

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
700 HEINZ AVE., SUITE 200
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NON-CIRCULATING

October 14, 1992

G.R. Wegener
CDR, CEC, USN
Public Works Offices
Concord Naval Weapons Station
Concord, California 94520-5000

Dear CDR Wegener:

Transmittal of RCRA Facility Assessment (RFA) for Concord Naval Weapons Station.

Enclosed, herewith, is a copy of the RCRA Facility Assessment (RFA) for Concord Naval Weapons Station, dated in June, 1992.

Sincerely,

A handwritten signature in cursive script that reads "D. F. Murphy".

Dan F. Murphy,
Unit Chief
Facility Permitting

Region 2

Branch

Enclosure

#499

499

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
100 HEINZ AVE., SUITE 200
SAN FRANCISCO, CA 94110-2737



June 16, 1992

Ms. Karen Scheuermann
California Permits Section, H-3-2
U.S. Environmental Protection Agency
Region IX
San Francisco, California 94105

Dear Ms. Scheuermann:

**TRANSMITTAL OF RCRA FACILITY ASSESSMENT (RFA) FOR
Concord Naval Weapons Station, Concord, California**

We are pleased to send you the RCRA Facility Assessment (RFA) for Concord Naval Weapons Station, Concord, California.

We recommend that EPA approve the RFA and we certify that the following statements are true:

1. The RFA conforms with RCRA guidance.
2. The RFA is technically sound.
3. The RFA is administratively complete.

If you have any questions regarding this RFA, please call Cherry V. Padilla at (510) 540-3967.

Sincerely,

A handwritten signature in cursive script that reads "Michael R. James".

Michael R. James, Chief
Facility Permitting Branch
Region 2

Enclosure

CONCORD NAVAL WEAPONS STATION

Code 092031

EPA I.D # CA 7170024528

RCRA FACILITY ASSESSMENT

Prepared for:

**UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**

**Region 9
75 Hawthorne Street
San Francisco, CA 94105**

By:

**California Environmental Protection Agency
DEPARTMENT OF TOXIC SUBSTANCES
CONTROL**

**Region 2
Berkeley, California**

June, 1992

**Concord Naval Weapons Station
RCRA Facility Assessment**

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Code 092031

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Concord Naval Weapons Station
RCRA Facility Assessment
June, 1992

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PRIORITY FOR RFI

H) = High
 M = Medium
 L = Low
 NA = No Action

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Concord naval Weapons Station
RCRA Facility Assessment
Acronyms

Acronyms

BAAQMD	Bay Area Air Quality Management District
CCCEHD	Contra Costa County Environmental Health Department
CCCSD	Central Contra Costa Sanitary District
CCR	California Code of Regulations
CCWD	Contra Costa Water District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMS	Corrective Measure Study
CNWS	Concord Naval Weapons Station
CEQA	California Environmental Quality Act
CFGD	California Fish and Game Department
DDSD	Delta Diablo Sanitation District
DTSC	California EPA, Department of Toxic Substances Control
EOD	Explosive Ordnance Disposal
EPA	U.S. Environmental Protection Agency
HSWA	Hazardous and Solid Waste Amendments
HWMUs	Hazardous Waste Management Units
IAS	Initial Assessment Study
IRP	Installation Restoration Program
ISD	Interim Status Document
NFA	No Further Action
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
PCBs	Polychlorinated Biphenyl
PG&E	Pacific Gas and Electric Company
PPB	Part Per Billion
PR	Preliminary Review
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RWQCB	Regional Water Quality Control Board
SWMUs	Solid Waste Management Units
TPH	Total Petroleum Hydrocarbons
TSDF	Treatment, Storage, and Disposal Facility
USCG	U.S. Coast Guard
UST	Underground Storage Tank
VSI	Visual Site Inspection
WQEC	Weapons Quality Engineering Center

RCRA Facility Assessment

EXECUTIVE SUMMARY

A RCRA facility assessment (RFA) for Concord Naval Weapons Station, Concord, California was conducted to identify and evaluate the solid waste management units (SWMU's) for historic and potential releases of hazardous wastes to the environment and to make preliminary determinations on the need for further corrective actions.

