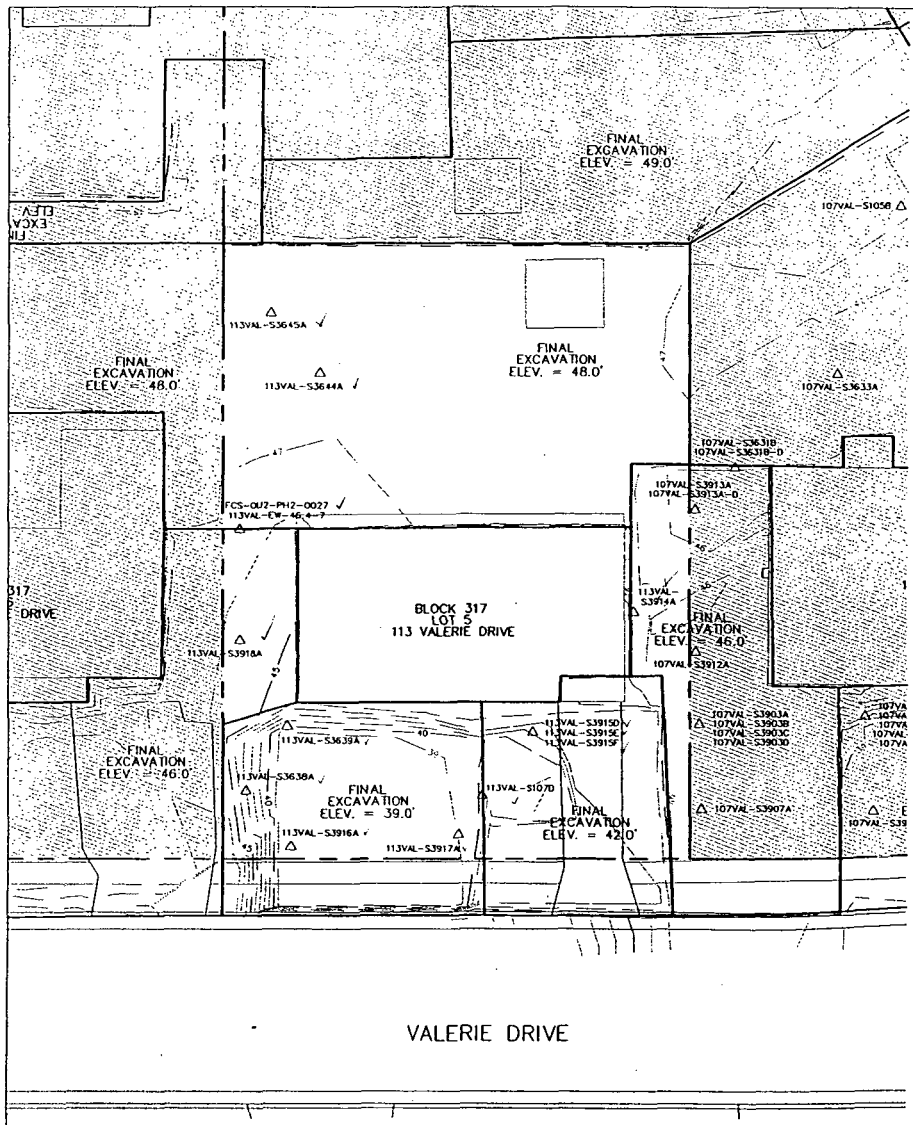
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
113 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-29-04

501514



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX ▢	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ◻	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
113 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Confirmation Sample Results for 119 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				119VAL-053		119VAL-067		SSS-119VAL-01	
				49.5 to 49.8 ft. MSL		48.9 to 49.2 ft. MSL		49.2 to 49.7 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.25 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	320	J	200	J	500	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	560	J	310	J	700	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	450	U	430	U	280	J
50-32-8	Benzo(a)pyrene	660	ug/kg	280	J	160	J	360	J
218-01-9	Chrysene	90000	ug/kg	390	J	190	J	550	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	44	J	430	U	70	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	140	J	110	J	250	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				119VAL-S3654A	
				46.7 to 47.7 ft. MSL	
				2 to 3 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U
218-01-9	Chrysene	90000	ug/kg	350	UJ
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 119 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				119VAL-S3442A		119VAL-S3442B		119VAL-S3443B		119VAL-S3647A		FCS-OU2-PH2-0057-119VAL-NW-46.0-7	
				47.6 to 49.1 ft. MSL		45.6 to 47.6 ft. MSL		46.2 to 47.9 ft. MSL		47.2 to 48.0 ft. MSL		46.0 ft. MSL	
				0.5 to 2 ft. BGS		2 to 4 ft. BGS		2 to 3.7 ft. BGS		2 to 2.9 ft. BGS		4.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	490		390	U	390	U	41	J	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	610		390	U	390	U	370	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	J	390	UJ	390	UJ	370	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	360	J	390	U	390	U	370	U	330	U
218-01-9	Chrysene	90000	ug/kg	600		390	U	390	U	370	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	70	J	390	U	390	U	370	UJ	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	240	J	390	U	390	U	370	U	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				119VAL-S3444A		119VAL-S3649A		119VAL-S3919A		119VAL-S3920A	
				43.9 to 45.9 ft. MSL		44.4 to 46.6 ft. MSL		44.5 to 46.5 ft. MSL		44.5 to 46.5 ft. MSL	
				4 to 6 ft. BGS		4 to 5.2 ft. BGS		4 to 6 ft. BGS		4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	340	U	76	J	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	340	U	99	J	360	UJ
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	UJ	340	U	43	J	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	340	U	360	U	360	U
218-01-9	Chrysene	90000	ug/kg	380	U	340	UJ	73	J	360	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	380	U	340	UJ	360	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	340	U	360	U	360	UJ

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 119 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				119VAL-S3442A		119VAL-S3651A		119VAL-S3652A	
				47.6 to 49.1 ft. MSL		47.8 to 49.3 ft. MSL		47.8 to 49.3 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	490		520		300	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	610		720		430	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	J	320	J	180	J
50-32-8	Benzo(a)pyrene	660	ug/kg	360	J	360	J	190	J
218-01-9	Chrysene	90000	ug/kg	600		670	J	390	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	70	J	53	J	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	240	J	180	J	120	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				119VAL-S3443B		119VAL-S3653A	
				46.2 to 47.9 ft. MSL		45.8 to 47.8 ft. MSL	
				2 to 3.7 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	400	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	400	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	400	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	400	U
218-01-9	Chrysene	90000	ug/kg	390	U	400	UJ
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	400	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	400	U

*NOTE: All data has been validated

Data Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - Diluted Sample Results

Confirmation Sample Results for 119 Valerie Drive

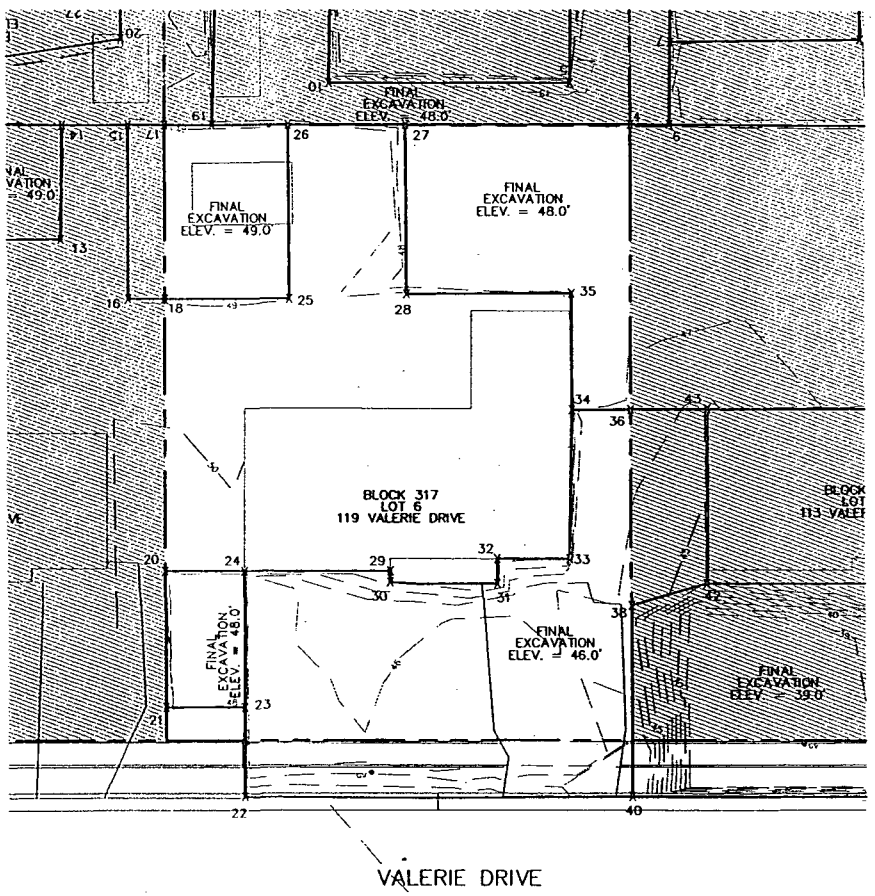
SIDEWALL SAMPLES

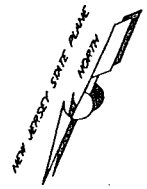
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				SSS-119VAL-04		SSS-119VAL-05		119VAL-051	
				49.3 to 49.8 ft. MSL		49.3 to 49.8 ft. MSL		49.6 to 49.9 ft. MSL	
				0 to 0.5 ft. BGS.		0 to 0.5 ft. BGS		0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	520		330	J	42	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	790		470		91	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	280	J	190	J	410	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390		280	J	41	J
218-01-9	Chrysene	90000	ug/kg	650		350	J	70	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	74	J	48	J	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	250	J	170	J	51	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

501519





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17	N 621362.6 E 469783.2	29	N 623464.4 E 469148.2
18	N 621388.9 E 469773.2	30	N 623466.1 E 469147.6
19	N 621359.8 E 469776.1	31	N 623460.2 E 469131.5
20	N 623477.1 E 469182.0	32	N 623456.4 E 469132.9
21	N 623497.8 E 469174.2	33	N 623452.3 E 469122.0
22	N 623506.8 E 469157.1	34	N 623429.5 E 469130.2
23	N 623493.3 E 469162.2	35	N 623411.8 E 469137.0
24	N 623472.6 E 469169.9	36	N 623426.1 E 469121.2
25	N 623428.5 E 469178.9	38	N 623455.8 E 469109.9
26	N 623402.2 E 469189.0	40	N 623484.8 E 469098.9
27	N 623395.6 E 469171.6		

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

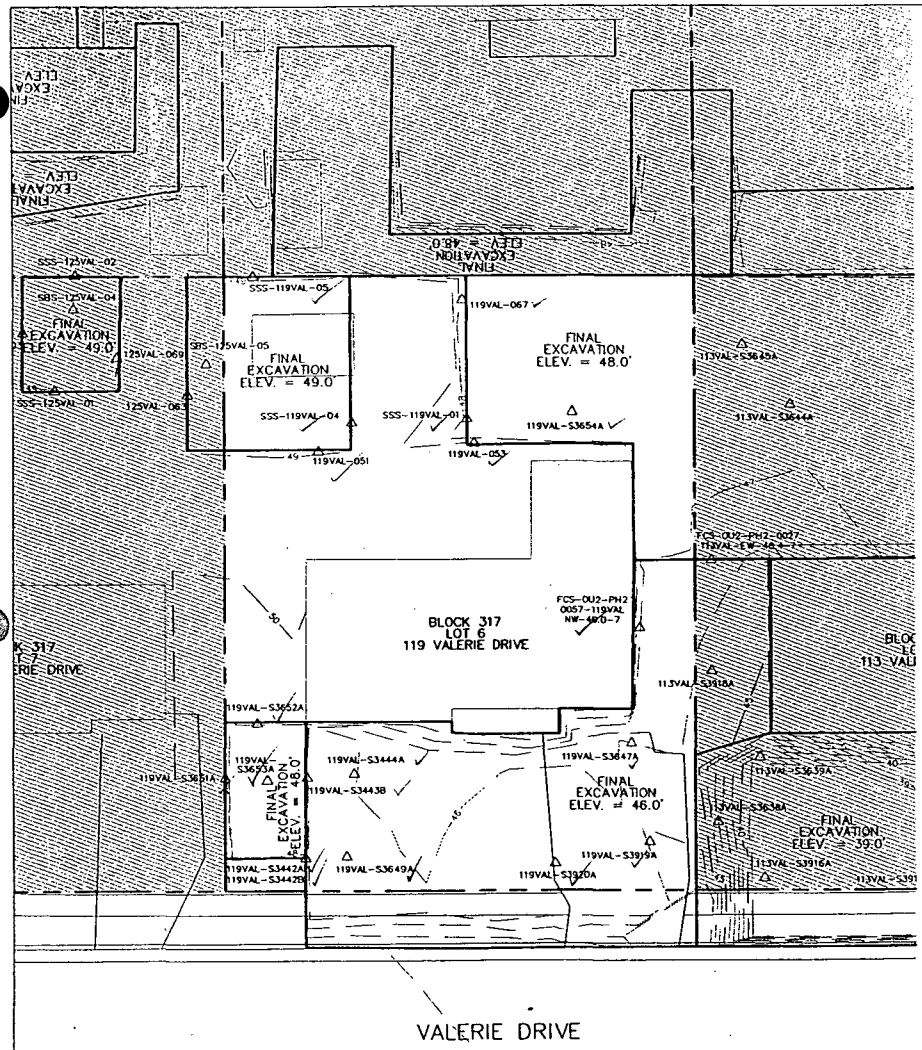
SEPA

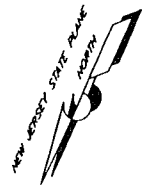
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
119 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-24-06

501520





LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
119 VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-10-06

Confirmation Sample Results for 122 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				122VAL-S3925A		122VAL-S3655A	
				46.8 to 48 ft. MSL		48.7 to 50.2 ft. MSL	
				2 to 3.2 ft. BGS		0.5 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	390	U	42	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	390	U	57	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	360	U
218-01-9	Chrysene	90000	ug/kg	390	U	53	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 122 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1			
				122VAL-S3330B		122VAL-S3330B-D	
				46.9 to 48.7 ft. MSL		46.9 to 48.7 ft. MSL	
				2 to 3.8 ft. BGS		2 to 3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	120	J	300	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	140	J	300	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	84	J	140	J
50-32-8	Benzo(a)pyrene	660	ug/kg	85	J	190	J
218-01-9	Chrysene	90000	ug/kg	160	J	320	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	56	J	120	J

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5		6	
				122VAL-S3296A		122VAL-S3297A		122VAL-S3299B		122VAL-S3300B		122VAL-S3301B		122VAL-S3302B	
				44.2 to 45.9 ft. MSL		44.0 to 46.0 ft. MSL		43.4 to 45.4 ft. MSL		43.5 to 45.5 ft. MSL		41.9 to 43.9 ft. MSL		43.2 to 45.2 ft. MSL	
				4 to 5.7 ft. BGS		4 to 6 ft. BGS		4 to 6 ft. BGS		4 to 6 ft. BGS		5.5 to 7.5 ft. BGS		43.2 to 45.2 ft. MSL	
56-55-3	Benzo(a)anthracene	900	ug/kg	200	J	370	U	370	U	44	J	380	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	140	J	370	U	370	U	43	J	380	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	73	J	370	U	370	U	360	U	380	U	360	U
50-32-8	Benzo(a)pyrene	660	ug/kg	82	J	370	U	370	U	360	U	380	U	360	U
218-01-9	Chrysene	90000	ug/kg	200	J	370	U	370	U	360	U	380	U	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	350	U	370	U	370	U	360	U	380	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	45	J	370	U	370	U	360	U	380	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 122 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	7		8	
				122VAL-S3459A		122VAL-S3460A	
				44.0 to 45.5 ft. MSL		43.5 to 45.3 ft. MSL	
				4 to 5.5 ft. BGS		4 to 5.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	380	U	360	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	380	U	360	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	380	UJ	360	UJ
50-32-8	Benzo(a)pyrene	660	ug/kg	380	U	360	U
218-01-9	Chrysene	90000	ug/kg	380	U	360	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	380	U	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	380	U	360	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 122 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3	
				122VAL-S3429C		122VAL-S3454A		122VAL-S3456A	
				43.5 to 45.5 ft. MSL		44.0 to 45.4 ft. MSL		43.9 to 45.5 ft. MSL	
				4 to 6 ft. BGS		4 to 5.4 ft. BGS		4 to 5.6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U	370	U	380	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U	370	U	380	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U	370	U	380	U
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U	370	U	380	U
218-01-9	Chrysene	90000	ug/kg	340	U	370	U	380	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	340	U	370	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U	370	U	380	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				122VAL-S3298C	
				41.5 to 43.5. ft. MSL	
				6 to 8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	72	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	43	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	390	U
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U
218-01-9	Chrysene	90000	ug/kg	59	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

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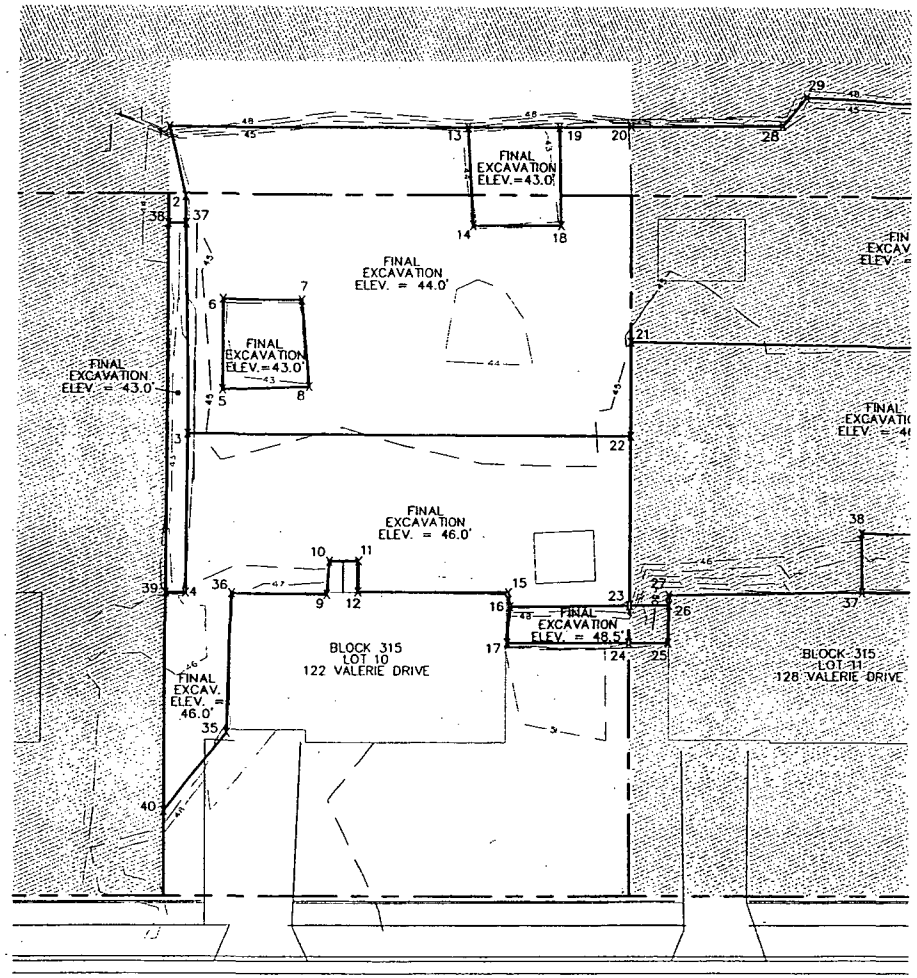

