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FINAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY ASSESSMENT ADDENDUM III VOLUME V CNC CHARLESTON SC

6/17/1996

ENSAFE

FINAL RCRA FACILITY ASSESSMENT
NAVAL BASE CHARLESTON
VOLUME V, ADDENDUM III

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Prepared by:

EnSafe/Allen & Hoshall
935 Houston Northcutt Boulevard, Suite 113
Mt. Pleasant, South Carolina 29464
(803) 884-0029

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PART IV
RCRA FACILITY
ASSESSMENT
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LIST OF ACRONYMS

AEC	Area of Ecological Concern
AOC	Area of Concern
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CFR	*Code of Federal Regulations*
EBSL	Environmental Baseline Survey for Lease
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment

A. RCRA FACILITY ASSESSMENT ADDENDUM

A.1 AOC 707 — Diesel Fuel Oil Spill Adjacent to Building 1795

A.1.1 Unit Characteristics

Area of Concern (AOC) 707 consists of a diesel fuel oil spill next to Building 1795. The release occurred from a mobile-type boiler which was operating at the site to serve Building 28. During refueling operations, the boiler's fuel tank apparently overflowed, spilling an unknown amount of diesel fuel oil onto the ground. A 5-foot by 15-foot strip of stressed vegetation and stained soil was underneath and downgradient of the boiler. Sand that was applied to the affected area in an attempt to contain the spill has since been removed. No other remediation is known to have taken place. The location of AOC 707 is shown in Figure 1 and photographs from the Environmental Baseline Survey for Lease (EBSL) are shown in Figures 2, 3, and 4.

A.1.2 Waste Characteristics

The waste material associated with AOC 707 is diesel fuel oil. The constituents of concern include petroleum hydrocarbons and polynuclear aromatic hydrocarbons (PAH).

A.1.3 Migration Pathways

Soil to groundwater is the most likely potential migration pathway for the constituents of concern. The potential for contaminant migration through air, sediment, surface water runoff, and subsurface gas is possible, but less likely.

A.1.4 Evidence of Release

The diesel fuel oil spill was documented during an EBSL site visit in December 1995. At that time, the mobile boiler was onsite and visual evidence of the spill was noted. During the 1996 Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) site visit, stressed vegetation and stained soil were observed.

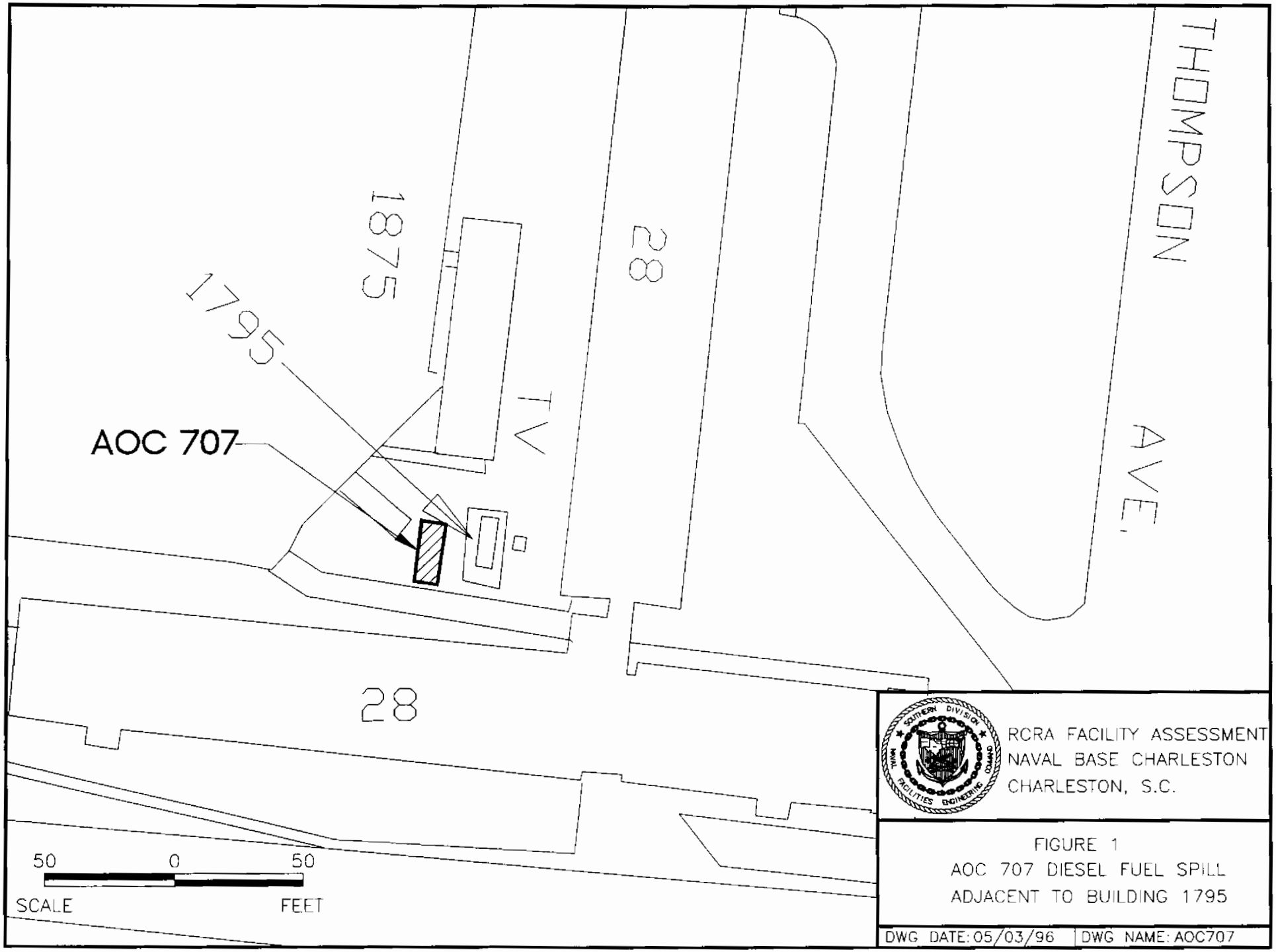
THOMPSON
AVE
1875
28
1795
AOC 707
TV
28
50
0
50
SCALE
FEET
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
RCRA FACILITY ASSESSMENT
NAVAL BASE CHARLESTON
CHARLESTON, S.C.
FIGURE 1
AOC 707 DIESEL FUEL SPILL
ADJACENT TO BUILDING 1795
DWG DATE: 05/03/96
DWG NAME: AOC707