Concord Naval Weapons Station is a federal military base whose main purpose is as a major explosive ordnance transshipment facility on the West Coast. To facilitate the movement of ordnance from land to land and from land to sea and vice versa, the facility uses the Navy-owned plus three private sets of locomotives and rail systems, road corridors, and piers. The storage, maintenance and technical support of the ordnance operations are provided by numerous ordnance and research facilities within the naval base. These activities generate hazardous wastes which are now managed by the Environmental and Natural Resource Branch of the Department of Public Works. There are also homeported ships which unload Otto fuel waste to a truck for disposal at a Class I permitted facility. Management and other administrative support activities are also provided within the Station.

This RFA was developed through preliminary review (PR) and evaluation of the information provided by the facility in response

to the RCRA Facility Assessment questionnaire, and other information found in inspection reports and permit applications.

The visual site inspection (VSI) at this facility was conducted on September 4 and 10, 1991 to obtain additional information and evidence of releases. During the site visit, a DTSC representative was guided to the majority of the operations and to inspect the identified SWMUs. Interviews were conducted to gather additional information on any initial release determinations.

This preliminary review also included information found in the RCRA and CERCLA files at U.S. Environmental Protection Agency, Region 9 (EPA), files from the California Environmental Protection Agency, Department of Toxic Substances Control, Region 2 (DTSC), the Regional Water Quality Control Board (RWQCB) San Francisco Region, the Contra Costa County Environmental Health Department, the Bay Area Air Quality Management District (BAAQMD), the Delta Diablo Sanitation District, the Central Contra Costa Sanitary District and other documents maintained at the Concord Naval Weapons Station.

Although this is a RCRA facility assessment, releases from units that managed non-RCRA regulated wastes (i.e. California wastes like asbestos and used oil) were also evaluated. This investigation resulted in a total of 49 solid waste management units (SWMUs) which are discussed in this report.

Table 1 summarizes the release information at the 49 SWMUs identified. Information is provided on past releases and potential for future releases to soil, ground and surface waters and air. A summary of findings and recommendations for RCRA Facility Investigation (RFI) is provided in Table 2. These are discussed under the findings and recommendations at the end of this report.

This RFA does not evaluate the twenty sites which are being handled under CERCLA. These sites have been identified as potentially contaminated and their corrective actions are being pursued by the U.S. EPA, DTSC and RWQCB. The closure documentation and certification of the two hazardous waste management units that have been closed early in 1992 under an approved RCRA and State Closure Plan are being reviewed by DTSC.

This RFA is intended to be a comprehensive assessment of SWMUs and releases therefrom at the facility. However, the naval base has been in existence since 1938. Their documentation of historic operations, especially of hazardous materials and wastes, is incomplete. This, coupled with their high rate of personnel turnover, means that all of the information necessary for a rigorous assessment is not presently available. It is possible that other SWMUs may exist. If and when other SWMUs are found, corrective action will be required.

TABLE 1. SUMMARY OF SOLID WASTE MANAGEMENT UNITS PAST RELEASES AND POTENTIAL FOR RELEASES, CONCORD NAVAL WEAPONS STATION, CONCORD

SWMU #	Unit	Past Releases of Hazardous Waste or Hazardous Constituents	Potential For Releases
INLAND AREA			
1	Building IA-6 (Boiler House)	Yes	Soil, Ground Water
2	Building IA-7 (Shallow Burn Pit South of the Firehouse)	Yes	Soil, Ground Water
3	Building IA-8 (Explosive Ordnance Disposal Detachment Building)	No	None
4	Building IA-10 (Print Shop)	No	None
5	Building IA-12 (Locomotive Repair Shop)	Yes Battery to Shower Drain	Soil, Ground Water
6	Building IA-15 (Automotive Vehicle Maintenance Division)	No	None
7	Building IA-16 (Public Works Shop and Auto Vehicle Maintenance Division)	Possible (Wet Surfaces Satellite Area)	Soil, Ground Water
8	Building IA-20 (Chemical Laboratory)	Yes (To floor drain/sink)	Soil, Ground Water
9	Building IA-21 (Material Test Laboratory)	No	None

