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FINAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION
VOLUME V ADDENDUM II CNC CHARLESTON SC
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ENSAFE

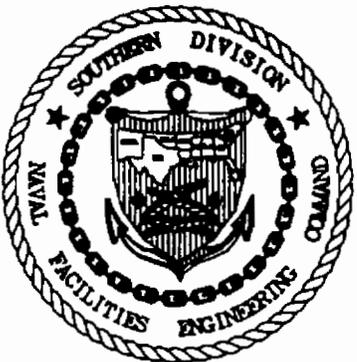


**FINAL RCRA FACILITY ASSESSMENT
NAVAL BASE CHARLESTON
VOLUME V, ADDENDUM II**

**SOUTHDIV Contract Number:
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Table of Contents

| | | |
|-----|---|-----|
| A. | RCRA FACILITY ASSESSMENT ADDENDUM | A-1 |
| A.1 | AOC #706 — Area Behind Building 246 | A-1 |
| | A.1.1 Unit Characteristics | A-1 |
| | A.1.2 Waste Characteristics | A-1 |
| | A.1.3 Migration Pathways | A-3 |
| | A.1.4 Evidence of Release | A-3 |
| | A.1.5 Exposure Potential | A-4 |
| | A.1.6 Recommended Action | A-5 |
| A.2 | SIGNATORY REQUIREMENT | A-6 |

List of Figures

| | | |
|----------|---|-----|
| Figure 1 | AOC #706 — Area Behind Building 246 | A-2 |
|----------|---|-----|

List of Tables

| | | |
|---------|---|-----|
| Table 1 | Summary of Analytical Results (Soils Sampling) Charleston Naval Shipyard | A-4 |
|---------|---|-----|