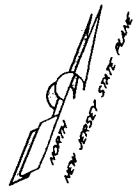

FINAL EXCAVATION COORDINATES 122 VALERIE DRIVE			
1	N 623656.2 E 469083.8	16	N 623603.1 E 469163.2
2	N 623646.8 E 469090.4	17	N 623597.5 E 469164.9
3	N 623611.0 E 469104.5	18	N 623664.0 E 469148.7
4	N 623586.7 E 469113.6	19	N 623678.6 E 469142.9
5	N 623619.7 E 469106.9	20	N 623682.9 E 469153.8
6	N 623633.4 E 469101.7	21	N 623650.4 E 469166.1
7	N 623637.7 E 469113.6	22	N 623636.1 E 469171.6
8	N 623625.0 E 469119.7	23	N 623610.2 E 469181.3
9	N 623594.4 E 469134.7	24	N 623604.5 E 469183.5
10	N 623599.6 E 469133.1	35	N 623567.7 E 469127.8
11	N 623601.3 E 469137.5	36	N 623589.2 E 469120.3
12	N 623596.6 E 469139.3	37	N 623642.8 E 469092.0
13	N 623673.3 E 469128.9	38	N 623641.7 E 469089.2
14	N 623658.9 E 469135.4	39	N 623585.5 E 469110.5
15	N 623605.2 E 469162.1	40	N 623552.3 E 469123.1

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
122 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-21-05

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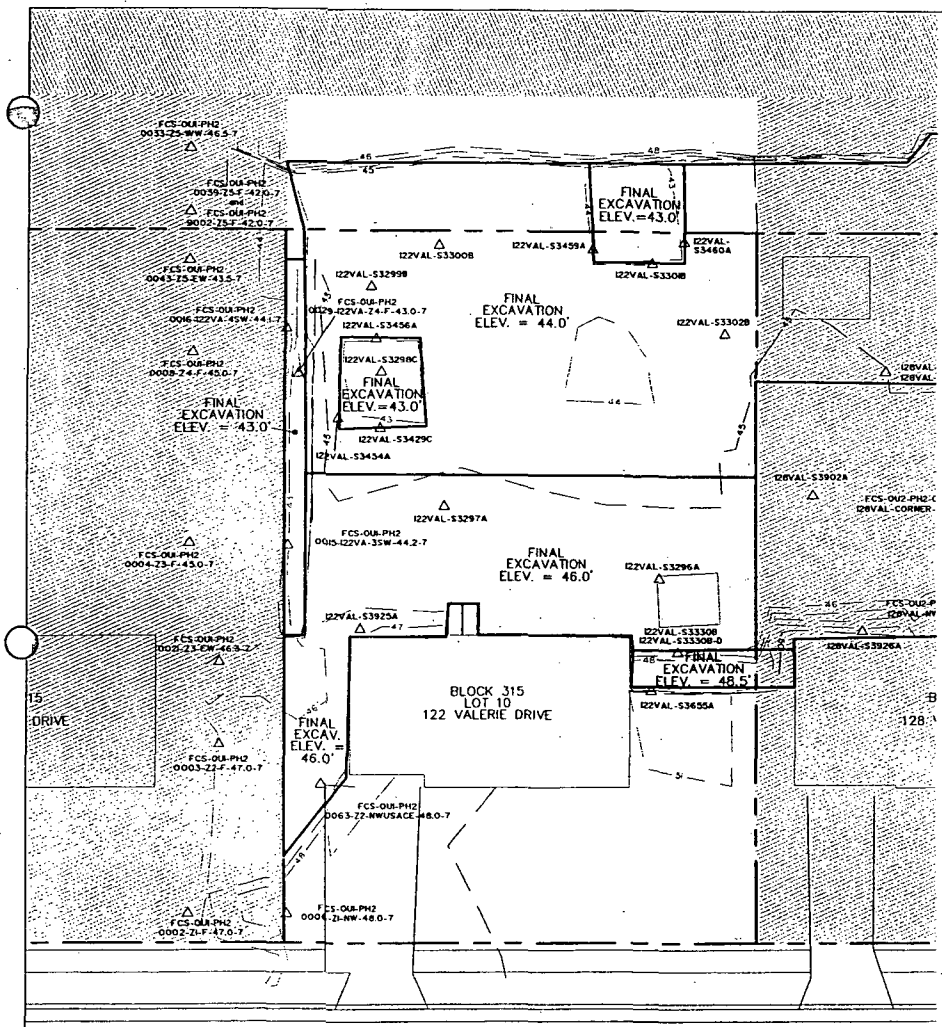
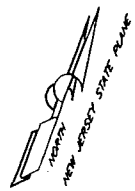




LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- XXXX △ CONFIRMATION SAMPLE
- XXXX □ DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- XXXX □ DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
122 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-21-05

Confirmation Sample Results for 125 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				125VAL-063	
				49.3 to 49.6 ft. MSL	
				0 to 0.25 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	61	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	73	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	80	J
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U
218-01-9	Chrysene	90000	ug/kg	95	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-125VAL-05	
				48.3 to 48.8 ft. BGS	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	190	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	290	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	110	J
50-32-8	Benzo(a)pyrene	660	ug/kg	150	J
218-01-9	Chrysene	90000	ug/kg	230	J
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	110	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 125 Valerie Drive

SIDEWALL SAMPLES

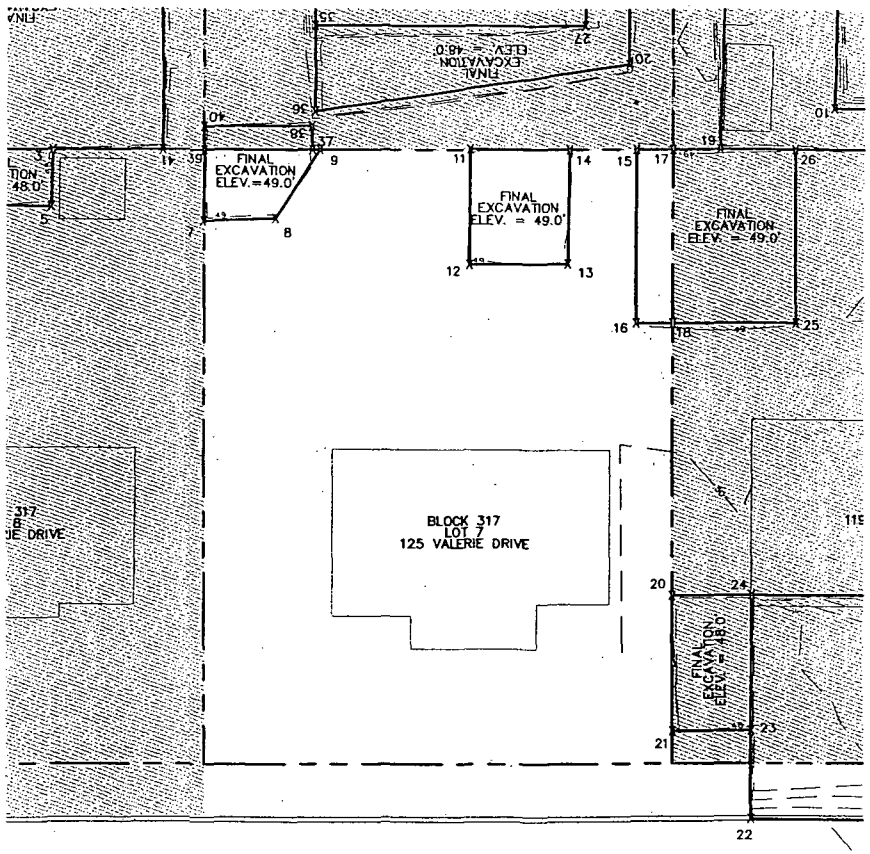
CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				125VAL-069		SSS-125VAL-01		SSS-125VAL-02		SSS-125VAL-03	
				49.4 to 49.7 ft. MSL		49.5 to 50.0 ft. MSL		49.1 to 49.6 ft. MSL		49.4 to 49.9 ft. MSL	
				0 to 0.25 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	130	J	190	J	130	J	42	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	160	J	290	J	240	J	71	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	170	J	91	J	91	J	370	U
50-32-8	Benzo(a)pyrene	660	ug/kg	120	J	170	J	130	J	44	J
218-01-9	Chrysene	90000	ug/kg	190	J	260	J	170	J	55	J
53-70-3	Dibenzo (a,h)anthracene	660	ug/kg	400	U	380	U	410	U	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	84	J	120	J	90	J	370	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				SBS-125VAL-04	
				48.3 to 48.8 ft. MSL	
				1 to 1.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	280	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	480	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	180	J
50-32-8	Benzo(a)pyrene	660	ug/kg	260	J
218-01-9	Chrysene	90000	ug/kg	330	J
53-70-3	Dibenzo (a,h)anthracene	660	ug/kg	50	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	180	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results



FINAL EXCAVATION COORDINATES 125 VALERIE DRIVE			
7	N 623446.8 E 469273.9	14	N 623415.2 N 623411.5
8	N 623442.4 E 469263.2	15	E 469213.4 E 469207.8
9	N 623429.3 E 469260.6	16	N 623437.8 E 469203.4
11	N 623420.7 E 469238.2	17	E 469223.3 N 623409.3
12	N 623438.3 E 469231.6	18	N 623435.7 E 469197.8
13	N 623432.7 E 469217.0	39	N 623435.9 E 469277.9

LEGEND

FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
125 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

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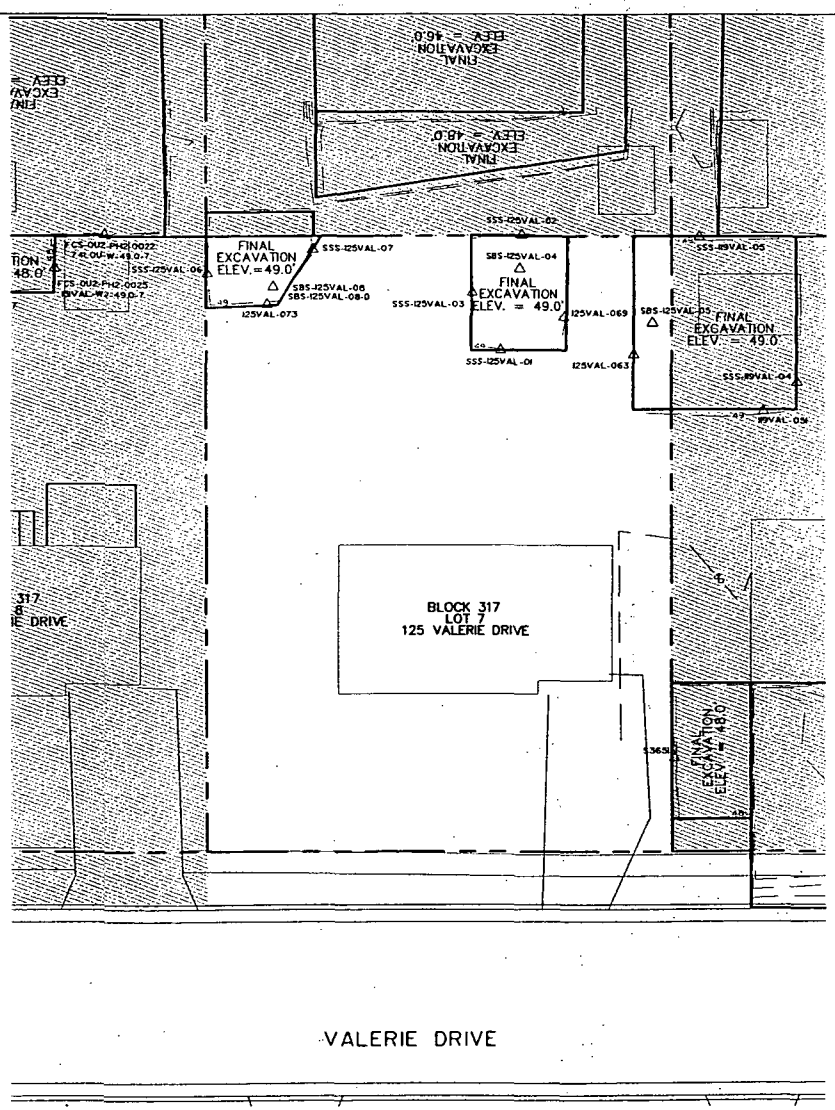
501530



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
125 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

2-21-05

Confirmation Sample Results for 128 Valerie Drive

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2						3				4	
				128VAL-S3926A		128VAL-S3305A		128VAL-S3305A-D		128VAL-S3305B		128VAL-S3663A		128VAL-S3663B		FCS-OU2-PH2-0036-128VAL-EW-45.5-7	
				46.3 to 47.3 ft. MSL		46.5 to 48.0 ft. MSL		46.5 to 48.0 ft. MSL		44.8 to 46.5 ft. MSL		47 to 48.5 ft. MSL		45 to 47 ft. MSL		49.0 ft. MSL	
				2 to 3.7 ft. BGS		0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		2 to 3.9 ft. BGS		0.5 to 2 ft. BGS		2 to 3.5 ft. BGS		3.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	810		53	J	100	J	390	U	260	J	350	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	720		84	J	160	J	390	U	500		350	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	310	J	49	J	70	J	390	U	160	J	350	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	420		390	U	87	J	390	U	190	J	350	U	330	U
218-01-9	Chrysene	90000	ug/kg	840		100	J	160	J	390	U	440	J	350	UJ	330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	74	J	390	U	390	U	390	U	350	U	350	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	250	J	390	U	59	J	390	UJ	120	J	350	U	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				FCS-OU2-PH2-INFO-128VAL-FLOOR-47.0-7		FCS-OU2-PH2-0034-128VAL-CORNER-45.2-7	
				47.0 ft. MSL		45.2 ft. MSL	
				2.0 ft. BGS		3.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	131		330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	359		330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	153		330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	170		330	U
218-01-9	Chrysene	90000	ug/kg	206		330	U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	111		330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation Sample Results for 128 Valerie Drive

SIDEWALL SAMPLES

				5		6	7
CAS#	COMPOUND	ACG CRITERIA	UNITS	FCS-OU2-PH2-0040-128VAL-NW-2-48.0-7	FCS-OU2-PH2-9002-128VAL-NW-2-48.0-7	FCS-OU2-PH2-0042-128VAL-EW-48.5-7	FCS-OU2-PH2-0033-128VAL-NW-47.0-7
				48.0 ft. MSL	48.0 ft. MSL	48.5 ft. MSL	47.0 ft. MSL
				1.0 ft. BGS	1.0 ft. BGS	0.5 ft. BGS	2.0 ft. BGS
56-55-3	Benzo(a)anthracene	900	ug/kg	330 U	87	330 U	330 U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330 U	95	330 U	330 U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330 U	121	330 U	330 U
50-32-8	Benzo(a)pyrene	660	ug/kg	330 U	84	330 U	330 U
218-01-9	Chrysene	90000	ug/kg	330 U	101	330 U	330 U
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	330 U	330 U	330 U	330 U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330 U	330 U	330 U	330 U

*NOTE: All data has been validated

Data Qualifiers:

ND - No Data

U - Non Detect

J - Estimated Value

D - *Diluted Sample Results*

Confirmation Sample Results for 128 Valerie Drive

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				128VAL-S3902A	
				43.5 to 45.8 ft. MSL	
				4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	710	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	580	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	280	J
50-32-8	Benzo(a)pyrene	660	ug/kg	330	J
218-01-9	Chrysene	90000	ug/kg	740	
53-70-3	Dibenzoa,h)anthracene	660	ug/kg	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	140	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

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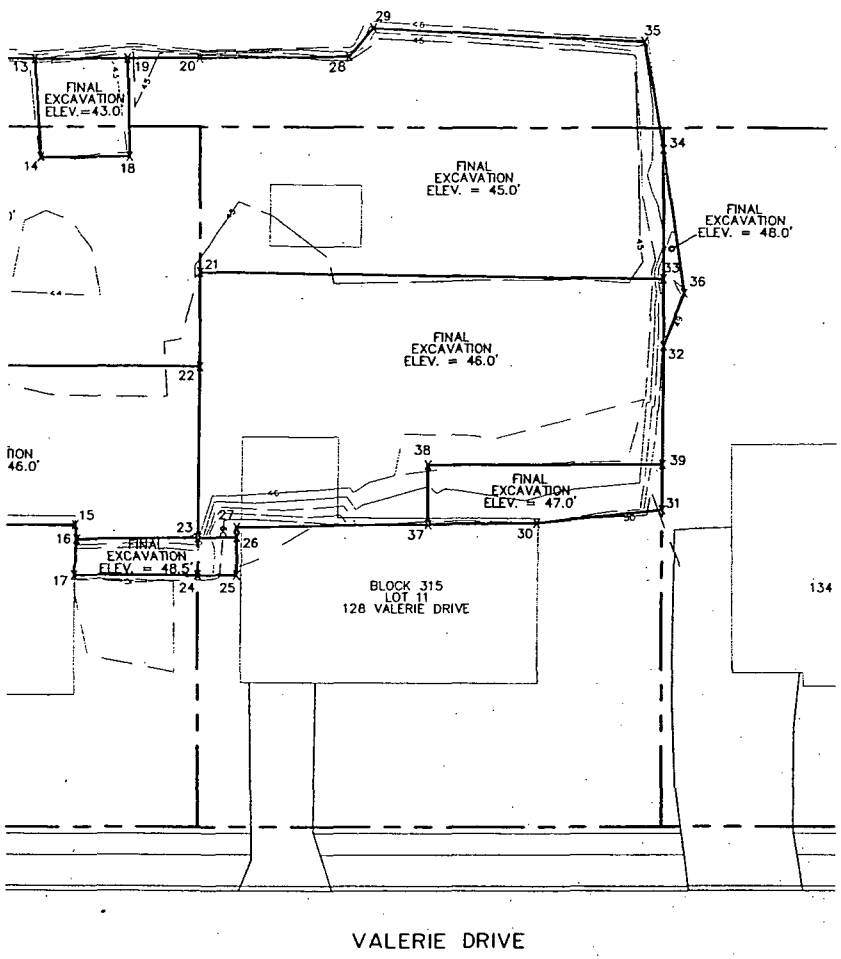

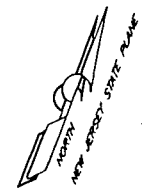

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21	N 623650.4 E 469166.1	31	N 623640.9 E 469249.9
22	N 623636.1 E 469171.6	32	N 623665.7 E 469240.5
23	N 623610.2 E 469181.3	33	N 623675.9 E 469236.6
24	N 623604.5 E 469183.5	34	N 623695.8 E 469229.1
25	N 623606.7 E 469189.4	35	N 623710.8 E 469220.2
26	N 623612.5 E 469187.2	37	N 623625.4 E 469215.3
27	N 623614.0 E 469186.6	38	N 623634.3 E 469211.8
28	N 623691.6 E 469176.2	39	N 623647.8 E 469247.3
29	N 623697.3 E 469178.2		

LEGEND

FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

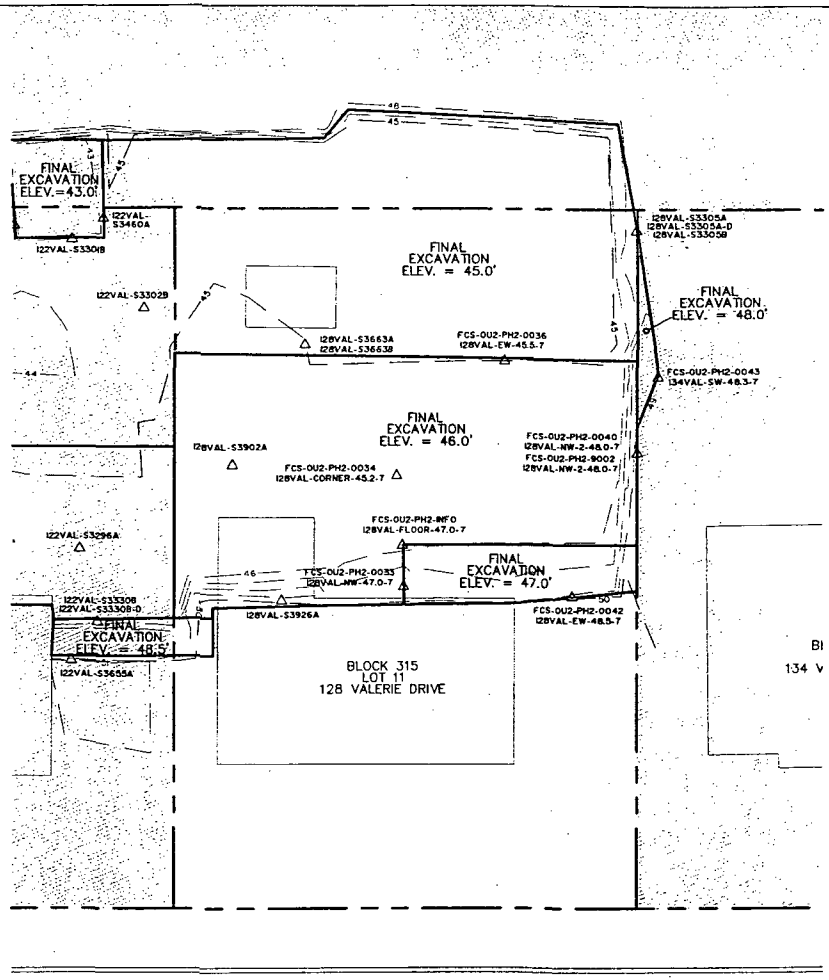
(IN FEET)
1 inch = 30 ft.