SWMU #	Unit	Past Releases of Hazardous Waste or Hazardous Constituents	Potential For Releases
10	Building IA-21A (Evaluation Laboratory)	No	None
11	Building IA-22 (Photography Laboratory)	Possible (to sink)	Ground Water
12	Building IA-24 (Forklift Maintenance Building)	Yes (small spill & Septic tank)	Soil, Ground Water
13	Building IA-25 (Missile Component Maintenance)	Possible (Septic tank)	Soil, Ground Water
14	Building IA-27 (Car Blocking Shop)	Possible (Septic tank)	Air, Soil, Ground Water
15	Building IA-41 (Paint Storage)	Possible (Septic tank)	Air, Soil Ground Water
16	Building IA-46 (Public Works Maintenance Storage)	Possible (asbestos & mercury)	Air, Soil Ground Water
17	Building IA-50 (Rail/Truck Transfer Depot)	Possible (Septic tank)	Soil, Ground Water

SWMU #	Unit	Past Releases of Hazardous Waste or Hazardous Constituents	Potential For Releases
18	Building IA-51 (Auto Vehicle Maintenance Facility)	Yes (Storm Drain)	Soil, Ground Water
19	Building IA-54 (Electric Substation)	No	None
20	Building IA-55 (Ordnance Operations Building)	Possible (Septic Tank)	Soil, Ground Water
21	Building IA-58 (X-ray Building)	No	None
22	Building 81 (Ordnance Maintenance and Test Building)	Possible (Septic Tank)	Air, Soil, Ground Water
23	Building 87 (Storage Building)	Possible (Septic Tank)	Soil, Ground Water
24	Building 93 (Guided Missile Division)	Possible (Septic Tank)	Soil, Ground Water
25	Building 97 (Ordnance Assembly Building)	Possible (Septic Tank)	Soil, Ground Water
26	Building 178 (Navy Exchange Service Station)	Yes	Soil, Ground Water
27	Building 193 (Auto Hobby Shop)	No	None

SWMU #	Unit	Past Releases of Hazardous Waste or Hazardous Constituents	Potential For Releases
28	Building 263 (Ordnance Maintenance)	No	None
29	Building 429 (Hazardous Waste Accumulation Shed)	No	None
30	UNOCAL CORPORATION (Oil Pipeline Spill Site)	Yes	Soil, Ground Water
31	Diesel Fuel Oil Leak near Main entrance to the Inland Area	Yes	Soil
32	Site 5AT Underground Storage Tank (Abandoned Tank # 17)	No	Soil, Ground Water
33	Site 6LC98 Underground Storage Tank (Magazine Boiler)	Yes	Soil, Ground Water
TIDAL AREA			
34	Building A-3 (Public Works Heavy Equipment Maintenance and Storage)	Yes (Leak from UST)	Soil, Ground Water
35	Building A-10 (Public Works Shop)	No	None
36	Building A-22 (Ordnance Operations Building)	Yes (To sink)	Soil, Surface Water

SWMU #	Unit	Past Releases of Hazardous Waste or Hazardous Constituents	Potential For Releases
37	Building A-29 (Dunnage Salvage Yard)	Possible (Leaching from treated wood)	Soil, Ground Water, Surface Water
38	Building E-61 (Navy's General Warehouse)	No	None
39	Building 109 (Air Force Storage Office)	No	None
40	Building 174 (Electric Substation)	Possible (History of PCB leak and storage)	Soil, Ground Water
41	Building 177 (Transfer Facility)	No	None
42	Building 188 (Coast Guard Office)	No	None
43	Building 267 (Tug Boat Office)	No	None
44	Building 350 (Ordnance Maintenance Building)	Yes (Possible also from Septic Tank)	Soil, Ground water
45	Leak on Paved Wharf, Tidal Area	Yes	Soil, Ground Water, Surface Water
46	Site E-111 Underground Storage Tank (Heating Plant)	Yes (Leak from UST)	Soil, Ground Water