Figure 2 Portable Boiler, Building 1795, (brick fence), Building 1875, (left), and Building 28 (background).

Figure 3 Diesel Fuel Oil Spill Adjacent to Building 1795

Figure 4 Diesel Fuel Oil Spill Adjacent to Building 1795

A.1.5 Exposure Potential

This unit is next to Building 28, which currently is student housing for the U.S. Border Patrol. Exposure potential exists for local residents, Navy, and civilian personnel who frequent the vicinity of the unit, and future site users. The spill is in a grassy area, and therefore poses a potential for exposure to various terrestrial receptors other than humans.

A.1.6 Recommended Action

The information available for this unit indicates that there was a one time spill of a virgin petroleum product. This unit is correctly identified as an Area of Concern due to the one time release which is excluded under the definition of a Solid Waste Management Unit. Due to the apparently limited volume of soil that is involved, it is recommended that an interim measure be performed to remove any contaminated soil followed by confirmation sampling to verify the completeness of the action. The soil removal would eliminate the potential for human or ecological exposure therefore no further action would be considered necessary.

A.2 AOC #708 — Petroleum Release

A.2.1 Unit Characteristics

AOC 708 is a petroleum release between Buildings NS-668 and NS-669. The site is an area of approximately 2 square feet containing stressed vegetation and stained soil. The release is next to a vault which houses transformers and a cooling tower. The vault was constructed in approximately 1973, when Buildings NS-668 and NS-669 were constructed. The vault has brick walls with access provided by metal gates at it's north and south ends. The foundation is a concrete slab. Although the spill is next to the transformer/cooling tower vault, no definitive evidence was noted to suggest that it is the result of a leaking transformer. AOC 708 is shown in Figure 5 and a photograph from the EBSL is shown in Figure 6.

A.2.2 Waste Characteristics

Waste materials associated with this unit are petroleum products. The constituents of concern include petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylene (BTEX); and PAH. The insulating dielectric fluid in the transformers in the vault is composed of mineral insulating oil refined from predominantly naphthenic crude oils. The mineral oil contains 2,6-ditertiary-butyl para-cresol and 2,6-ditertiary butylphenol as oxidation inhibitors in concentrations up to .3 per cent by mass. These oxidation inhibitors replace polychlorinated biphenyls (PCB), in transformers.

A.2.3 Migration Pathways

Soil to groundwater is the most likely potential migration pathway for the constituents of concern. The potential for contaminant migration through air, sediment, surface water runoff, and subsurface gas is possible, but less likely.