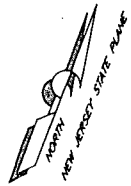
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
128 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-27-04

501535





LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
128 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
9-27-04

Confirmation Sample Results for 131 Valerie Drive

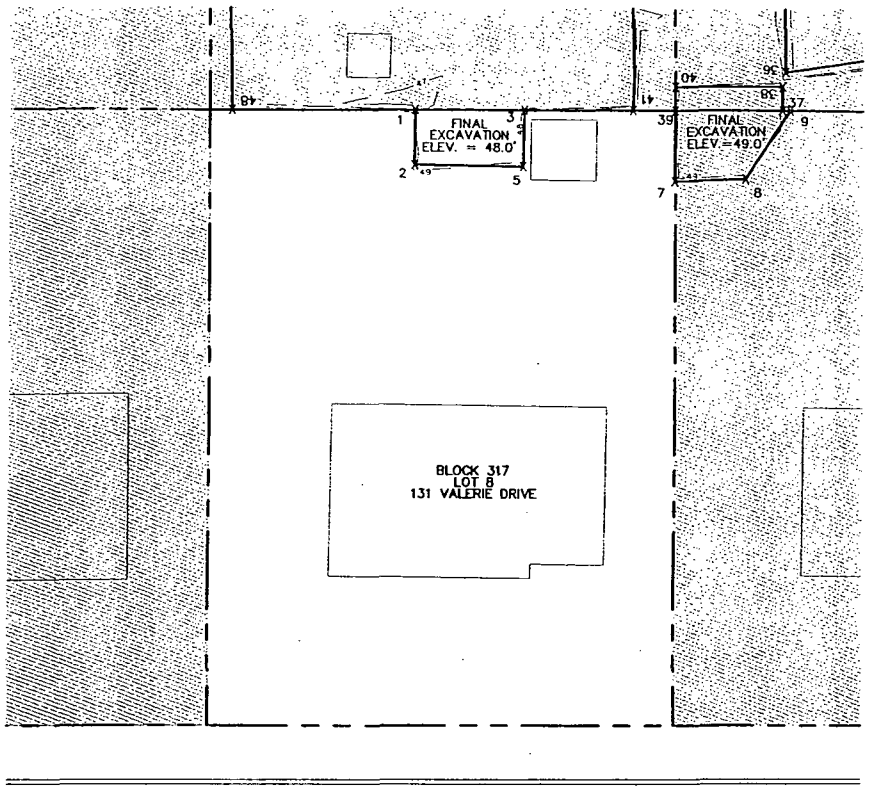
SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5		6	
				131VAL-067		FCS-OU2-PH2-0024-131VAL-W1-49.0-7		FCS-OU2-PH2-0025-131VAL-W2-49.0-7		74LOU-S3844A		SSS-125VAL-06		FCS-OU2-PH2-0022-74LOU-W-49.0-7	
				50.2 to 50.5 ft. MSL		49.0 ft. MSL		49.0 ft. MSL		47.3 to 48.8 ft. MSL		49.2 to 49.7 ft. MSL		49.0 ft. MSL	
				0 to 0.25 ft. BGS		1.0 ft. BGS		1.0 ft. BGS		0.5 to 2 ft. BGS		0 to 0.5 ft. BGS		1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	40	J	694		132		88	J	73	J	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	52	J	802		247		180	J	120	J	107	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	58	J	848		188		79	J	42	J	104	
50-32-8	Benzo(a)pyrene	660	ug/kg	43	J	612		136		76	J	68	J	80	
218-01-9	Chrysene	90000	ug/kg	58	J	873		200		140	J	92	J	117	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	400	UJ	168		330	U	370	U	400	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	27	J	310		100		63	J	50	J	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value

501537



FINAL EXCAVATION COORDINATES 131 VALERIE DRIVE			
1	N 623450.8 E 469317.3	3	N 623444.6 E 469300.7
2	N 623459.3 E 469314.2	5	N 623453.3 E 469297.6

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

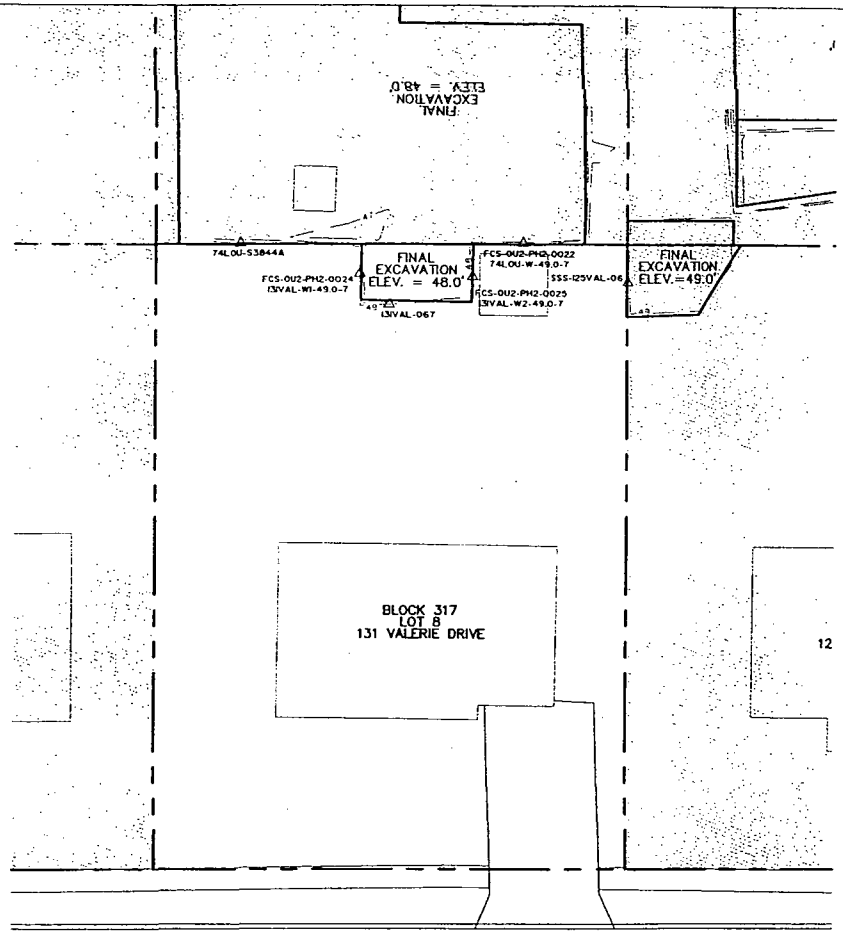
(IN FEET)
1 inch = 30 ft.

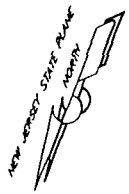
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
131 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-29-04

501538

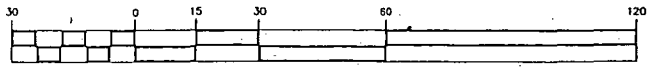




LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX ◘	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
131 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

10-7-04

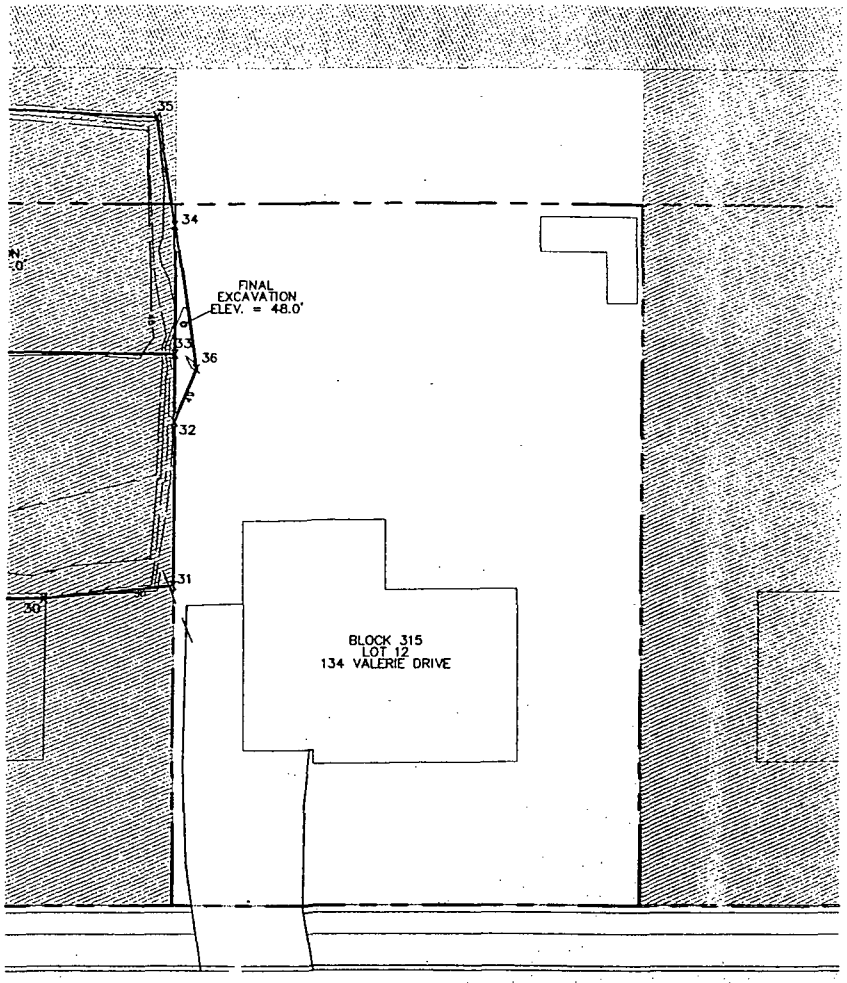
Confirmation Sample Results for 134 Valerie Drive

SIDEWALL SAMPLES

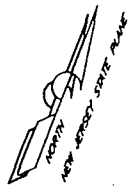
CAS#	COMPOUND	ACG CRITERIA	UNITS	1						2	
				128VAL-S3305A		128VAL-S3305A-D		128VAL-S3305B		FCS-OU2-PH2-0043-134VAL-SW-48.3-7	
				46.5 to 48.0 ft. MSL		46.5 to 48.0 ft. MSL		44.6 to 46.5 ft. MSL		48.3 ft. MSL	
				0.5 to 2 ft. BGS		0.5 to 2 ft. BGS		2 to 3.9 ft. BGS		1.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	53	J	100	J	390	U	619	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	84	J	160	J	390	U	708	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	49	J	70	J	390	U	513	
50-32-8	Benzo(a)pyrene	660	ug/kg	390	U	87	J	390	U	547	
218-01-9	Chrysene	90000	ug/kg	100	J	160	J	390	U	575	
53-70-3	Dibenzo(a,h)anthracene	660	ug/kg	390	U	390	U	390	U	165	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	390	U	59	J	390	UJ	270	

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results



VALERIE DRIVE



FINAL EXCAVATION COORDINATES 134 VALERIE DRIVE			
32	N 623665.7 E 469240.5	34	N 623695.8 E 469229.1
33	N 623675.9 E 469236.6	36	N 623675.0 E 469240.6

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

30 0 15 30 60 120

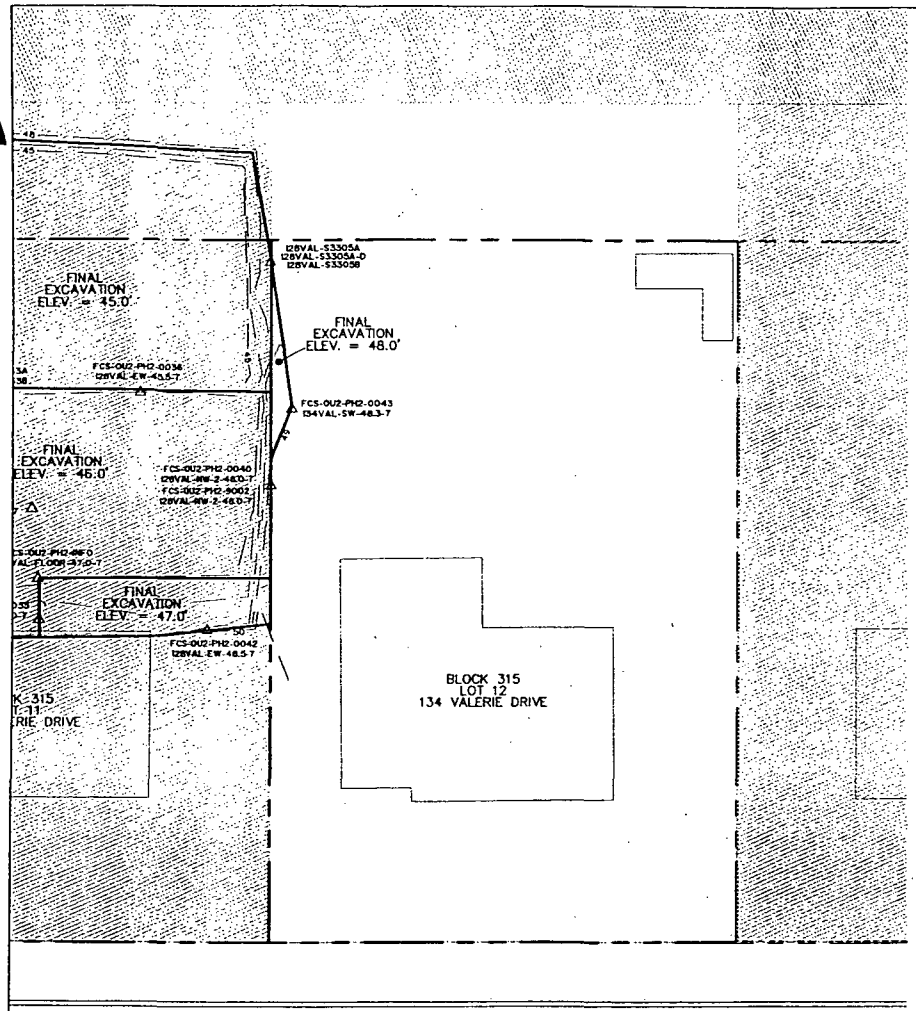
(IN FEET)
1 inch = 30 ft.

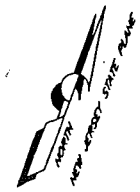
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
134 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

9-30-04

501540





LEGEND

- FINAL EXCAVATION CONTOURS
- PROPERTY LINES
- CURB LINE
- CONFIRMATION SAMPLE
- DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
- DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

30 0 15 30 60 120

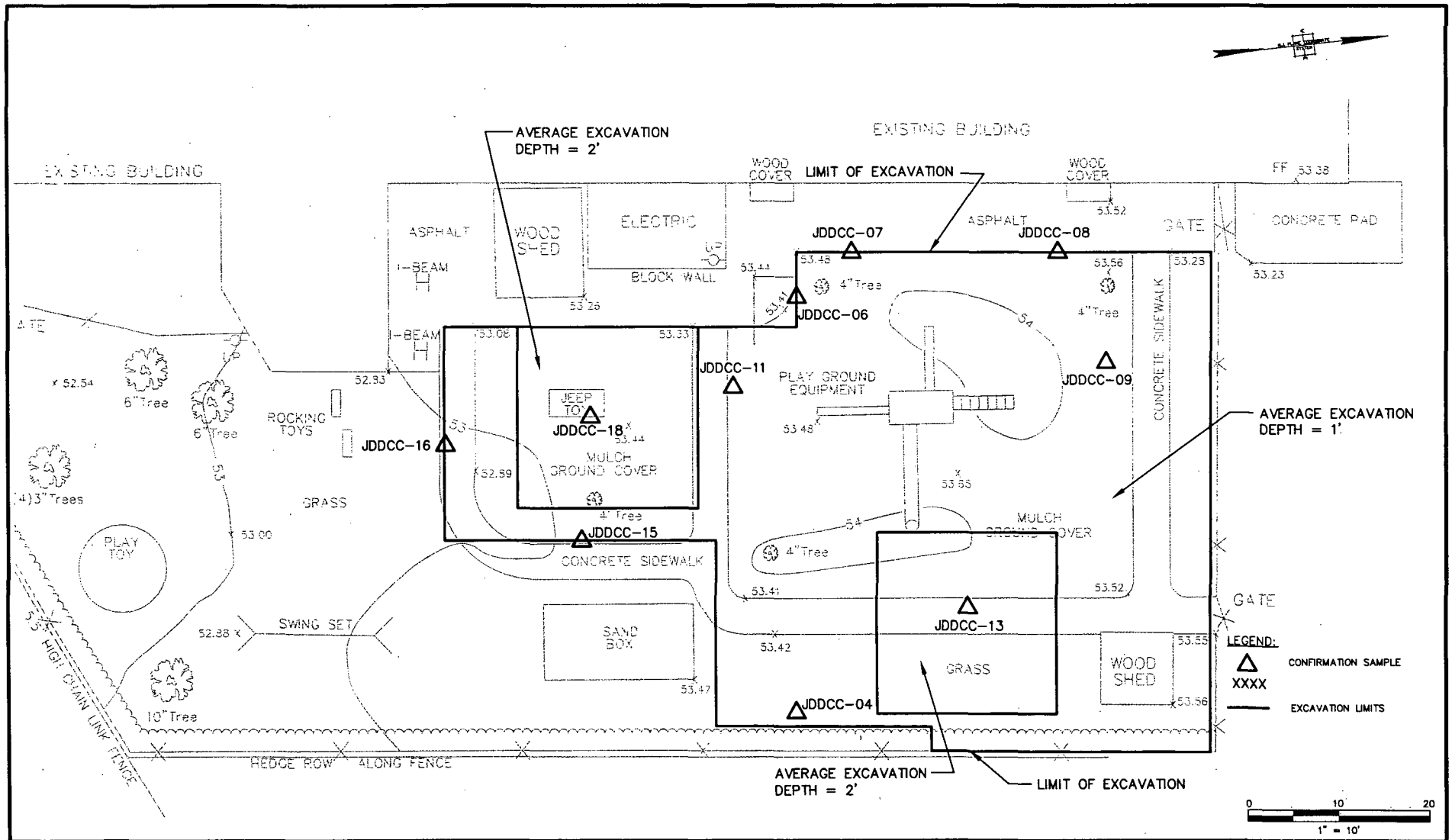
(IN FEET)
1 inch = 30 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
134 VALERIE DRIVE, OU2 - PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
9-27-04