A. RCRA FACILITY ASSESSMENT ADDENDUM

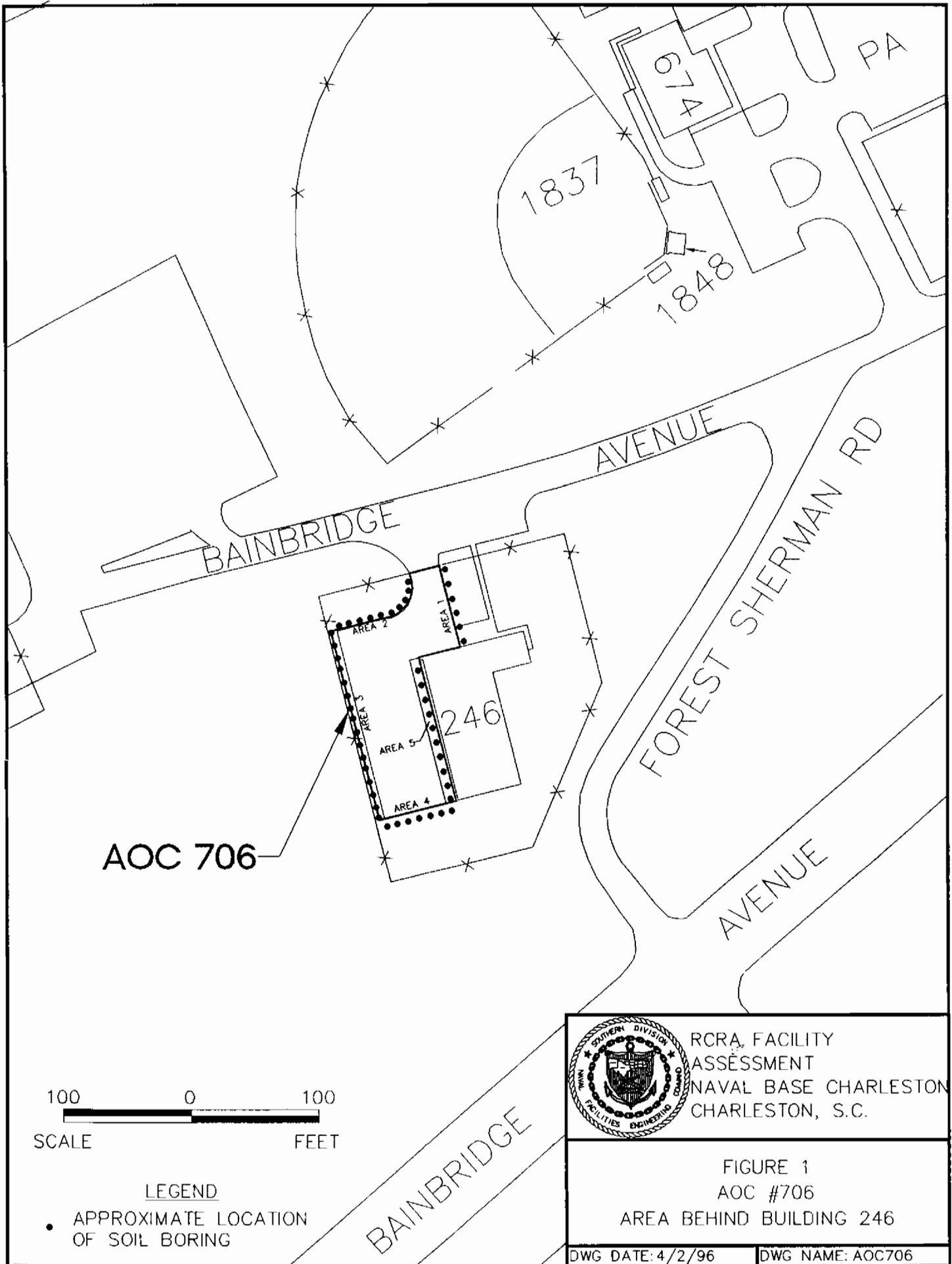
A.1 AOC #706 — Area Behind Building 246

A.1.1 Unit Characteristics

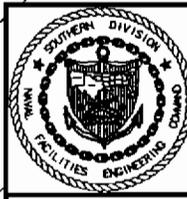
AOC #706 consists of the asphalt driveway to the north and west of Building 246, the former Hazardous Waste Storage and Transit Facility. A review of records including historical aerial photographs indicate Building 246 and the associated paved area were constructed in 1986. Prior to that the parcel appears to have been an open lot surrounded by trees to the north, west and south, with access from Bainbridge Avenue. No containment structures are associated with the driveway and no materials are known to have been stored outside of the building on the paved area. There are no stormwater drains located on the paved area, or on the ground around Building 246. Rainwater that falls on the roof of Building 246 flows into gutters, then into an underground collection system. Surface water runoff on the northwest side of the building accumulates along the western edge of the asphalt drive prior to draining into a nearby wetland area. Other areas surrounding Building 246 are covered by soil and grass. AOC #706 is shown in Figure 1.

A.1.2 Waste Characteristics

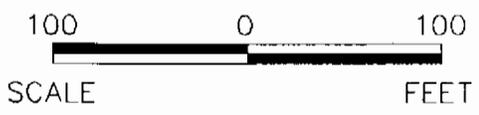
Soil sample data presented in the *Closure Activities Report and Certification for Building 246*, (Rust Environment and Infrastructure, March 1996), indicates the presence of Arochlor 1260, a polychlorinated biphenyl (PCB). Arochlor 1260 is a viscous, sticky resin commonly used in heat transfer fluids, hydraulic fluids, lubricants, insecticides, and as dielectric fluid in electrical transformers. Arochlor 1260 is resistant to biodegradation and does not break down readily. If



AOC 706



RCRA FACILITY
 ASSESSMENT
 NAVAL BASE CHARLESTON
 CHARLESTON, S.C.



LEGEND
 • APPROXIMATE LOCATION
 OF SOIL BORING

FIGURE 1
 AOC #706
 AREA BEHIND BUILDING 246
 DWG DATE: 4/2/96 DWG NAME: AOC706

released to soil, Aroclor 1260 adsorbs tightly to the soil, and does not leach significantly in saturated soil conditions. If released to water, adsorption to sediment and suspended matter is an important fate process. Although adsorption can immobilize PCBs for relatively long periods of time, eventual resolution into the water column has been shown to occur.

A.1.3 Migration Pathways

Since the driveway is not equipped with spill containment, surface water runoff, soil, and groundwater are potential migration pathways. Since PCBs are relatively immobile, nonvolatile compounds, air, and subsurface gas are not considered potential pathways.