SWMU #	Unit	Past Releases of Hazardous Waste or Hazardous Constituents	Potential For Releases
47	R Area Building (Segregation Facilities)	No	None
48	Pacific Gas and Electric Company's Spill of Cutting Oil from a Pipeline Near Hastings Slough and Waterfront Road)	Yes	Soil, Ground Water, Surface Water
<u>PITTSBURG, CALIFORNIA RADIOGRAPHIC FACILITY</u>			
49	Building 35 (X-ray Facility at Pittsburg, California)	Yes (PCB leak on cement)	Soil, Ground Water

TABLE 2. SUMMARY OF FINDINGS FOR THE SOLID WASTE MANAGEMENT UNITS (SWMUs) AND RECOMMENDATIONS FOR RCRA FACILITY INVESTIGATION (RFI)

SWMU #	Documented Releases	Suspected Releases	Potential For future Releases	Recommendations For RFI (Priority)
INLAND AREA				
1	Yes	Yes	High	High
2	Yes	Yes	High	High
3	No	No	Low	NFA
4	No	No	Low	NFA
5	Yes	Yes	Medium	Medium
6	No	No	Low	NFA
7	No	Yes	Low	Low
8	Yes	Yes	High	High
9	No	No	Low	NFA
10	No	No	Low	NFA
11	No	Yes	High	NFA ^a
12	Yes	Yes	Medium	Medium
13	No	Yes	Medium	Medium
14	No	Yes	Medium	Medium
15	No	Yes	Medium	Medium
16	No	Yes	Low	Low
17	No	Yes	Medium	Medium
18	Yes	Yes	High	High
19	No	No	Low	NFA
20	No	Yes	Medium	Medium
21	No	No	Low	NFA
22	No	Yes	Medium	Medium
23	No	Yes	Medium	Medium
24	No	Yes	Medium	Medium
25	No	Yes	Medium	Medium
26	Yes	Yes	High	High
27	No	No	Low	NFA
28	No	No	Low	NFA
29	No	No	Low	NFA
30	Yes	Yes	Low	High ^b
31	Yes	Yes	Low	NFA [*]
32	No	Yes	Low	NFA
33	Yes	Yes	High	High

SWMU #	Documented Releases	Suspected Releases	Potential For future Releases	Recommendations For RFI (Priority)
34	Yes	Yes	Low	NFA*
35	No	No	Low	NFA
36	No	No	Low	NFA
37	No	Yes	Medium	Medium
38	No	No	Low	NFA
39	No	No	Low	NFA
40	No	Yes	Low	Low
41	No	No	Low	NFA
42	No	No	Low	NFA
43	No	No	Low	NFA
44	Yes	Yes	Medium	Medium
45	Yes	Yes	Low	NFA*
46	Yes	Yes	High	High
47	No	No	Low	NFA
48	Yes	Yes	Low	NFA*
49	Yes	Yes	Low	NFA*

- NFA = No further Action
- a = The facility was informed of the need to have the unit in the permit application so that compliance would be enforced.
- b = Recommendation for an RFI is high because of possible groundwater contamination and potential future releases from the contaminated soil near the Contra Costa Canal.
- * = These SWMUs with documented releases were adequately cleaned up.

1. INTRODUCTION

The Cal/EPA, Department of Toxic Substances Control (DTSC) has an agreement with the U.S. Environmental Protection Agency (U.S. EPA), Region 9 to conduct a RCRA (Resource Conservation Recovery Act) Facility Assessment (RFA) at Concord Naval Weapons Station at Concord, California. This RFA is the first step in the process of implementing Sections 3004(u), 3004(h), 3004(v), 3003 and 7003 of the RCRA corrective action provisions of the 1984 Hazardous and Solid Waste Amendments (HSWA). The primary objective of the RCRA corrective action program is to clean up releases of hazardous wastes which may threaten human health or the environment.

This report presents the results of the RFA. It documents the process leading to its various conclusions and recommendations. It consolidates pertinent information on the facility and its Solid Waste Management Units (SWMU's).

1.1 THE RCRA FACILITY ASSESSMENT (REA)

The purpose of the RFA is to gather information in order to identify and evaluate the solid waste management units (SWMU's) for releases that may require corrective action.