501541



EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS

DAY CARE CENTER PLAYGROUND
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, NJ

501542

Confirmation Samples for Day Care Center Playground Area

CAS #	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				JDDCC-04		JDDCC-06		JDDCC-07		JDDCC-08	
				6/18/2001		6/18/2001		6/18/2001		6/18/2001	
				0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS		0 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	220	J	400	J	180	J	160	J
218-01-9	Chrysene	90,000	ug/kg	280	J	520		250	J	220	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	360	J	530		320	J	270	J
207-08-9	Benzo(k)fluoranthene	9,000	ug/kg	120	J	200	J	110	J	100	J
50-32-8	Benzo(a)pyrene	660	ug/kg	230	J	280	J	190	J	170	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	120	J	140	J	100	J	110	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	400	U	410	U	410	U	410	U

Qualifier List:

ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results
X- Multiple Qualifiers

Confirmation Samples for Day Care Center Playground Area

CAS #	COMPOUND	ACG CRITERIA	UNITS	5		6		7		8	
				JDDCC-09		JDDCC-11		JDDCC-13		JDDCC-15	
				6/18/2001		6/18/2001		7/5/2001		7/11/2001	
				0.5 to 1.5 ft. BGS		0.5 to 1.5 ft. BGS		2 to 2.5 ft. BGS		0.1 to 0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	86	J	51	J	370	U	330	J
218-01-9	Chrysene	90,000	ug/kg	110	J	67	J	370	U	390	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	120	J	75	J	370	U	560	
207-08-9	Benzo(k)fluoranthene	9,000	ug/kg	49	J	40	J	370	U	290	J
50-32-8	Benzo(a)pyrene	660	ug/kg	84	J	50	J	370	U	330	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	75	J	390	U	370	U	140	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	400	U	390	U	370	U	360	U

Qualifier List:

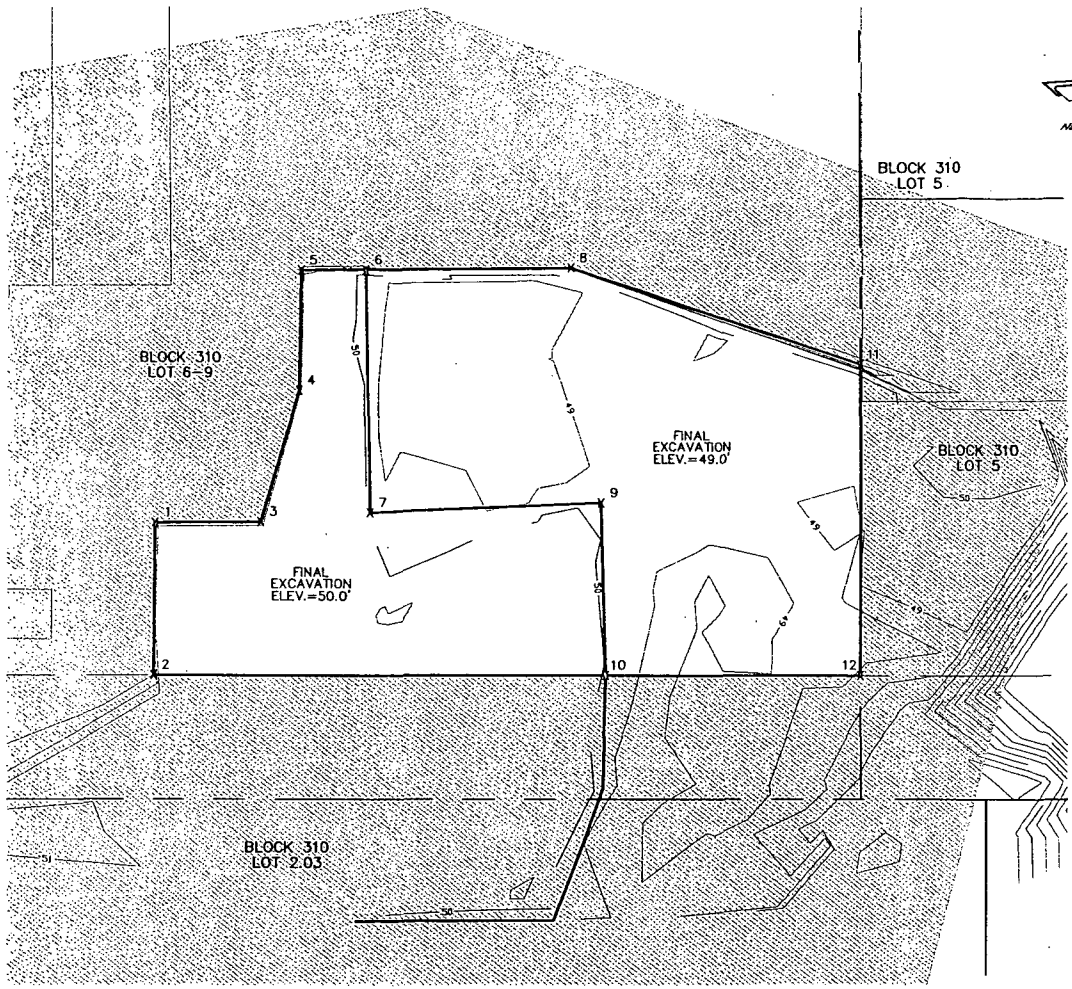
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results
X- Multiple Qualifiers

Confirmation Samples for Day Care Center Playground Area

CAS #	COMPOUND	ACG CRITERIA	UNITS	9		10	
				JDDCC-16		JDDCC-18	
				7/11/2001		7/25/2001	
				0.1 to 0.5 ft. BGS		2 to 2.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	200	J	110	J
218-01-9	Chrysene	90,000	ug/kg	240	J	160	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	J	180	J
207-08-9	Benzo(k)fluoranthene	9,000	ug/kg	190	J	72	J
50-32-8	Benzo(a)pyrene	660	ug/kg	230	J	100	J
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	110	J	63	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	370	U

Qualifier List:

ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results
X- Multiple Qualifiers



FINAL EXCAVATION COORDINATES DAY CARE CENTER			
1	N 622237.6 E 467984.0	7	N 622272.3 E 467986.2
2	N 622234.8 E 468008.6	8	N 622308.9 E 467949.9
3	N 622254.9 E 467985.8	9	N 622309.6 E 467988.7
4	N 622263.3 E 467965.1	10	N 622307.4 E 468016.6
5	N 622265.8 E 467945.5	11	N 622354.0 E 467970.7
6	N 622276.0 E 467946.5	12	N 622348.5 E 468021.1

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

NOTE: NOT ALL FEATURES IN THE LEGEND MAY APPEAR ON THIS MAP.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

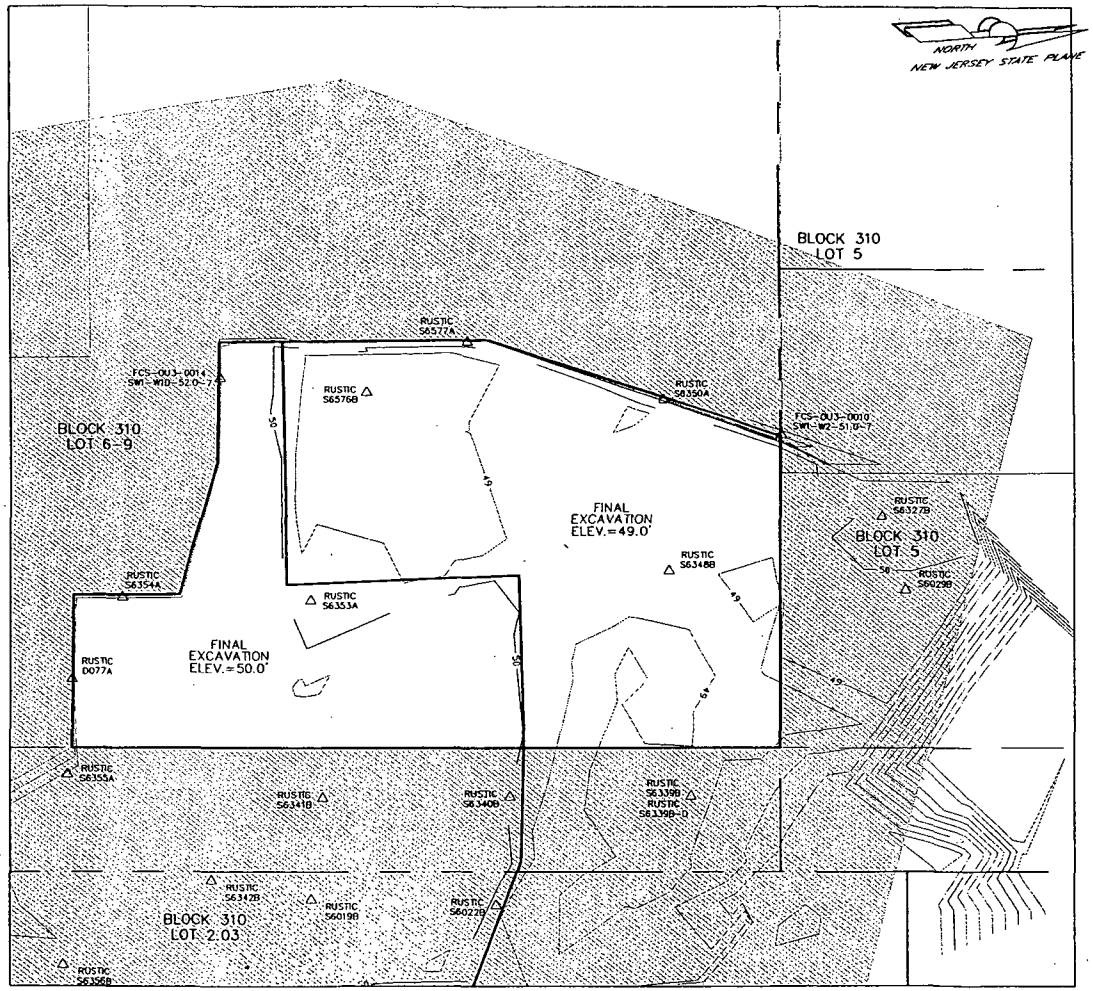
US Army Corps of Engineers

FINAL EXCAVATION LIMITS
DAY CARE CENTER, OU2 – PH2, OU3 – RUSTIC
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-2-06

501546

501547



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX ○	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

NOTE: NOT ALL FEATURES IN THE LEGEND MAY APPEAR ON THIS MAP.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
DAY CARE CENTER, OU2 – PH2, OU3 – RUSTIC
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

8-2-06

Confirmation/Documentation Sample Results for SouthWest Area - DayCare Center

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				RUSTIC-S6350A		RUSTIC-S6353A		RUSTIC-S6354A		Rustic-D077A		RUSTIC-S6577A	
				51 to 51.5 ft. MSL		51 to 51.6 ft. MSL		51 to 51.6 ft. MSL		51 to 52.5 ft. MSL		51 to 53 ft. MSL	
				1.5 to 2 ft. BGS		1.4 to 2 ft. BGS		1.4 to 2 ft. BGS		0.5 to 2 ft. BGS		0 to 2 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	91	J	390	U	390	U	390	U	340	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	97	J	390	U	390	U	64	J	660	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	61	J	390	U	390	U	390	U	200	J
50-32-8	Benzo(a)pyrene	660	ug/kg	71	J	390	U	390	U	390	U	320	J
218-01-9	Chrysene	90000	ug/kg	83	J	390	U	390	U	66	J	500	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	390	U	390	U	390	U	390	U	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	42	J	390	U	390	U	390	U	380	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				RUSTIC-S6348B		RUSTIC-S6576B	
				49 to 51 ft. MSL		49 to 51 ft. MSL	
				2 to 4 ft. BGS		2 to 4 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	120	J	110	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	660		220	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	210	J	75	J
50-32-8	Benzo(a)pyrene	660	ug/kg	400		110	J
218-01-9	Chrysene	90000	ug/kg	340	J	160	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	76	J	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	310	J	79	J

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results
X - Multiple Qualifiers

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501548

Confirmation/Documentation Sample Results for SouthWest Area - DayCare Center

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				FCS-OU3-0014 -SW1-W1D-52.0-7		FCS-OU3-0010 -SW1-W2-51.0-7	
				52.0 ft. MSL		51.0 ft. MSL	
				1.0 ft. BGS		0.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	516		390	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	865		125	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	216		131	
50-32-8	Benzo(a)pyrene	660	ug/kg	574		390	U
218-01-9	Chrysene	90000	ug/kg	585		81	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	131		390	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	371		390	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS
56-55-3	Benzo(a)anthracene	900	ug/kg
205-99-2	Benzo(b)fluoranthene	900	ug/kg
207-08-9	Benzo(k)fluoranthene	9000	ug/kg
50-32-8	Benzo(a)pyrene	660	ug/kg
218-01-9	Chrysene	90000	ug/kg
53-70-3	Dibenz(a,h)anthracene	660	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg

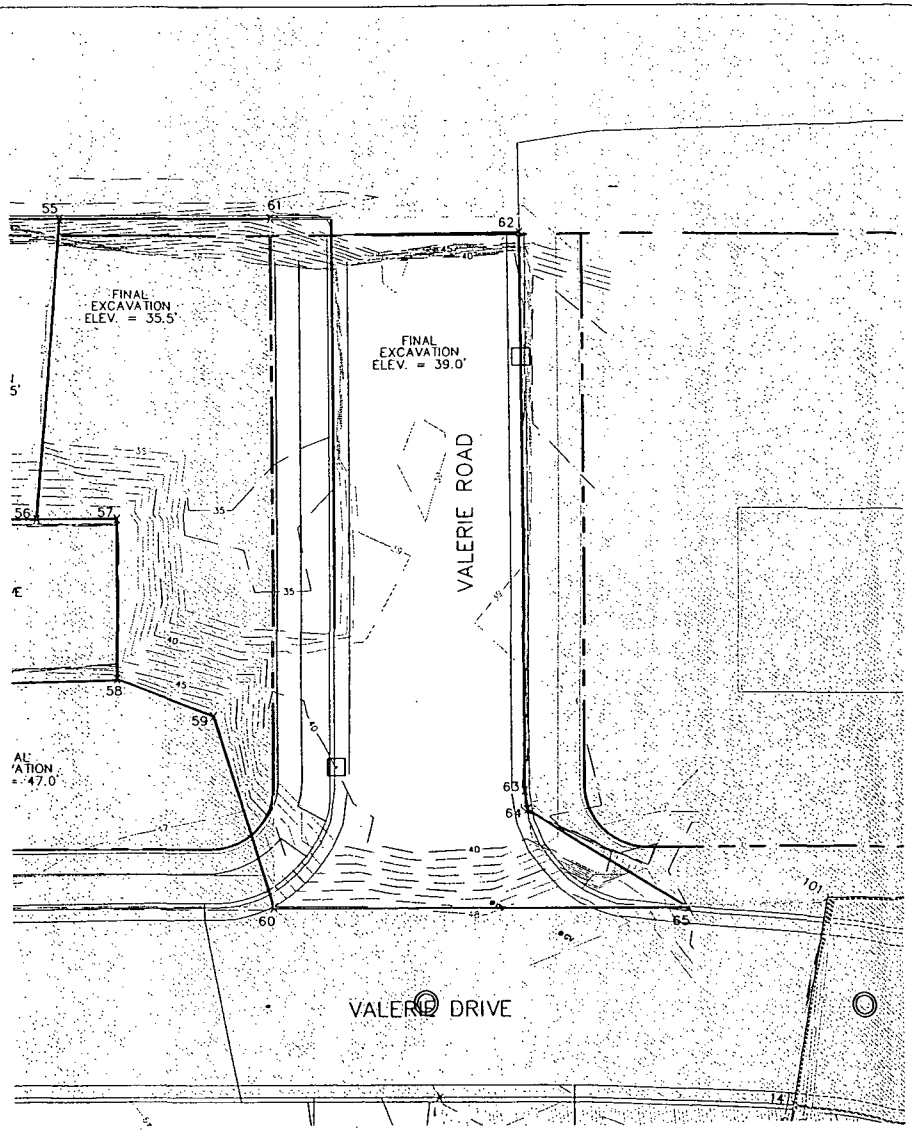
*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results
X - Multiple Qualifiers

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501550



FINAL EXCAVATION COORDINATES VALERIE ROAD			
60	N 623073.2 E 468714.1	63	N 623115.5 E 468700.0
61	N 623085.5 E 468602.6	64	N 623115.5 E 468703.1
62	N 623125.1 E 468609.5	65	N 623139.1 E 468721.8

LEGEND

38 — FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

GRAPHIC SCALE

20 0 10 20 40 80

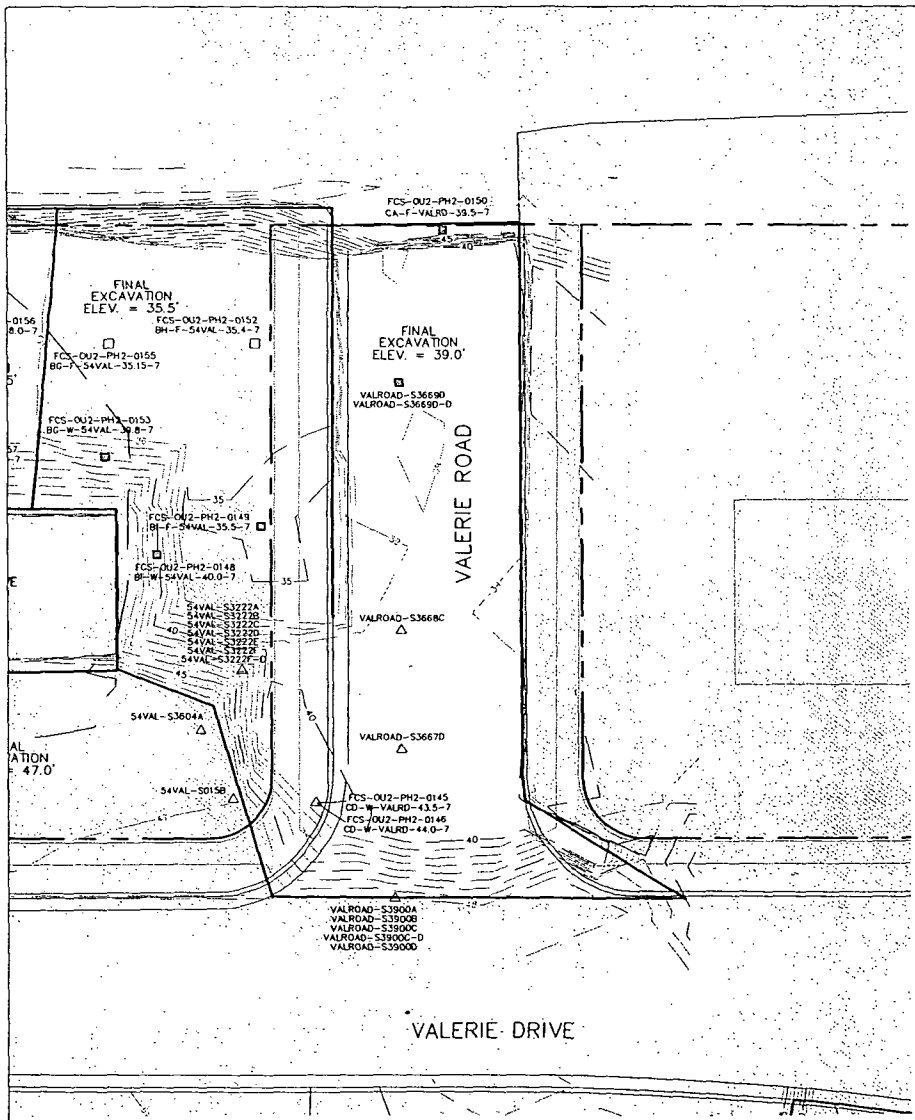
(IN FEET)
1 inch = 20 ft.