A.1.4 Evidence of Release

According to the *Closure Activities Report and Certification for Building 246, (Rust Environment and Infrastructure, March 1996)*, composite soil samples were collected from the top six inches of soil along each side of the driveway to Building 246, areas 1 through 5 on Figure 1, and analyzed for Total Appendix IX constituents, excluding dioxins. Table 1 summarizes all contaminant concentrations that were found above detection limits. Essentially, eight metals and Aroclor 1260 fall into this category. The contaminants that were detected were then compared to the Zone H soil background data as described in the closure report. If the concentrations of contaminants exceeded the background levels for Zone H, then they were compared to the US EPA Region III Risk Based Concentration (RBC) Table, Fourth Quarter, 1994. All concentrations that exceeded Zone H background levels were below the RBCs. The source of

the PCBs is not currently known. The closure report states that PCBs were not stored in Building 246, while the *Interim RCRA Facility Assessment of USN Charleston Naval Shipyard, Charleston, South Carolina, (Ebasco Services Incorporated, August 1987)*, states that an area in Building 246 was reserved for PCB storage. However, evidence was not found to support that PCBs were actually stored in the building.

| Table 1 Summary of Analytical Results (Soils Sampling) Charleston Naval Shipyard | | | | | | |
|---|------------|-------------|-----------|------------|-----------|------------|
| Analyte | Area 1 | Area 2 | Area 3 | Area 4 | Area 5 | Zone H |
| Barium | 7.97 mg/kg | 48.8 mg/kg | 32.4mg/kg | 16.0mg/kg | 10.1mg/kg | 43.8mg/kg |
| Chromium | 3.46 mg/kg | 13.4 mg/kg | 38.2mg/kg | 7.16mg/kg | 4.36mg/kg | 83.86mg/kg |
| Copper | 4.55 mg/kg | 48.1 mg/kg | 89.6mg/kg | 26.0mg/kg | 11.8mg/kg | 31.62mg/kg |
| Nickel | 3.29 mg/kg | 6.45 mg/kg | 12.8mg/kg | 4.16mg/kg | J | 29.9mg/kg |
| Lead | 50.5 mg/kg | 40.8 mg/kg | 59.7mg/kg | 11.4mg/kg | 9.53mg/kg | 68.69mg/kg |
| Vanadium | U | 9.02 mg/kg | 9.57mg/kg | J | 3.67mg/kg | 131.6mg/kg |
| Zinc | 20.0 mg/kg | 124.0 mg/kg | 118mg/kg | 53.4mg/kg | 23.9mg/kg | 129.6mg/kg |
| Mercury | U | J | J | 1.01mg/kg | J | 0.735mg/kg |
| PCB-1260 | U | 84.0 ug/kg | 95.7ug/kg | 761.0ug/kg | U | N/A |

A.1.5 Exposure Potential

An approximately 5-acre Area of Ecological Concern is located to the south and west of Building 246 where stormwater from the asphalt driveway drains. Described in the *Final Zone J Work Plan, (E/A&H November 1995)*, the area has a heavily overgrown drainage system to the east and a maintained field with several trees to the west. The eastern ditches form a scrub-shrub wetland which is vegetated along its entire perimeter. An open, marshy area is in the center of the southeastern portion of the wetland, where the channel expands to an

approximately 50 feet wide marsh. Various ecological receptors may be exposed to contaminated surface water and sediment runoff. Exposure potential exists for Navy and civilian employees who frequent the unit and perform activities which may bring them in contact with surface soil.

A.1.6 Recommended Action

An RFI is recommended for this AOC due to the evidence of past releases, the hazards associated with PCBs, and the multiple migration pathways. The current land use is industrial with no residential areas within an approximate quarter mile radius. Considering the chemical and physical properties of PCBs, it is highly unlikely that the contaminants could migrate far enough to expose a residential population. All but one of the reuse plan scenarios target the area for future industrial uses. The remaining scenario does propose passive recreation as a possible reuse alternative.

A.2 SIGNATORY REQUIREMENT

Condition I.E. of the HSWA portion of RCRA Part B Permit (EPA SCO 170 022 560) states that "All applications, reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 CFR §270.11." The certification reads as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Caretaker Site Officer,
Naval Base Charleston

Date