RFA provides a basis for the next phase of the corrective action activities which are: *RCRA Facility Investigation (RFI)* and *Corrective Measures Study (CMS)*. The RFI fully characterizes the nature and extent of releases while the CMS determines the nature of remedial measures needed. Interim measures may be required when identified releases constitute a substantial and imminent danger to human health and/or the environment.

Collection and analysis of data on actual and potential releases involves a *preliminary review (PR)* of the existing information followed by *visual site inspection (VSI)* where field observations of release are obtained.

Information gathered on actual and potential releases is evaluated along with information on the facility's compliance and permitting status. A list of individual solid waste management units (SWMUs) is compiled. The potential health and environmental hazard of releases from each SWMU is estimated and then each SWMU is ranked for priority of corrective actions. The completed RFA is then used as a basis for corrective action requirements in hazardous waste permit decisions.

2. FACILITY DESCRIPTION

Concord Naval Weapons Station (Naval Weapons Station

Concord) is a United States military installation that operates and maintains the major explosive ordnance transshipment facility on the west coast. The facility was commissioned as Naval Magazine Port Chicago in April, 1942. In 1963, the naval base was officially designated as Naval Weapons Station Concord.

The naval base covers 12,922 acres. The current operating area is made up of the Tidal Area and the Inland Area which are separated by the town of Clyde, and undeveloped hills (See, Figure 1). These two base areas are joined by a narrow Navy-owned rail and road corridor. A radiographic facility at Pittsburg, California (Building 35), located approximately 6 miles east of the Tidal Area is also part of the Concord Naval Weapons Station (Figure 2). This radiographic facility, which was part of the former United States Army Pacific Ordnance Steel Foundry, is used in the same way as the Weapons Quality Engineering Center X-ray Facility located at Building IA-58.

A small portion of the Tidal Area which the Concord Naval Weapons Station owns consists of six islands in Suisun Bay: Freeman, Ryer, Snag, Roe, Middle Ground, and the two islets which make up the Seal Islands. Approximately 3,233 acres in the Tidal Area are leased for cattle grazing.