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
VALERIE ROAD, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

1-25-05

501551



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
VALERIE ROAD, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-27-06

Confirmation/Documentation Sample Results forValerie Road

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1									
				VALROAD-S3900A		VALROAD-S3900B		VALROAD-S3900C		VALROAD-S3900C-D		VALROAD-S3900D	
				31.6 to 33 ft. MSL		33.6 to 35.6 ft. MSL		35.6 to 37.3 ft. MSL		35.6 to 37.3 ft. MSL		37.6 to 39.6 ft. MSL	
				2 to 3.4 ft. BGS		4 to 6 ft. BGS		6 to 7.7 ft. BGS		6 to 7.7 ft. BGS		8 to 10 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	280	J	400	U	410	U	460	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	170	J	400	U	410	U	460	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	110	J	400	U	410	U	460	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	120	J	400	U	410	U	460	U
218-01-9	Chrysene	90000	ug/kg	350	U	260	J	400	U	410	U	460	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	U	350	UJ	400	U	410	U	460	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	350	UJ	400	U	410	U	460	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3			
				VALROAD-S3667D		VALROAD-S3668C		VALROAD-S3669D		VALROAD-S3669D-D	
				38.3 to 40.3 ft. MSL		38.6 to 39.6 ft. MSL		37.6 to 39.6 ft. MSL		37.6 to 39.6 ft. MSL	
				8 to 10 ft. BGS		9 to 10 ft. BGS		8 to 10 ft. BGS		8 to 10 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	290	J	430	U	18100	JD	13000	JD
205-99-2	Benzo(b)fluoranthene	900	ug/kg	250	J	430	U	4400	JD	8400	JD
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	440	U	430	U	2200	JD	20000	U
50-32-8	Benzo(a)pyrene	660	ug/kg	170	J	430	U	12000	U	20000	U
218-01-9	Chrysene	90000	ug/kg	260	J	430	U	7500	JD	14000	JD
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	440	U	430	U	12000	U	20000	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	440	U	430	U	12000	U	20000	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501552

Confirmation/Documentation Sample Results forValerie Road

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		1	
				FCS-OU2-PH2-0145-CD-W-VAL RD-43.5-7		FCS-OU2-PH2-0146-CD-W-VAL RD-44.0-7	
				43.5 ft. MSL		44.0 ft. MSL	
				6.5 ft. BGS		6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	4	
				FCS-OU2-PH2-0150-CA-F-VAL RD-39.5-7	
				39.5 ft. MSL	
				10.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	168000	
205-99-2	Benzo(b)fluoranthene	900	ug/kg	72700	
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	90300	
50-32-8	Benzo(a)pyrene	660	ug/kg	91700	
218-01-9	Chrysene	90000	ug/kg	200000	
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	20500	
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	38900	

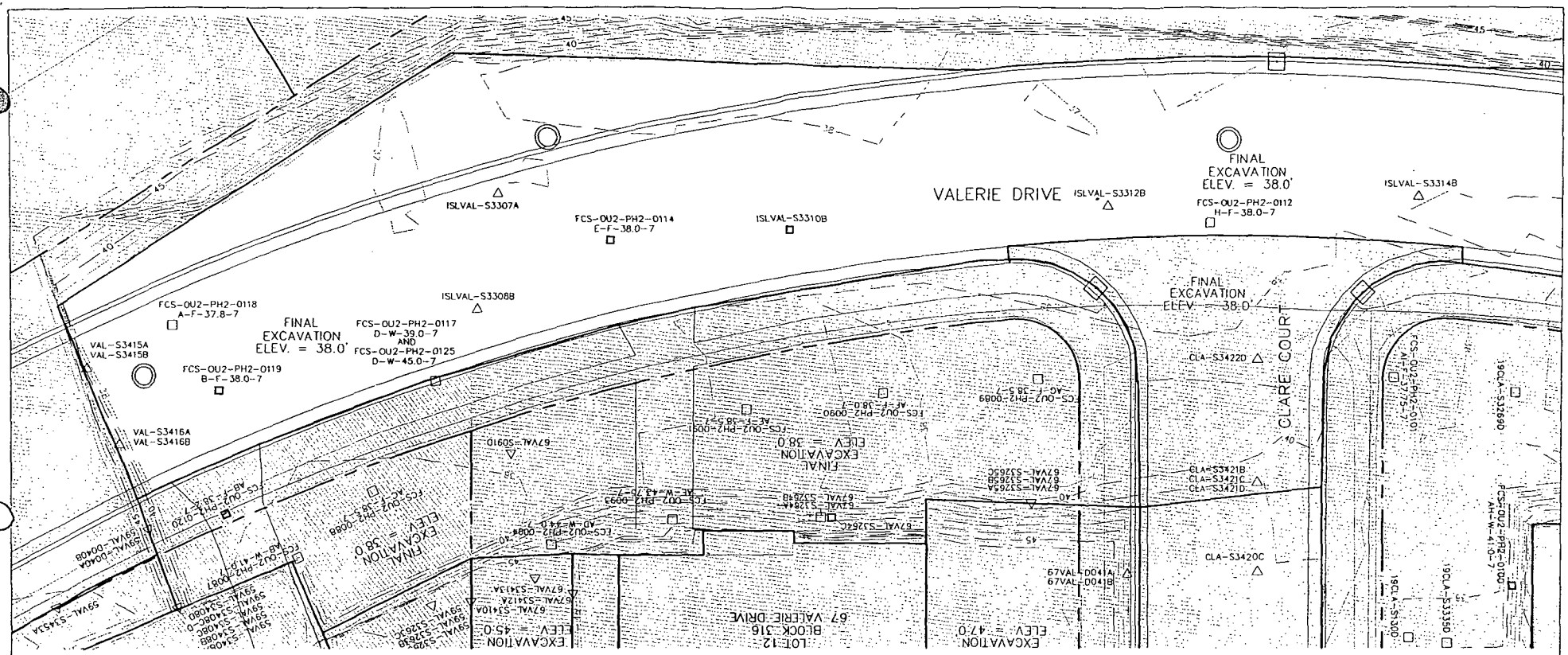
*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501553



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
XXXX △	CONFIRMATION SAMPLE
XXXX □	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
XXXX □	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

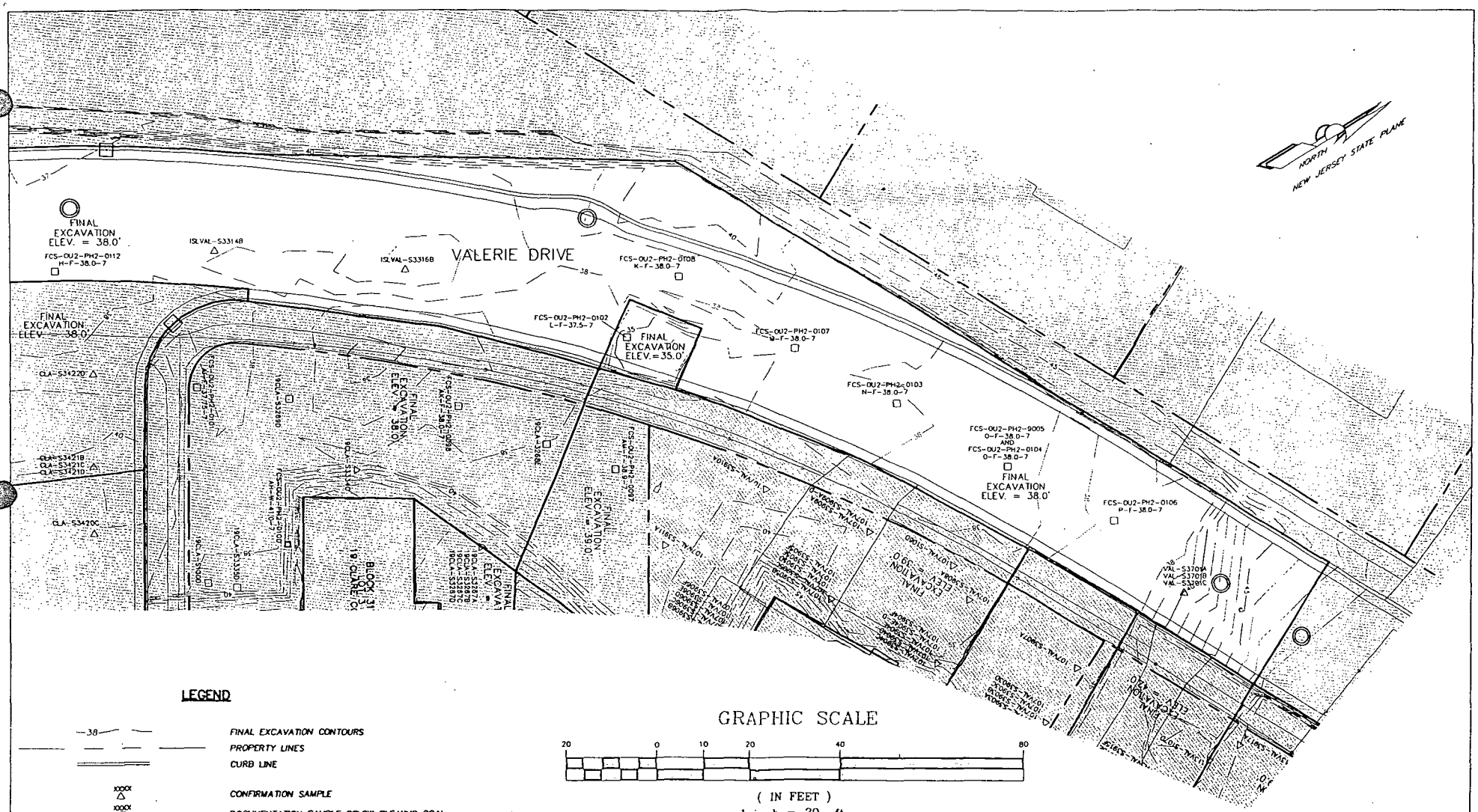
EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Sheet 2 of 2 8-30-06

501554



EPA

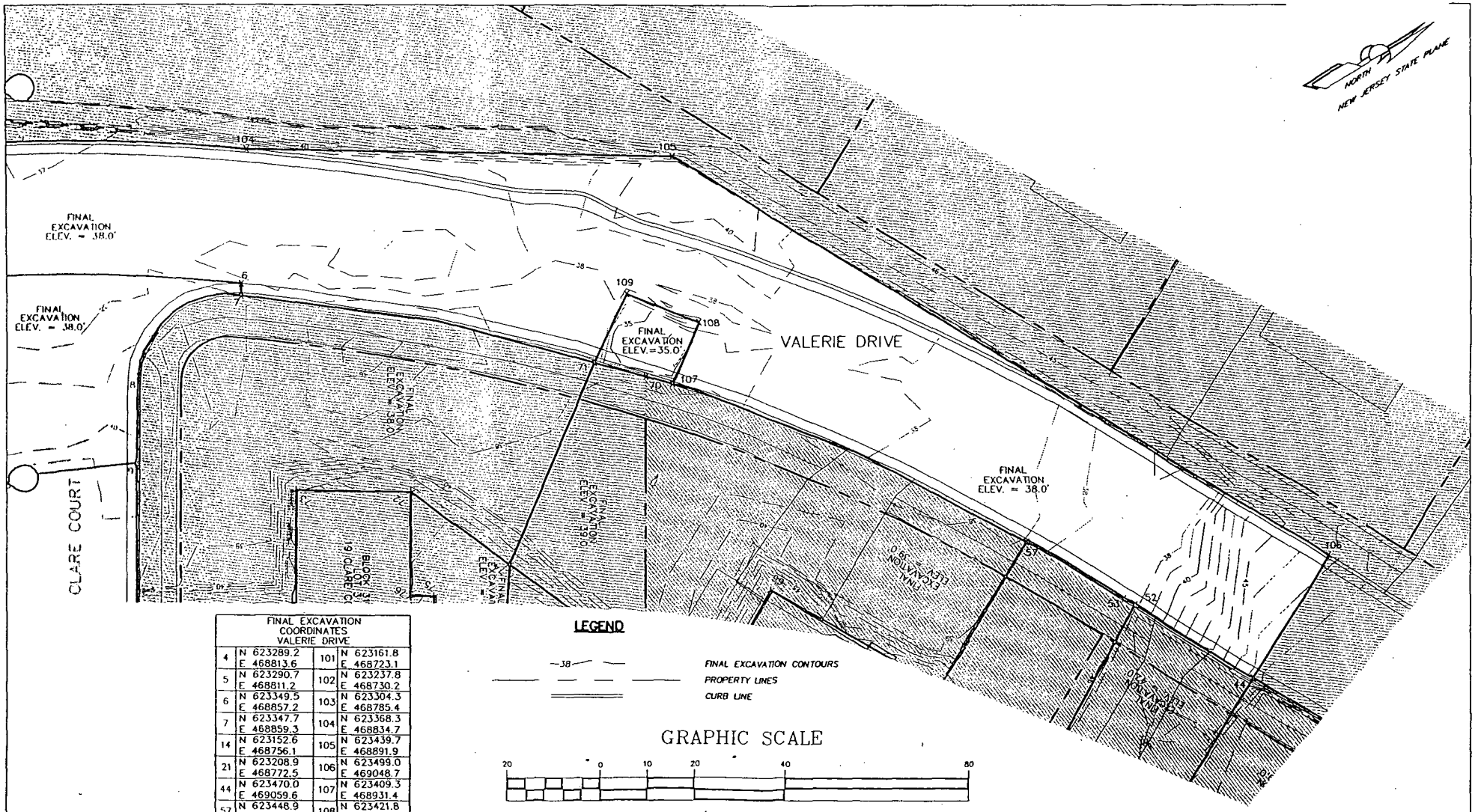
US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Sheet 1 of 2 8-30-06

501555

501556



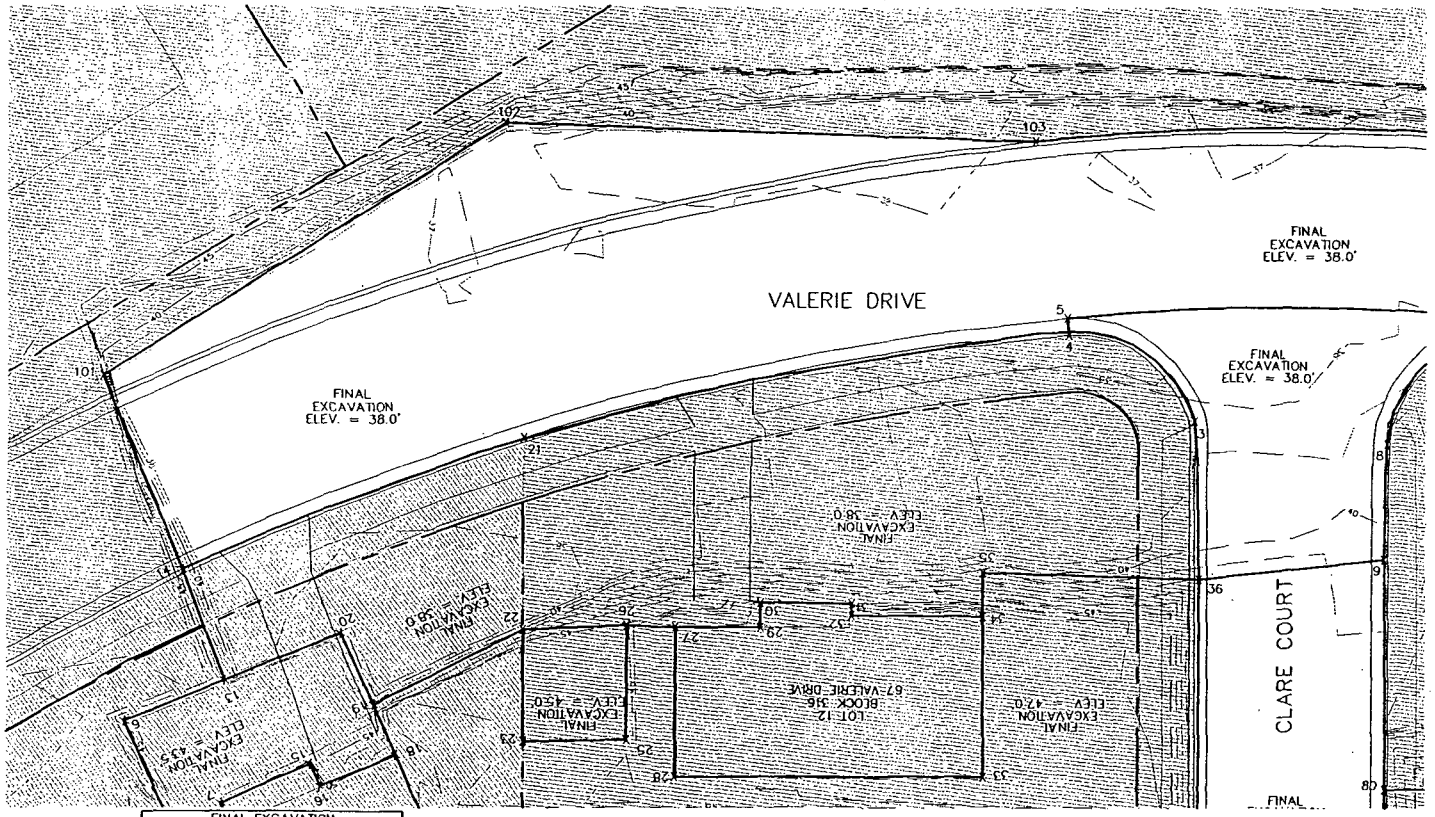
FINAL EXCAVATION COORDINATES VALERIE DRIVE			
4	N 623289.2 E 468813.6	101	N 623161.8 E 468723.1
5	N 623290.7 E 468811.2	102	N 623237.8 E 468730.2
6	N 623349.5 E 468857.2	103	N 623304.3 E 468785.4
7	N 623347.7 E 468859.3	104	N 623368.3 E 468834.7
14	N 623152.6 E 468756.1	105	N 623439.7 E 468891.9
21	N 623208.9 E 468772.5	106	N 623499.0 E 469048.7
44	N 623470.0 E 469059.6	107	N 623409.3 E 468931.4
57	N 623448.9 E 469006.0	108	N 623421.8 E 468924.1
71	N 623398.9 E 468917.5	109	N 623413.4 E 468909.8