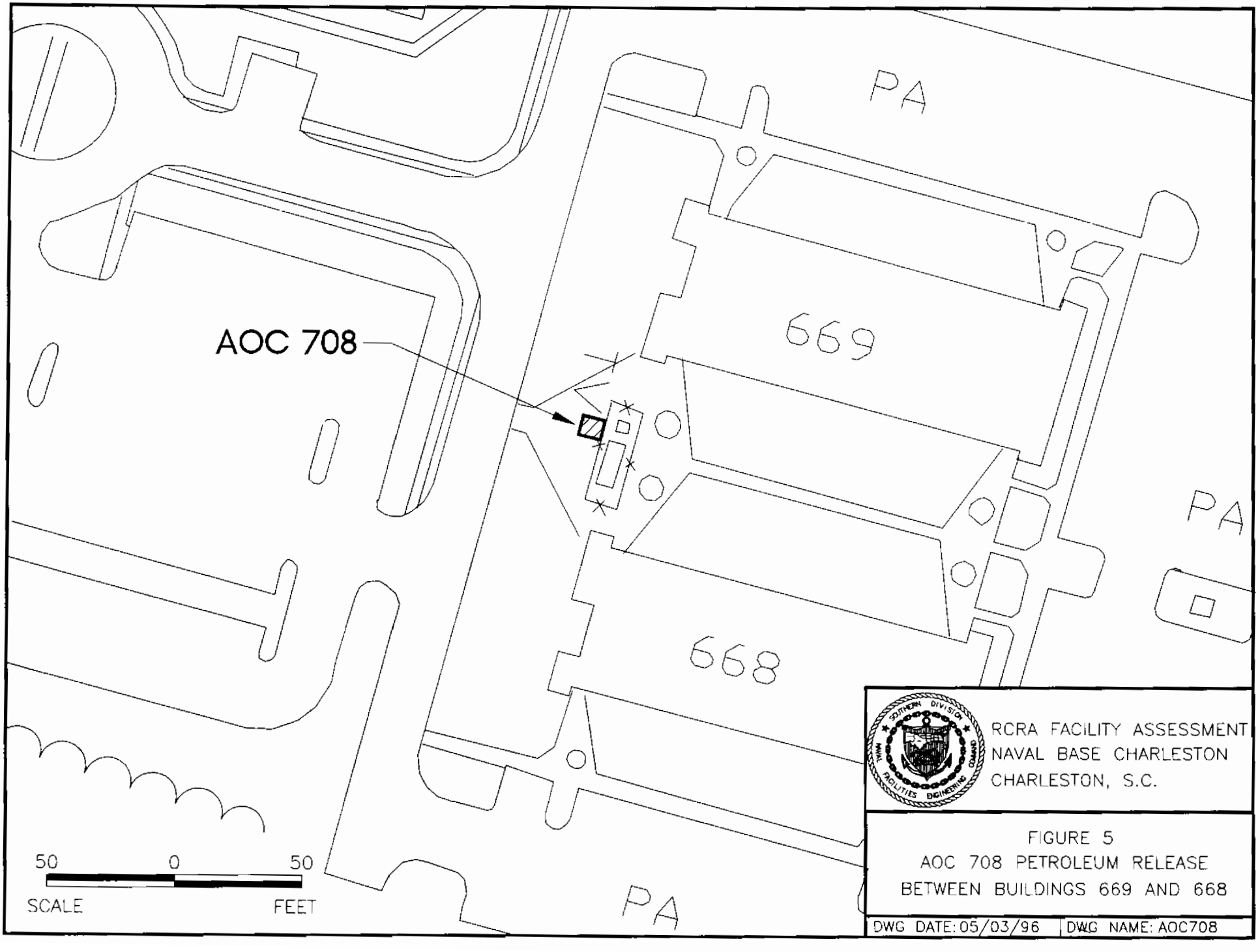
AOC 708
669
668
PA
PA
PA
50
0
50
SCALE
FEET
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
RCRA FACILITY ASSESSMENT
NAVAL BASE CHARLESTON
CHARLESTON, S.C.
FIGURE 5
AOC 708 PETROLEUM RELEASE
BETWEEN BUILDINGS 669 AND 668
DWG DATE: 05/03/96
DWG NAME: AOC708

Figure 6 Petroleum Release Trailing from Transformer/Cooling Tower Pad Between Buildings NS-668 and NS-669.

A.2.4 Evidence of Release

The petroleum spill was documented during an EBSL site visit in December 1995. Approximately 2 square feet of stressed vegetation and stained soil were observed onsite. Stressed vegetation and stained soil were also observed during the RFA site visit.

A.2.5 Exposure Potential

This unit is adjacent to Buildings NS-668 and NS-669, dormitories for U.S. Border Patrol. Also nearby is an expansive palustrine forested wetland, identified as Area of Ecological Concern (AEC) V-2, in the Zone J Work Plan (E/A&H, November 1995). The wetland is approximately 175 feet to the south of the AOC. Therefore, various ecological receptors that inhabit the area in and around the wetland have the potential for exposure. Exposure potential also exists for local residents, Navy, and civilian personnel who frequent the vicinity of the unit, and future site users.

A.2.6 Recommended Action

The information available for this unit indicates that there was a one time spill of a virgin petroleum product. This unit is correctly identified as an Area of Concern due to the one time release which is excluded under the definition of a Solid Waste Management Unit. Due to the apparently limited volume of soil that is involved, it is recommended that an interim measure be performed to remove any contaminated soil followed by confirmation sampling to verify the completeness of the action. The soil removal would eliminate the potential for human or ecological exposure therefore no further action would be considered necessary.

A.3 SIGNATORY REQUIREMENT

Condition I.E. of the Hazardous and Solid Waste Amendments 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