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Sheet 2 of 2 7-14-06

501557



FINAL EXCAVATION COORDINATES VALERIE DRIVE			
4	N 623289.2 E 468813.6	101	N 623161.8 E 468723.1
5	N 623290.7 E 468811.2	102	N 623237.8 E 468730.2
6	N 623349.5 E 468857.2	103	N 623304.3 E 468785.4
7	N 623347.7 E 468859.3	104	N 623368.3 E 468834.7
14	N 623152.6 E 468756.1	105	N 623439.7 E 468891.9
21	N 623208.9 E 468772.5	106	N 623499.0 E 469048.7
44	N 623470.0 E 469059.6	107	N 623409.3 E 468931.4
57	N 623448.9 E 469006.0	108	N 623421.8 E 468924.1
71	N 623398.9 E 468917.5	109	N 623413.4 E 468909.8

LEGEND

—38— FINAL EXCAVATION CONTOURS

PROPERTY LINES

CURB LINE

NORTH
NEW JERSEY STATE PLANE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps
of Engineers

FINAL EXCAVATION LIMITS
VALERIE DRIVE, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

Sheet 1 of 2 7-14-06

Confirmation/Documentation Sample Results for Valerie Drive (East)

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1					
				VAL-S3701A		VAL-S3701B		VAL-S3701C	
				44.7 to 46.0 ft. MSL		42.6 to 44.0 ft. MSL		38.0 to 40.0 ft. MSL	
				2 to 3.3 ft. BGS		4 to 5.4 ft. BGS		8 to 10 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	370	U	370	U	410	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	370	U	370	U	410	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	370	U	370	U	410	U
50-32-8	Benzo(a)pyrene	660	ug/kg	370	U	370	U	410	U
218-01-9	Chrysene	90000	ug/kg	370	U	370	U	410	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	370	UJ	370	U	410	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	370	U	370	U	410	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4	
				ISLVAL-S3314B		ISLVAL-S3316B		FCS-OU2-PH2-0102-L-F-37.5-7		FCS-OU2-PH2-0103-N-F-38.0-7	
				35.3 to 37.2 ft. MSL		35.7 to 37.4 ft. MSL		37.5 ft. MSL		38.0 ft. MSL	
				10 - 11.9 ft. BGS		10 - 11.7 ft. BGS		10.5 ft. BGS		10.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	340	U	350	U	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	340	U	350	U	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	340	U	350	U	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	340	U	350	U	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	340	U	350	U	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	340	U	350	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	340	U	350	U	330	U	330	U

*NOTE: *All data has been validated*

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501558

Confirmation/Documentation Sample Results for Valerie Drive (East)

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	5		5	
				FCS-OU2-PH2-0104-O-F-38.0-7		FCS-OU2-PH2-9005-O-F-38.0-7	
				38.0 ft. MSL		38.0 ft. MSL	
				10.0 ft. BGS		10.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

Confirmation/Documentation Sample Results for Valerie Drive (East)

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	6		7		8	
				FCS-OU2-PH2-0106-P-F-38.0-7		FCS-OU2-PH2-0107-M-F-38.0-7		FCS-OU2-PH2-0108-K-F-38.0-7	
				38.0 ft. MSL		38.0 ft. MSL		38.0 ft. MSL	
				10.0 ft. BGS		10.0 ft. BGS		10.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	330	U	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501560

Confirmation/Documentation Sample Results for Valerie Drive (West) and Claire Court Intersection

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		1	
				FCS-OU2-PH2-0117-D-W-39.0-7		FCS-OU2-PH2-0125-D-W-45.0-7	
				39.0 ft. MSL		45.0 ft. MSL	
				9.0 ft. BGS		3.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	330	U
218-01-9	Chrysene	90000	ug/kg	330	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	330	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501561

Confirmation/Documentation Sample Results for Valerie Drive (West) and Claire Court Intersection

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1				2			
				VAL-S3415A		VAL-S3415B		VAL-S3416A		VAL-S3416B	
				39.9 to 41.9 ft. MSL		38.4 to 39.9 ft. MSL		39.9 to 41.9 ft. MSL		38.4 to 39.9 ft. MSL	
				6 to 8 ft. BGS		8 to 9.6 ft. BGS		6 to 8 ft. BGS		8 to 9.5 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	420	U	440	U	420	U	450	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	420	U	440	U	420	U	450	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	420	U	440	U	420	U	450	U
50-32-8	Benzo(a)pyrene	660	ug/kg	420	U	440	U	420	U	450	U
218-01-9	Chrysene	90000	ug/kg	420	U	440	U	420	U	450	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	420	U	440	U	420	U	450	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	420	U	440	U	420	U	450	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				ISLVAL-S3308B		ISLVAL-S3307A		ISLVAL-S3310B		ISLVAL-S3312B		CLA-S3422D	
				36.1 to 36.7 ft. MSL		36.2 to 37.9 ft. MSL		46.8 to 47.8 ft. MSL		35.3 to 36.3 ft. MSL		37.3 to 39.2 ft. MSL	
				10 - 11.6 ft. BGS		10 - 11.7 ft. BGS		10.8 - 11.8 ft. BGS		11 - 12 ft. BGS		8 to 9.9 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	350	U	350	U	35000		340	U	96	J
205-99-2	Benzo(b)fluoranthene	900	ug/kg	350	U	350	U	24000		340	U	75	J
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	350	U	350	U	10000		340	U	58	J
50-32-8	Benzo(a)pyrene	660	ug/kg	350	U	350	U	18000		340	U	54	J
218-01-9	Chrysene	90000	ug/kg	350	U	350	U	29000		340	U	140	J
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	350	U	350	U	2500	J	340	U	420	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	350	U	350	U	6700		340	U	420	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501562

Confirmation/Documentation Sample Results for Valerie Drive (West) and Claire Court Intersection

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	3			
				CLA-S3421C		CLA-S3421D	
				39.4 to 41.4 ft. MSL		37.6 to 39.4 ft. MSL	
				6 to 8 ft. BGS		8 to 9.8 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	420	U	420	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	420	U	420	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	420	U	420	U
50-32-8	Benzo(a)pyrene	660	ug/kg	420	U	420	U
218-01-9	Chrysene	90000	ug/kg	420	U	420	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	420	U	420	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	420	U	420	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	6		7		8		9	
				FCS-OU2-PH2-0118-A-F-37.8-7		FCS-OU2-PH2-0119-B-F-38.0-7		FCS-OU2-PH2-0114-E-F-38.0-7		FCS-OU2-PH2-0112-H-F-38.0-7	
				37.8 ft. MSL		38.0 ft. MSL		38.0 ft. MSL		38.0 ft. MSL	
				10.2 ft. BGS		10.0 ft. BGS		10.0 ft. BGS		10.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	330	U	4220		45600		385	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	330	U	5820		26400		343	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	330	U	4090		24300		401	U
50-32-8	Benzo(a)pyrene	660	ug/kg	330	U	4450		21800		334	U
218-01-9	Chrysene	90000	ug/kg	330	U	3600		38800		376	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	330	U	563		3460		330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	330	U	1150		5690		330	U

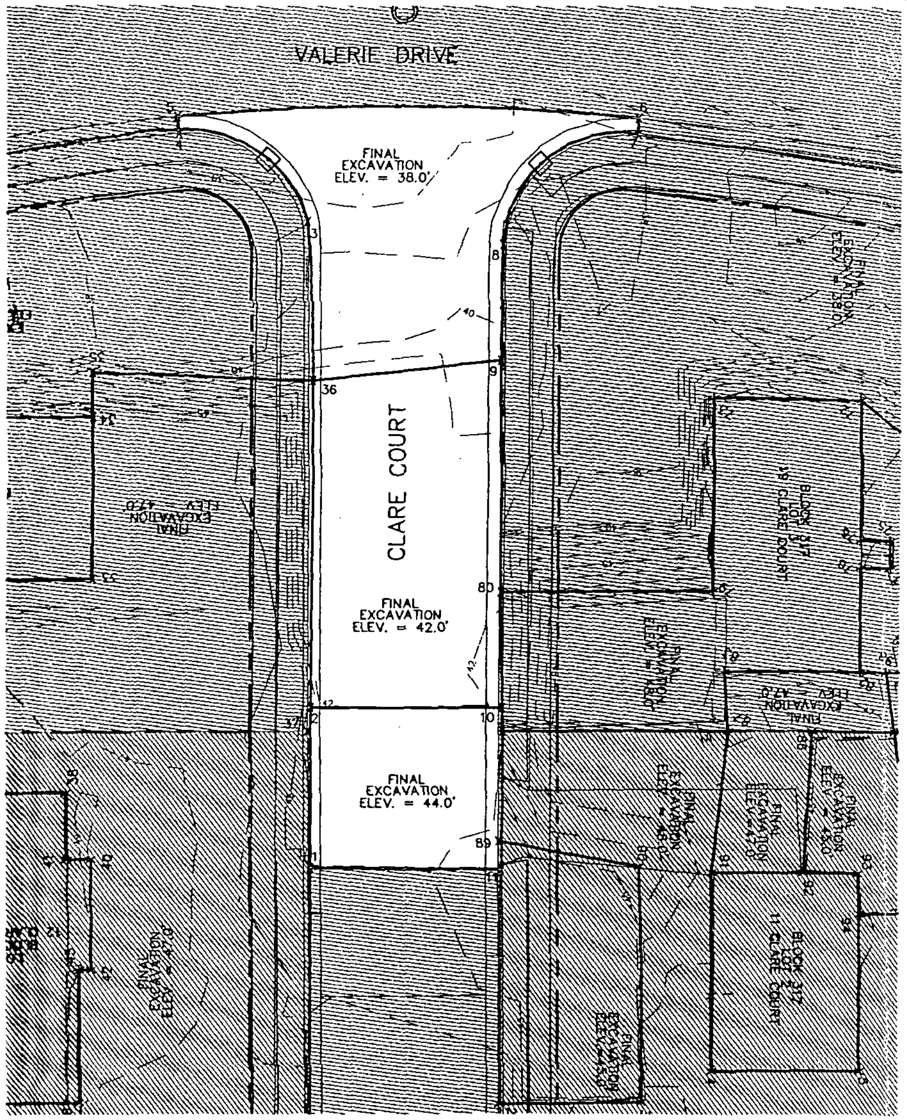
*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Legend

Confirmation Sample >
Documentation Sample below Cleanup Goals >
Documentation Sample above Cleanup Goals >

501563



FINAL EXCAVATION COORDINATES CLARE COURT			
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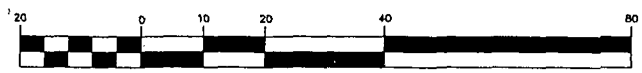
2	N 623249.0 E 468900.1	8	N 623319.3 E 468859.4
3	N 623296.8 E 468837.3	9	N 623307.5 E 468874.1
4	N 623289.2 E 468813.6	10	N 623273.3 E 468919.0
5	N 623290.7 E 468811.2	11	N 623257.1 E 468939.8
6	N 623349.5 E 468857.2	36	N 623281.7 E 468858.3

LEGEND

—38—	FINAL EXCAVATION CONTOURS
— — —	PROPERTY LINES
═══	CURB LINE

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

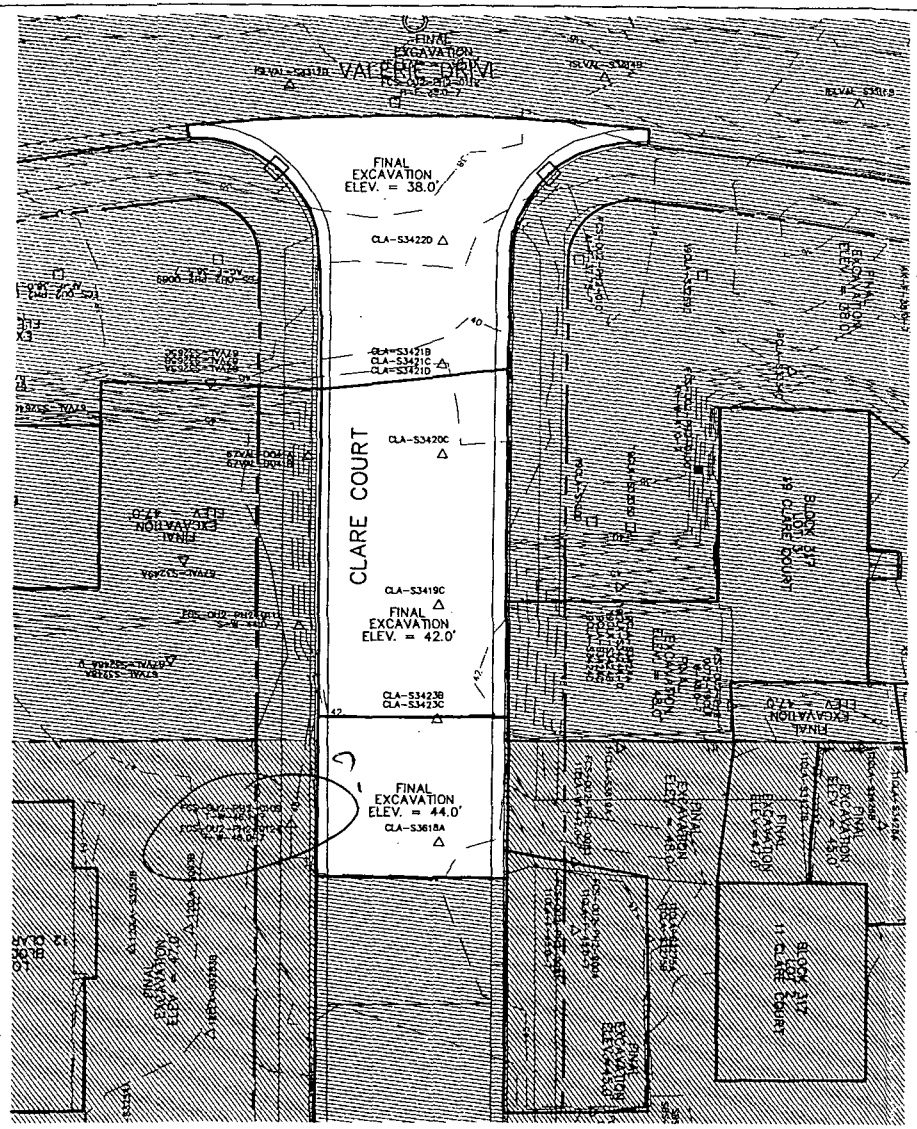
EPA

US Army Corps of Engineers

FINAL EXCAVATION LIMITS
CLARE COURT, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.

3-30-06

501564



LEGEND

—38—	FINAL EXCAVATION CONTOURS
	PROPERTY LINES
	CURB LINE
△	CONFIRMATION SAMPLE
□	DOCUMENTATION SAMPLE BELOW CLEANUP GOAL
■	DOCUMENTATION SAMPLE ABOVE CLEANUP GOAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EPA

US Army Corps of Engineers

CONFIRMATION AND DOCUMENTATION SAMPLE LOCATIONS
CLARE COURT, OU2 – PHASE 2
FEDERAL CREOSOTE SUPERFUND SITE
BOROUGH OF MANVILLE, SOMERSET COUNTY, N.J.
3-30-06

501565

Confirmation/Documentation Sample Results for Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		1		2		3	
				67VAL-D041A		67VAL-D041B		CLA-S3423B		FCS-OU2-PH2-0124-T-W-46.0-7	
				45.7 to 47.2 ft. MSL		43.7 to 45.7 ft. MSL		41.7 to 43.7 ft. MSL		46.0 ft. MSL	
				0.5 to 2 ft. BGS		2 to 4 ft. BGS		4 to 6 ft. BGS		2.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	260	J	360	U	410	U	330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	240	J	360	U	410	U	330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	260	J	360	UJ	410	U	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	200	J	360	U	410	U	330	U
218-01-9	Chrysene	90000	ug/kg	300	J	360	UJ	410	U	330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	66	J	360	U	410	U	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	130	J	360	U	410	U	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2		3		4		5	
				CLA-S3419C		CLA-S3420C		CLA-S3421C		CLA-S3422D		CLA-S3423C	
				39.5 to 41.5 ft. MSL		39.4 to 41.4 ft. MSL		39.3 to 41.3 ft. MSL		37.3 to 39.2 ft. MSL		40.4 to 41.5 ft. MSL	
				6 to 8 ft. BGS		6 to 8 ft. BGS		6 to 8 ft. BGS		8 to 9.9 ft. BGS		6 to 7.1 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	420	U	400	U	420	U	96	J	420	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	420	U	400	U	420	U	75	J	420	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	420	U	400	U	420	U	58	J	420	U
50-32-8	Benzo(a)pyrene	660	ug/kg	420	U	400	U	420	U	54	J	420	U
218-01-9	Chrysene	90000	ug/kg	420	U	400	U	420	U	140	J	420	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	420	U	400	U	420	U	420	U	420	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	420	U	400	U	420	U	420	U	420	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Confirmation/Documentation Sample Results for Clare Court

SIDEWALL SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1		2	
				CLA-S3618A		FCS-OU2-PH2-0111-S-W-44.0-7	
				44.3 to 45.8 ft. MSL		44.0 ft. MSL	
				2 to 3.5 ft. BGS		4.0 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	480		330	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	790		330	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	190	J	330	U
50-32-8	Benzo(a)pyrene	660	ug/kg	350	J	330	U
218-01-9	Chrysene	90000	ug/kg	490		330	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	64	J	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	210	J	330	U

BOTTOM SAMPLES

CAS#	COMPOUND	ACG CRITERIA	UNITS	1	
				CLA-S3423B	
				41.7 to 43.7 ft. MSL	
				4 to 6 ft. BGS	
56-55-3	Benzo(a)anthracene	900	ug/kg	410	U
205-99-2	Benzo(b)fluoranthene	900	ug/kg	410	U
207-08-9	Benzo(k)fluoranthene	9000	ug/kg	410	U
50-32-8	Benzo(a)pyrene	660	ug/kg	410	U
218-01-9	Chrysene	90000	ug/kg	410	U
53-70-3	Dibenz(a,h)anthracene	660	ug/kg	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	900	ug/kg	410	U

*NOTE: All data has been validated

Data Qualifiers:
ND - No Data
U - Non Detect
J - Estimated Value
D - Diluted Sample Results

Appendix F

Appendix G

501569

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
5 Clare Court

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	FINAL APPROVAL ~~TRANSITIAL DATE~~
2	Final Closure Documents	01780-Project Closeout	CM 6/20/04	
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	
4	**Construction Release -Signed**		WZ 5/25/04	
5	**Remove dead tree on the side of house and replace with a Japanese Maple.**	**02930-Exterior Planting 9/30/05**		

OU2 Phase 2 Property- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
5 Clare Court

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Closure Documents	01780-Project Closeout	CM 6/20/04	6/28/04 GA.
2	Final Excavation Limits & Quantities Drawings	01550-Surveying	CM 9/27/04	7/18/05 GA.
3	Final Restoration As-builts & Cross Sections	01550-Surveying	CM 5/25/04	5/2/05 GA.
4	**Construction Release- Signed**		WZ 5/25/04	5/25/04
5	**Remove dead tree on the side of house and replace with a Japanese Maple.**	**02930-Exterior Planting 9/30/05**	BF 9/26/05	GA. 9/26/05

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
11 Clare Court

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace dead dogwood and pink heather in front yard and maple tree in backyard.	02930- Exterior Planting 9-15-04	CM 9-23-04	GA. 9/23/04
2	Replace rhoden dendron.	02930- Exterior Planting 5-27-05	CM 5-24-05	GA 5/28/05
3	Final Excavation Limits and Quantities	01550-Surveying	CM 1/27/05	FINAL APPROVAL TRANSMITTAL DATE 1/31/05. GA.
4	Final Closure Documents	01780-Project Closeout	CM 8/28/05	3/20/06 GA.
5	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/31/05	12/28/05 GA.
6	CONST. RELEASE SIGNED		BF	5/15/06 GA.

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
12 Clare Court

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Caulk between garage and cement driveway, also in front of gutter post in driveway	Miscellaneous Restoration 6/21/04	CM 6-7-04	HT 6/29/04
2	Fix post connected to the gutter in the driveway	Miscellaneous Restoration 6/21/04	CM 6-7-04	
3	Clean off cure on vinyl siding in rear of house	Miscellaneous Restoration 6/21/04	CM 6-4-04	
4	Rough texture on concrete patio in rear of house	Miscellaneous Restoration 6/21/04	CM 6-2-04	
5	Clean off concrete on house (several small spots unable to remove)	Miscellaneous Restoration 6/21/04	CM 6-4-04	
6	Smooth out caulking finish on back patio	Miscellaneous Restoration 6/21/04	CM 6-7-04	
7	Replace strip of sod in rear of house under overhang	02922-Sodding 6/21/04	CM 6-3-04	
8	Replace sod patches and maintain new patches in backyard	02922-Sodding 6/28/04	CM 6-28-04	
9	Attach small section of chain links, between front yard of 12 Clare Ct. and side of 52 Louise Dr.	02821-Fencing 6/21/04	CM 6-3-04	
10	Replace forsythia in backyard	02930- Exterior Planting 6/21/04	CM 6-14-04	
11	Check to see if there is proper drainage on south side of property after next rainfall	Miscellaneous Restoration 6/21/04	CM 6-11-04	HT 6/29/04
12	Replace asphalt driveway apron with concrete	03300-Concrete 9/1/04	BF Fall 2004	GA-✓
13	Final Excavation Limits and Quantities	01550-Surveying	CM 9/29/04	FINAL APPROVAL TRANSMITTAL DATE 3/21/06 GA.
14	Final Closure Documents	01780-Project Closeout	CM 8/28/05	11/22/05 GA.
15	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/31/05	~~12/28/05~~ 1/5/06 GA.
16	CONST. RELEASE SIGNED		REFUSED	

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OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
19 Clare Court

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 1/27/05	[illegible] 12/28/05 GA
2	Final Closure Documents	01780-Project Closeout	CM 8/28/05	4/5/06 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/31/05	12/28/05 GA.
4	CONST. RELEASE SIGNED		USEPA OWNED	✓ SAME

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
14 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace section of sod in front yard	02922-Sodding 7/28/04	CM 7/26/04	Initialed on 8/9/04 Transmittal 1160.1
2	Final Excavation Limits and Quantities	01550-Surveying	CM 5/25/05	FINAL APPROVAL TRANS. DATE 5/25/05 GA.
3	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/8/05	7/8/05 GA.
5	Construction Release -Signed		WZ 6/18/04	6/18/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
19 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Repair scratches on front sidewalk.	2770-Concrete sidewalks, curbs, and gutter. 10/17/03	BF No repair needed.	MT 10/9/03
2	Replace dead sod around front bushes.	02930-Sodding 10/17/03	BF 10/9/03	MT 10/9/03
3	Repair blacktop edge next to front steps	02550-Paving 10/17/03	BF 10/21/03	MT 10/21/03
4	Repair multiple chips in apron.	2770-Concrete sidewalks, curbs, and gutter 10/17/03	BF No repair needed	MT 10/9/03
5	Treat or replace azalea in front (lacewing infestation)	02930-Exterior Planting 10/31/03	BF Replaced. 10/30/03	MT 10/30/03
6	Add caulk to driveway & apron	2770- Concrete sidewalks, curbs, & gutter. 11/14/03	CM 12/1/03	MT 12/1/03
7	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	FINAL APPROVAL 7/18/05 TRANS. DATE GA
8	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA.
9	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA.
10	**Construction Release - Signed**		WZ 10/28/03	10/28/03 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
20 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace small section of sod in front yard	02922-Sodding 7/28/04	CM 7/26/04	Initialed on 8/9/04 Transmittal 1160.1
2	Final Excavation Limits and Quantities	01550-Surveying	CM 5/25/05	~~Final Approval~~ ~~Trans. Date~~ 5/25/05 GA.
3	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/8/05	7/8/05 GA.
5	Construction Release -Signed		WZ 6/18/04	6/18/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
25 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Remove concrete and black marker from siding and foundation in front of house.	02770-Concrete sidewalks, curbs, & gutters. 10/17/03	BF 10/15/03	AT 10/15/03
2	Remove cardboard from joint sealant in back walk.	02770-Concrete sidewalks, curbs, & gutters. 10/17/03	BF 10/15/03	10/15/03
3	Repair chipped concrete and air spaces from front walk	02770-Concrete sidewalks, curbs, & gutters. 10/17/03	BF Raised sod to cover 10/15/03	10/15/03
4	Remove form material from front walk.	02770-Concrete sidewalks, curbs, & gutters. 10/17/03	BF Raised sod to cover 10/28/03	10/28/03
5	Replace sodding at transition from existing grass.	02922-Sodding 10/17/03	BF 10/9/03	10/9/03
6	Monitor dead Yew Bush in back yard	02930-Exterior Planting 10/17/03	Replaced 10/9/03	10/9/03
7	Place caulk where stoop and front walk join.	02770-Concrete sidewalks, curbs, & gutters 10/17/03	BF 10/15/03	10/15/03
8	Replace sod at back of house next to AC unit.	02922-Sodding 10/17/03	BF 10/9/03	10/9/03
9	Add mulch to front bed.	02930-Exterior Planting 10/17/03	BF 10/9/03	10/9/03
10	Remove blue marking paint from back foundation.	Miscellaneous Restoration 10/17/03	BF 10/15/03	10/15/03
11	Remove marker from sidewalk at driveway.	Miscellaneous Restoration 10/17/03	BF 10/15/03	10/15/03
12	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL TRANS. DATE~~ 7/18/05 GA.
13	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA.
14	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	9/2/05 GA.
15	**Construction Release - Signed**		WZ 2/23/04	2/23/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
26 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 9/27/04	~~FINAL APPROVAL TRANS. DATE~~ 11/5/04 GA.
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/8/05	6/8/05 GA.
4	CONST. RELEASE SIGNED		USEPA LETTER SENT 8/20/05 JSF	8/30/05 GA.
			Homeowner Signed off.	

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OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
31 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace dead sod behind house	02922-Sodding 10/17/03	BF 10/9/03	MT 10/9/03 ~~11/5/04~~
2	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL DRAFT DATE~~ 7/18/05 GA.
3	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	9/2/05 GA
5	Construction Release - Signed		WZ 10/28/03	10/28/03 GA.

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
32 Louise Dr.

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Fill depression in front of shed	02922-Sodding 7/21/04	CM 7/21/04	GA 7/21/04
2	Fill depression behind garden between BBC and spruce tree	02922-Sodding 7/21/04	CM 7/21/04	7/21/04
3	Put hooks on back of shed to hang ladder	Miscellaneous Restoration 7/21/04	CM 7/12/04	7/12/04
4	Adjust sprinkler system to 6:30 a.m.	Miscellaneous Restoration 6/21/04	CM 6/7/04	6/7/04
5	Replace 2 sod spots in front yard	02922-Sodding 7/30/04	CM 7/30/04	7/30/04
6	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL~~ ~~FINAL DATE~~ 11/5/04 GA.
7	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
8	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/8/05	6/8/05 GA.
9	**Construction Release -Signed**		WZ 8/10/04	8/10/04 GA.

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
37 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 8/26/04	~~Final Approval Date~~ 9/23/05 GA.
2	Final Closure Documents	01780-Project Closeout	CM 8/24/05	11/22/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/26/05	9/12/05 GA.
4	CONST. RELEASE SIGNED		USEPA LETTER SENT 8/25/05	10/1/05 GA.
			BF homeowner signed off.	

501582

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
38 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~[illegible]~~ ~~[illegible]~~ 11/5/04 GA.
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/08/05	9/12/05 GA.
4	Construction Release -Signed		WZ 5/20/04	5/20/04 GA.

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
43 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace dead sod between sidewalk and road.	02930-Exterior Planting 10-13-04	CM 10-13-04	GA. 10/13/04
2	Final Excavation Limits and Quantities	01550-Surveying	CM 8/26/04	~~[illegible]~~ ~~[illegible]~~ 9/23/05 GA.
3	Final Closure Documents	01780-Project Closeout	CM 8/24/05	11/22/05 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/26/05	9/12/05 GA
5	CONST. RELEASE SIGNED		USEPA SENT LETTER 8/17/05	SAME GA.

501584

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
44 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 9/27/04	~~[illegible]~~ 11/5/04 ~~[illegible]~~ GA
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/8/05	6/8/05 GA
4	Construction Release -Signed		WZ 8/26/04	8/26/04 GA

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
51 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Place mulch instead of sod around south & east side of shed.	Miscellaneous restoration 11/7/03	BF 11/14/03	Initialed on 1/5/04 Tranmittal 987
2	Replace broken decorative cross piece on front light post	Miscellaneous restoration 11/7/03	BF 11/14/03	Initialed on 1/5/04 Tranmittal 987
3	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval~~ ~~Trans Date~~ 7/18/05 GA.
4	Final Closure Documents	01780-Project Closeout	CM 6/20/04	6/28/04 GA
5	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA.
6	Return doors from storage to the shed and instalkled	Misc Items	BF 1/5/04	Initialed on 1/5/04 Tranmittal 987
7	**Construction Release - Signed**		WZ 10/22/03	10/22/03 GA.
8				
9				
10				
11				

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
52 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Bolt down back awning on house.	Miscellaneous Restoration 5/24/04	CM 6-1-04	MT 6/29/04
2	Place (1) wheel barrel ¾ gravel on left side of shed.	Miscellaneous Restoration 5/24/04	CM 6-10-04	
3	Caulking on sidewalks (front yard)	Miscellaneous Restoration 5/24/04	CM 6-1-04	
4	Replace dead cherry tree in front yard.	02930-Exterior Planting 6/18/04	CM 6-9-04	
5	Caulk right side of apron	Miscellaneous Restoration 6/14/04	CM 6-10-04	
6	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval~~ ~~Date~~ 11/5/04 GA.
7	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
8	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/8/05	6/8/05 GA.
9	**Construction Release -Signed**		WZ 6/18/04	6/18/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
56 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Repair chip in SW corner of foundation.	Miscellaneous Restoration 5/25/04	CM 5/30/05	GA 5/30/05
2	Fertilize West side of front lawn	Miscellaneous Restoration 5/25/04	CM 5/30/05	
3	Repair sod in front of gate	02922-Sodding 5/25/04	CM 5/30/05	
4	Repair low spots in caused by trench to pool	02922-Sodding 5/25/04	CM 5/30/05	
5	Bolt down sliding track on aluminum shed.	Miscellaneous Restoration 5/25/04	CM 5/30/05	
6	Add line to clothes line to reduce height.	Miscellaneous Restoration 5/25/04	CM 5/30/05	
7	Final Excavation Limits and Quantities	01550-Surveying	CM 5/14/05	~~[illegible]~~ 7/18/05 GA.
8	Final Closure Documents	01780-Project Closeout	CM 5/14/04	9/3/04 GA.
9	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA.
10	Repaired leak on the pool filter	Miscellaneous Restoration 7/23/05	WZ 7/23/05	GA. 7/23/05
11	CONST. RELEASE SIGNED		Sent Cert. letter on 5/12/06 (SAME) GA.	

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
57 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Repair blacktop edge	02550-Paving 11/7/03	BF Added stone. 11/3/03	MT 11/3/03
2	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL~~ ~~TRACK DATE~~ 7/18/05 GA
3	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA.
5	Construction Release - Signed		WZ 11/12/03	11/12/03 GA.

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
62 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Patch concrete curb by drainpipe	02770- Concrete Sidewalks, Curbs and Gutters 6/18/04	CM 6-16-04	MI 6/29/04
2	Replace dead sod: -On both sides of the east gate -Strip on east side of house -In the backyard -In between sidewalk and street	02922-Sodding 6/18/04	CM 6-2-04	
3	Move both trees away from fence in the backyard	02930- Exterior Planting 6/18/04	CM 6-3-04	
4	Fix fence gate (west side of house)	02821-Fencing 6/18/04	CM 5-25-04	
5	Perform a thorough inspection of wood fence & replace all cracked wood panels.	02821-Fencing 6/18/04	CM 6-4-04	
6	Caulk gap between pvc pipe and concrete in rear of house.	Miscellaneous Restoration 6/18/04	CM 6-14-04	
7	Olympic Pool Co. to inform property owners how to run in-ground pool system.	Miscellaneous Restoration 10/31/04	CM 10-15-04	GA 10/15/04
8	Check fitting of pool cover.	Miscellaneous Restoration 10/31/04	CM 10-15-04	10/15/04
9	Report depression in pool liner	Miscellaneous Restoration 10/31/04	CM 10-15-04	10/15/04
10	Repair chip in apron.	2770-Concrete sidewalks, curbs, and gutter 6/18/04	CM 6-2-04	MI 6/29/04
11	Replace dogwood and Japanese maple in front yard.	02930- Exterior Planting 9-15-04	CM 9-22-04	GA 9/22/04
12	Replaced 3 dead heller bushes.	02930- Exterior Planting 10-20-04	CM 10-20-04	10/20/04
13	Replace 2 pieces of sod and put red mulch under dogwood.	02922-Sodding 10-20-04	CM 10-20-04	10/20/04
14	Replace dead dogwood again.	02930- Exterior Planting 5-27-05	CM 5-23-05	5/23/04

PUNCHLIST
62 Louise Drive
Continued

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
15	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~[illegible]~~ 7/18/05 GA
16	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA.
17	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA.
18	**Construction Release -Signed**		WZ 6/18/04	6/18/04 GA.

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
63 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace dead sod behind house	02922-Sodding 10/17/03	BF 10/23/03	HT 10/23/03
2	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval Trans. Date~~ 7/18/05 GA
3	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GAS
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA
5	Construction Release -Signed		WZ 10/22/03	10/22/03 GA

OU2 Phase 2 Properties- W.O.–06

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
68 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Fix depression in backyard (off rear patio)	02922-Sodding 4/26/04	CM 5/10/04	Initialed on 8/9/04 Transmittal 1160.1
	Fix gaps in between pieces of sod.	02922-Sodding 4/26/04	CM 5/10/04	Initialed on 8/9/04 Transmittal 1160.1
2	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL TRANS DATE~~ 7/18/05 GA
3	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA
5	Construction Release -Signed		WZ 6/18/04	6/18/04 GA

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
74 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Plant (1) 6' Blue Spruce on west side of property.	02930-Exterior Planting 11/21/04	CM 6-1-04	HT 6/29/04
2	*Provide spring-loaded & gate lock to fence gate.*	*Miscellaneous Restoration 1/9/04*	CM 6-1-04	HT 6/29/04
3	Check claims for dead plants: -English Ivy (Front) -Crape Myrtle (SW of backyard) -(2) Zelkovas (backyard) -(2) Butterfly bushes in (corners of backyard)	02930-Exterior Planting 5/5/04	CM 6-1-04	HT 6/29/04
4	Fertilize back lawn	Miscellaneous Restoration 5/21/04	CM 6-1-04	HT 6/29/04
5	Cracked cement holding fence post (west side of house)	02770- Concrete Sidewalks, Curbs and Gutters 6/18/04	CM 6-7-04	HT 6/29/04
6	Missing tie on fence (west side of house)	02821-Fencing 6/18/04	CM 6-7-04	HT 6/29/04
7	Drainage problem located northwest corner of backyard (10' long strip parallel to fence)	Miscellaneous Restoration 8/21/04	CM 8/11/04	GA. 8/11/04
8	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval~~ ~~Press Date~~ 7/18/05 GA.
9	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA.
10	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA.
11	**Landscaper needs to check the *Hibiscus (Rosé Sharon)***	**02930-Exterior Planting 9/30/05**	BF	GA.
12	**Replace two maple trees**	**02930-Exterior Planting 9/30/05**	BF	GA.
13	CONST. RELEASE SIGNED			
14	4 AZALEAS TO BE REPLACE (FALL 2006) WARRANTY			✓ HOME OWNER NOT AVAILABLE

501594

OU1 Phase 3 Properties- W.O.–05

CONTRACT NO. DACW41-01-D-0001 T.O.–0001

PUNCHLIST
80 Louise Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval~~ ~~Trans Date~~ 7/18/05 GA
2	Final Closure Documents	01780-Project Closeout	CM 6/20/04	9/3/04 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 5/2/05	5/2/05 GA
4	Construction Release -Signed		WZ 10/20/03	10/20/03 GA

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
12 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 5/25/05	~~FINAL APPROVAL~~ ~~PROJ. DATE~~ 5/25/05 GA
2	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/8/05	7/8/05 GA.
4	CONST. RELEASE SIGNED		BF	11/16/05 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
17 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 9/27/04	~~[illegible]~~ ~~[illegible]~~ 3/27/06 GA
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/02/05	9/26/05 GA.
4	**Construction Release -Signed**		WZ 8/10/04	8/10/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
18 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace lilac shrub with crape mertle.	02930- Exterior Planting 9/15/04	CM 9/22/04	GA 9/22/04
2	Remove wrinkles in pool liner	Miscellaneous Restoration 10/25/04	CM 10/13/04	GA. 10/13/04
3	Final Excavation Limits and Quantities	01550-Surveying	CM 5/25/05	5/25/05 GA.
4	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA
5	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/8/05	7/8/05 GA
6	Replace 62' Fence	Miscellaneous Restoration	CM 11/5/04	GA 11/5/04
7	Sod entire front lawn left of driveway. 2 entire backyards	02930- Exterior Planting	CM 11/5/04	11/5/04
8	Plant one lilac bush	02930- Exterior Planting	CM 11/5/04	11/5/04
9	Plant one rose Replace tree - Turkish filbert	02930- Exterior Planting	CM 11/5/04	11/5/04
10	Replace cherry tree	02930- Exterior Planting	CM 11/5/04	11/5/04
11	Remove wrinkles from bottom of pool	Miscellaneous Restoration	PN Can't be done	GA. CANT BE DONE
12	Subsurface roots beneath the shed	Miscellaneous Restoration	CM 11/5/04	GA. 11/5/04
13	CONST. RELEASE SIGNED		REFUSED	

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
23 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Plant periwinkle in backyard.	02930-Exterior Planting 9/15/04	CM 8/20/04	GA. 8/20/04
2	Replace hemlock.	02930-Exterior Planting 9/15/04	CM 9/22/04	9/22/04
3	Replace curb and gutter near driveway.	02770 – Concrete Sidewalks, Curbs and Gutters 5/28/04	CM 5/28/04	5/28/04
4	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval Initial/Date~~ 3/27/06 GA.
5	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
6	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/2/05	9/26/05 GA.
7	2 1/2" caliper shade tree	02930-Exterior Planting 9/15/04	CM 5/28/04	GA. 5/28/04
8	**Construction Release -Signed**		WZ 8/26/04	8/26/04 GA.
9	**Replace tree in the backyard**	**02930-Exterior Planting 9/30/05**	SF Sept. 05	GA. 9/05

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
24 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Sod around Japanese maple tree.	02922-Sodding 8/20/04	CM 8/17/04	10/26/04 on Tranmittal 1223.1
2	Final Excavation Limits and Quantities	01550-Surveying	WZ 5/25/05	~~Final Approval~~ ~~Trans Date~~ 5/25/05 GA.
3	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 12/16/04	7/8/05 GA.
5	Construction Release -Signed		WZ 8/10/04	8/10/04 GA.

501600

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
29 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 9/27/04	~~FINAL APPROVAL DATE~~ 3/27/06 GA.
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/2/05	9/26/05 GA.
4	**Construction Release -Signed**		WZ 8/10/04	8/10/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
30 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 5/25/05	~~[illegible]~~ 5/25/05 GA.
2	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/8/05	7/8/05 GA.
4	Construction Release -Signed		WZ 8/23/04	8/23/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
35 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace gold thread cyprus in front yard.	02930-Exterior Planting 9-15-04	CM 9-22-04	GA 9/22/04
2	Raise sod around driveway.	02922-Sodding 9-22-04	CM 9-22-04	
3	Replace burning bush.	02930-Exterior Planting 9-15-04	CM 9-22-04	
4	Replace gold thread cyprus in front yard.	02930-Exterior Planting 5-27-05	CM 5-24-05	5/24/05
5	Replace Japanese heller	02930-Exterior Planting 5-27-05	CM 5-24-05	
6	Replace azalea.	02930-Exterior Planting 5-27-05	CM 5-24-05	
7	Plant an additional clematis.	02930-Exterior Planting 6-5-04	CM 6-05-05	6/5/05
8	Fix left side of gutter in front driveway.	02770 – Concrete Sidewalks, Curbs and Gutters 4-16-04	CM 4-16-05	4/16/05
9	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL~~ ~~FINAL DATE~~ 3/27/06 GA.
10	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
11	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/2/05	9/26/05 GA.
12	Install Gutter in front left driveway	Misc Restoration	CM 4-16-05	GA 4/16/05
13	Additional clematis placed SW of patio	02930-Exterior Planting 6-5-04	CM 4-16-05	4/16/05
14	Construction Release -Signed		WZ 8/11/04	8/11/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
36 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 5/25/05	~~Final Approval Ready Date~~ 5/25/05 GA.
2	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/8/05	7/8/05 GA.
4	Construction Release -Signed		WZ 8/26/04	8/26/04 GA.
5	Replace tree in the backyard	02930-Exterior Planting 9/30/05	BF Fall 2005	9/30/05 ✓

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
41 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	WZ 9/27/04	~~FINAL APPROVAL APPROV DATE~~ 3/27/06 GA.
2	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/2/05	9/26/05 GA.
4	Construction Release -Signed		WZ 8/11/04	8/11/04 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
42 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace sod patches in backyard.	02922-Sodding 7/15/05	CM 7/15/05	GA. 7/15/05
2	Final Excavation Limits and Quantities	01550-Surveying	CM 9/2/04	~~Project Approval Process Date~~ 4/5/06 GA. 8-9/18/06
3	Final Closure Documents	01780-Project Closeout	CM 8/31/04	5/24/06 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 9/2/05	4/5/06 GA. 9/18/06
5	**Construction Release -Signed**		WZ 6/30/05	6/30/05 GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
47 Valerie Drive

EATED
TEND

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Cement the Belgium block.	Miscellaneous Restoration 7/1/04	CM 7/1/04	GA. 7/1/04
2	Install railing on front stoop. Railing with twisted spindles	Miscellaneous Restoration 7/1/04	CM 7/1/04	
3	Replace clothes line.	Miscellaneous Restoration 7/1/04	CM 7/1/04	
4	Final Closure Documents	01780-Project Closeout	CM 3/9/05	~~FINAL APPROVAL TRANSF DATE~~ 3/9/05 GA.
5	As-Built/Final Excavation Limits Drawings	01550-Surveying	CM 9/18/04	9/26/05 GA.
6	Final Excavation Limits, Quantities & Cross Sections	01550-Surveying	CM 9/18/04	3/27/06 GA.
7	Confirmation Sample Data	01450-Contractor Chemical Data QC	CM 9/18/04	~~FINAL APPROVAL TRANSF DATE~~ ~~3/27/06~~ GA. 3/9/05
8	Plant one Japanese Maple 6'-8'	02930- Exterior Planting	CM 9/18/04	GA. 9/18/04
9	Plant 4 Hostas	02930- Exterior Planting	CM 9/18/04	
10	Plant Purus Calleryana	02930- Exterior Planting	CM 9/18/04	
11	Plant 1 Juniperos	02930- Exterior Planting	CM 9/18/04	
12	Plant 1 Boxwood Boxus 30' - 36'	02930- Exterior Planting	CM 9/18/04	
13	Plant 1 Burning Bush	02930- Exterior Planting	CM 9/18/04	
14	Bulbs: 1 dozen purple iris	02930- Exterior Planting	CM 9/18/04	
15	Plant one dozen daffodils (Mixed Colors)	02930- Exterior Planting	CM 9/18/04	
16	Plant Mixture of Hyacyoth and Tulips	02930- Exterior Planting	CM 9/18/04	
17	Plant 4 Mums (Yellow / Burgandy)	02930- Exterior Planting	CM 9/18/04	
18	Plant 1 Hontgomery Spruce	02930- Exterior Planting	CM 9/18/04	
19	3/4 " white stone/ mulch/ border	Miscellaneous Restoration	CM 9/18/04	
20	Reinstall pink scallfold edging	Miscellaneous Restoration	CM 9/18/04	

21	4 x 4 treated lumber (Planted bed)	Miscellaneous Restoration	CM 9/18/04	GA 9/18/04
22	4' green coated chain link fence	Miscellaneous Restoration	CM 9/18/04	
23	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~Final Approval~~ ~~Trans. Date~~ 3/27/06 GA.
24	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA
25	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/2/05	9/26/05 GA.
26	CONST. RELEASE SIGNED		REFUSED	7/13/06 GA

Homeowner signed off
BF

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
48 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	BF 9/18/06 ~~CM 9/2/04~~	~~FINAL APPROVAL PROJ. DATE~~ 4/5/06 GA 9/18/06
2	Final Closure Documents	01780-Project Closeout	CM 8/31/05	5/22/06 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	BF 9/18/06 ~~CM 9/2/05~~	~~4/5/06 GA~~ 9/18/06
4	CONST. RELEASE SIGNED		USEPA OWNED	SAME GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
53 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Install more sod around the shed.	Misc. restoration	CM 10/27/04	GA. 10/27/04
2	Final Excavation Limits and Quantities	01550-Surveying	CM 9/27/04	~~FINAL APPROVAL TO DATE~~ 3/27/06 GA.
3	Final Closure Documents	01780-Project Closeout	CM 3/9/05	3/9/05 GA
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/2/05	9/26/05 GA
5	CONST. RELEASE SIGNED			

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
54 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Paint spots on fence.	Miscellaneous Restoration 7/15/05	CM 8/10/05	GA. 8/10/05
2	Replace 2 cross panels on fence.	Miscellaneous Restoration 7/15/05	CM 8/10/05	GA. 8/10/05
3	Final Excavation Limits and Quantities	01550-Surveying	BF ~~CM~~ 9/18/06 ~~9/12/04~~	~~FINAL APPROVAL TRANS. DATE~~ 4/5/06 GA. 9/18/06
4	~~Final Closure Documents~~	01780-Project Closeout	CM 8/31/05	5/24/04 GA
5	Final Restoration As-Built and Cross Sections	01550-Surveying	BF ~~CM~~ 9/18/06 ~~9/12/05~~	~~4/5/06 GA.~~ 9/18/06
6	**Construction Release -Signed**		WZ 7/22/05	7/22/05 GA.
7	**Replace 2 Arborvitaes and 1 Japanese Maple**	**02930-Exterior Planting 9/30/05**	BF 9/26/05	GA. 9/26/05

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
59 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace azalea on side of house.	02930-Exterior Planting 10-29-04	CM 10-29-04	GA. 10/29/04
2	Replace two rose bushes.	02930-Exterior Planting 5-27-05	CM 5-24-05	5/24/05
3	Build birdhouse 4 x 4 post	Misc Restoration	CM 5-24-05	5/24/05
4	Plant one red flowering rose bush	02930-Exterior Planting	CM 5-24-05	5/24/05
5	Install railings on the stoop from back stoop to rear garage door.	Misc Restoration	CM 5-24-05	5/24/05
6	Replace bird bath in backyard	Misc Restoration	CM 5-24-05	5/24/05
7	Final Excavation Limits and Quantities	01550-Surveying	CM 11/29/04	~~FINAL APPROVAL TRACK DATE~~ 3/21/06 GA.
8	Final Closure Documents	01780-Project Closeout	CM 5/20/05	6/2/06 GA
9	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/25/05	1/25/06 GA.
10	**Construction Release -Signed**		WZ 7/22/05	7/22/05 GA.
11	**Plant two Mums along fence**	**02930-Exterior Planting 9/30/05**	BF 9/26/05	GA. 9/26/05

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
67 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 11/29/04	~~FINAL APPROVAL TRANS. DATE~~ 3/21/06 GA.
2	Final Closure Documents	01780-Project Closeout	CM 5/20/05	6/2/06 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/25/05	1/25/06 GA.
4	**Fix sod between curb and sidewalk**	**02922-Sodding 9-30-05**	BF Fall 05	GA.
5	CONST. RELEASE SIGNED		REFUSED	Sent Cert. letter on 5/12/06

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
107 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Fix holes in rear vinyl siding of house.	Miscellaneous Restoration 8-27-04	CM 8-27-04	GA. 8/27/04
2	Clean off dirt on house.	Miscellaneous Restoration 8-27-04	CM 8-27-04	8/27/04
3	Fix warped wood panel on back deck.	Miscellaneous Restoration 8-27-04	CM 8-27-04	8/27/04
4	Inspect and fix damages to French drain.	Miscellaneous Restoration 8-27-04	CM 8-27-04	
5	Final Closure Documents	01780-Project Closeout	CM 8-27-04	
6	As-Built/Final Excavation Limits Drawings	01550-Surveying	CM 8-27-04	
7	Final Excavation Limits, Quantities & Cross Sections	01550-Surveying	CM 8-27-04	
8	Confirmation Sample Data	01450-Contractor Chemical Data QC	CM 8-27-04	
9	3/4" pink stone around pool	Miscellaneous Restoration	CM 8-27-04	
10	Support column gas grill	Miscellaneous Restoration	CM 8-27-04	
11	Fence 4' tall white plastic gate	Miscellaneous Restoration	CM 8-27-04	
12	Replace pool with a voyager 52" x 18' pool	Miscellaneous Restoration	CM 8-27-04	
13	Final Excavation Limits and Quantities	01550-Surveying	CM 1/27/05	~~Final Approval Trans. Date~~ 12/28/05 GA.
14	Final Closure Documents	01780-Project Closeout	CM 8/28/05	1/9/06 GA.
15	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 8/31/05	12/28/05 GA.
16	**Replace warped boards on the deck**	**Miscellaneous Restoration**	2/14/06 BF	GA 2/14/06
17	**Replace tree on the side of house. Tree in the front has 75% growth and it is not being replaced.**	**02922-Sodding 9-30-05**	5/10/06 BF	GA. 5/10/06

18 CONST. RELEASE SIGNED REFUSED

501614

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
113 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Closure Documents	01780-Project Closeout	CM 8/28/05	3/20/06 GA
2	As-Built/Final Excavation Limits Drawings	01550-Surveying Resubmitted on 9/15/05	9/18/06 BF	9/18/06 GA
3	Final Excavation Limits, Quantities & Cross Sections	01550-Surveying Resubmitted on 9/15/05	9/18/06 BF	9/18/06 GA
4	10 x 12 alpine cape shed: 2 windows, shudders, 2 flower boxes	Miscellaneous Restoration	CM 10/15/04	10/15/04 GA
5	Construction Release Signed		BF	6/5/06 GA
6				

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
119 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace dogwood in front yard.	02930-Exterior Planting 9-15-04	CM 9-30-04	GA. 9/30/04
2	Fix edging around French drain.	Miscellaneous Restoration	CM 9-18-04	9/18/04
3	Replace 2 yews in front yard.	02930-Exterior Planting 5-27-05	CM 5-24-05	5/24/05
4	Replace dogwood in front yard.	02930-Exterior Planting 5-27-05	CM 5-24-05	
5	Replace azalea in back yard.	02930-Exterior Planting	CM 9-18-04	9/18/04
6	Replace pine tree in back yard.	02930-Exterior Planting	CM 9-18-04	
7	Final Excavation Limits and Quantities	01550-Surveying Resubmitted 9/15/06	BF ~~CM~~ 9/18/06 ~~5/25/05~~	~~[illegible]~~ ~~5/25/05~~ GA. 9/18/06 GA.
8	Final Closure Documents	01780-Project Closeout	CM ~~8/25/04~~	4/5/06 GA
9	Final Restoration As-Built and Cross Sections	01550-Surveying Re submitted 9/15/06	BF ~~CM~~ 9/18/06 ~~8/31/05~~	~~4/5/06~~ ~~GA.~~ 9/18/06 GA.
10	**Replace Pine tree in the back of house.**	**02922-Sodding 9-30-05**	BF 9/26/05	GA 9/26/05
11	**Replace Dogwood tree in the front of house** w/ Weeping Willow	**02922-Sodding 9-30-05**	BF 9/26/05	GA 9/26/05
12	CONST. RELEASE SIGNED		~~[illegible]~~	5/4/06 GA.
			RF homeowner signed off	

501616

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
122 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 6/1/05	~~FINAL APPROVAL~~ ~~TRANS DATE~~ 3/27/06 GA.
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/8/05	6/8/05 GA.
4	CONST. RELEASE SIGNED		SOLD	SOLD GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
125 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 5/25/05	~~Final Approval~~ ~~Date~~ 5/25/05 GA
2	Final Closure Documents	01780-Project Closeout	CM 5/9/05	3/9/05 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/29/05	~~6/8~~ 7/29/05 GA
4	Construction Release -Signed		WZ 11/18/03	11/18/03 GA

501618

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
128 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Replace twenty (20) arborvitaes in backyard.	02930-Exterior Planting 10-28-04	CM 10/28/04	GA. 10/28/04
2	Final Excavation Limits and Quantities	01550-Surveying	CM 6/1/05	~~[illegible]~~ 3/27/06 GA.
3	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 GA.
4	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/8/05	6/8/05 GA.
5	CONST. RELEASE SIGNED		SOLD	SOLD GA.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
131 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Excavation Limits and Quantities	01550-Surveying	CM 5/25/05	~~Final Approval~~ ~~Trans. Date~~ 5/25/05 GA.
2	Final Closure Documents	01780-Project Closeout	CM 5/9/05	3/9/05 GA
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 7/29/05	7/29/05 GA.
4	**Construction Release -Signed**		WZ 11/18/03	11/18/03 GA

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. DACW41-01-D-0001 T.O. – 0001

PUNCHLIST
134 Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date	
1	Final Excavation Limits and Quantities	01550-Surveying	CM 6/1/05	~~FINAL APPROVAL TRANS DATE~~	3/27/06 CA.
2	Final Closure Documents	01780-Project Closeout	CM 6/10/05	6/10/05 [illegible] CA	
3	Final Restoration As-Built and Cross Sections	01550-Surveying	CM 6/10/05	6/10/05 CA.	
4	CONSTRUCTION RELEASE SIGNED				N/A *

* PARTIAL EXCAVATION WAS DONE FOR EASEMENT.

OU2 Phase 2 Properties- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
Daycare Center Parking Lot

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Closure Documents	01780-Project Closeout ~~7-10-06~~ Submitted 8/7/06	8/22/06 BF	8/22/06 GA.
2	Final Excavation Limits & Quantities Drawings	01550-Surveying ~~7-10-06~~ 8/16/06	9/13/06 BF	9/13/06 GA.
3	Final Restoration As-builts & Cross Sections	01550-Surveying ~~7-10-06~~ 8/16/06	9/13/06 BF	9/13/06 GA.
4	Confirmation Sample Data	01450-Contractor Chemical Data QC	8/22/06 BF	8/22/06 GA.
5	*Construction Release Signed*			9/18/06 GA
6	**Pave-Rite to repair bird baths in parking lot.**	**02550-Paving 6-16-06**	6/15/06 BF	6/15/06 GA.
7	**SES to install curb stops with rebar.**	**Miscellaneous restoration 6-19-06**	6/23/06 BF	6/27/06 GA.
8	**SES to paint parking lot lines.**	**Miscellaneous restoration 6-22-06**	6/23/06 BF	6/27/06 GA.

~~TO BE STENCILED~~

501622

OU2 Phase 2 Roadway- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
Valerie Drive

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Closure Documents	01780-Project Closeout	9/5/06 BF	9/5/06 GA.
2	Final Excavation Limits & Quantities Drawings	01550-Surveying Re-Submitted 9/15/06	9/18/06 BF	9/18/06 GA.
3	Final Restoration As-builts & Cross Sections	01550-Surveying Re-Submitted 9/15/06	9/18/06 BF	9/18/06 GA.

OU2 Phase 2 Roadway- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
Valerie Road

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Closure Documents	01780-Project Closeout	BF 6/5/06	6/8/06 GA.
2	Final Excavation Limits & Quantities Drawings	01550-Surveying Resubmitted 9/15/06	9/18/06 BF	9/18/06 GA.
3	Final Restoration As-builts & Cross Sections	01550-Surveying Resubmitted 9/15/06	9/18/06 BF	9/18/06 GA.

OU2 Phase 2 Roadway- W.O. – 06

CONTRACT NO. W912DQ-04-D-0023 T.O. – 0001

PUNCHLIST
Clare Court

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Final Closure Documents	01780-Project Closeout Approved 6/16/06	BF 6/8/06	6/16/06 GA.
2	Final Excavation Limits & Quantities Drawings	01550-Surveying Approved 4/17/06	BF 4/4/06	4/17/06 GA.
3	Final Restoration As-builts & Cross Sections	01550-Surveying Approved 7/19/06	7/13/06	7/19/06 GA.

H

Appendix H

501626

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: August 3, 2006

SUBJECT: Federal Creosote Operable Unit 2, Phase 2 Final Inspection

FROM: Rich Puvogel
Central New Jersey Remediation Section

TO: Site File

This memo documents the final inspection of Operable Unit 2, Phase 2 properties at the Federal Creosote Superfund Site. The inspection was conducted by EPA and the New Jersey Department of Environmental Protection. In attendance at the inspection was Rich Puvogel, the United States Environmental Protection Agency remedial project manager (RPM), Gamal Awad, of the United States Army Corps of Engineers, and Drew Sites of the New Jersey Department of Environmental Protection.

The inspection of the OU2, Phase 2 area of the site was conducted on the morning of August 3, 2006. During the final inspection Mr. Sites, Mr. Awad, and Mr. Puvogel walked through the properties and inspected the remediated areas.

No outstanding issues were raised during the inspection and the remediation of the properties was considered complete.

cc: J. Prince