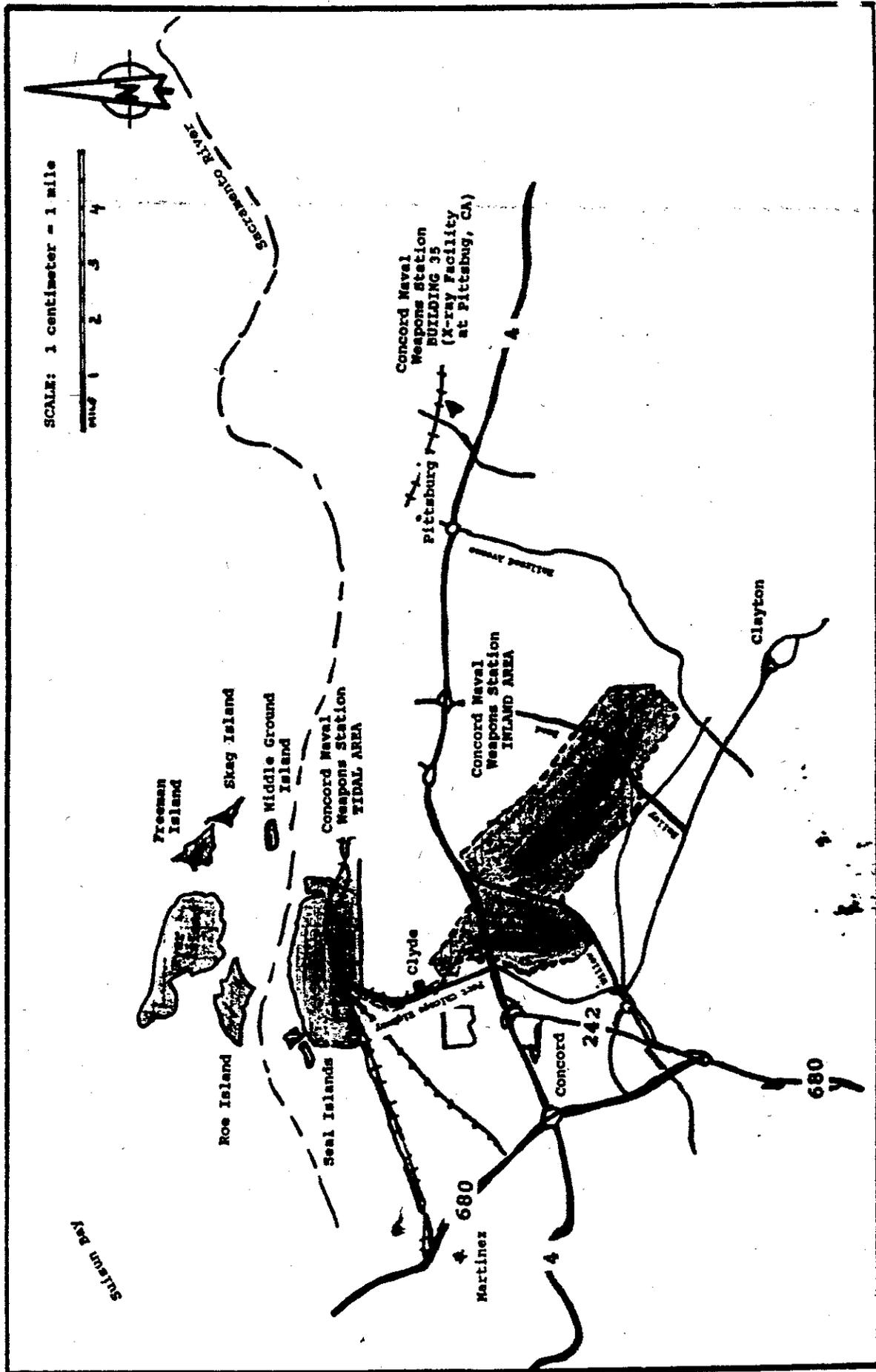


FIGURE 1. CONCORD NAVAL WEAPONS STATION: INLAND AREA, TIDAL AREA AND X-RAY FACILITY AT PITTSBURG, CALIFORNIA

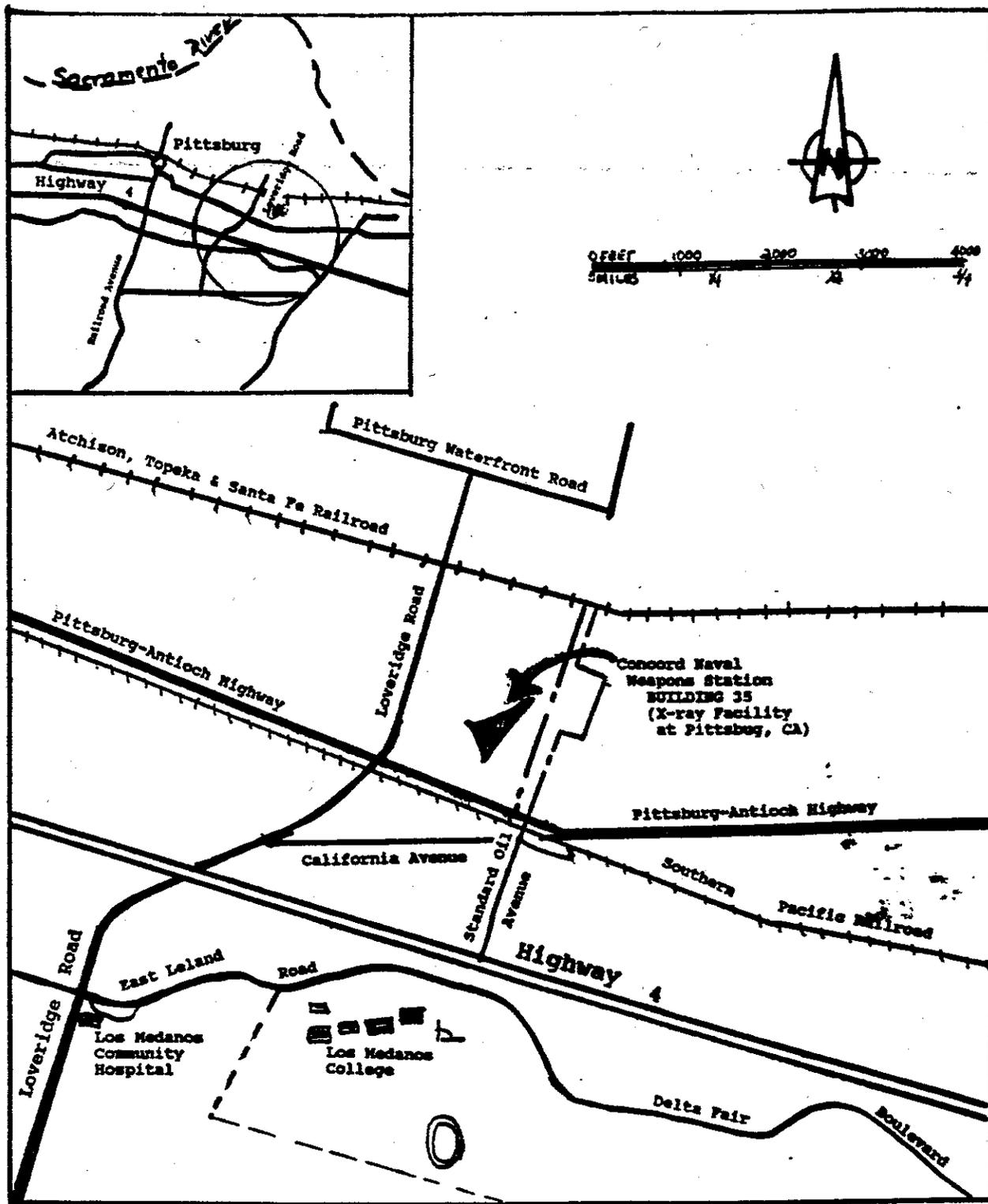


FIGURE 2. BUILDING 35 (X-RAY FACILITY AT PITTSBURG, CALIFORNIA)

The main portion of the Tidal Area serves as the center of ammunition transshipment activities. This area has barricaded sidings for safety in the storage of ammunition loaded rail cars. There are a number of warehouses and support buildings for handling, distribution, segregation and transfer of ordnance in this area. The Tidal Area has three piers capable of simultaneously berthing six large cargo ships. The piers are used for the on and off-loading of explosive ordnance aboard commercial, homeported and other Navy and Coast Guard vessels.

The Inland Area has the Weapons Quality Engineering Center (WQEC), missile and ordnance maintenance, administration buildings, radiographic facility, military barracks and housing. Like the Tidal Area, the Inland Area also has explosive ordnance magazines for ammunition storage. Approximately 500 military personnel and 1,200 civilian employees work at the Station. Three hundred sixty one military personnel and their dependents live in the Station's family housing units.

The largest department is the Ordnance Department. It performs a variety of functions related to receipt, maintenance, storage, issuance and transshipment of ammunition and weapons. This department does the maintenance and renovation of conventional ammunition and

guided missiles. The Weapons Quality Engineering Center (WQEC) at the Inland Area is responsible for conducting the continuous surveillance, evaluation and reliability programs on weapons and weapons system's components. A radiographic facility in the Inland Area is housed in Building IA-58. Another radiographic facility (Building 35) is located at the nearby City of Pittsburg (See Figure 2). Both radiographic facilities use X-rays to determine internal defects in ordnance.

A huge greenbelt (about 3,660 acres) in the Inland Area has been designated as a reservation for preservation of wildlife like the Tule Elk. This was a result of the cooperative agreement by the Navy with the California Department of Fish and Game (CDFG). Currently, the Navy has five leases with farmers for growing hay and cattle grazing in parts of the Inland Area and Tidal Area.

2.1 Site Location and Features

Concord Naval Weapons Station is located approximately 30 miles northeast of San Francisco (See map, Figure 3). It is located off Port Chicago Highway adjacent to the City of Concord in north central Contra Costa County, California. It is bounded on the north by Suisun Bay and on the south and east by the City of Concord. Immediately adjacent to the naval base is the unincorporated community of Clyde,

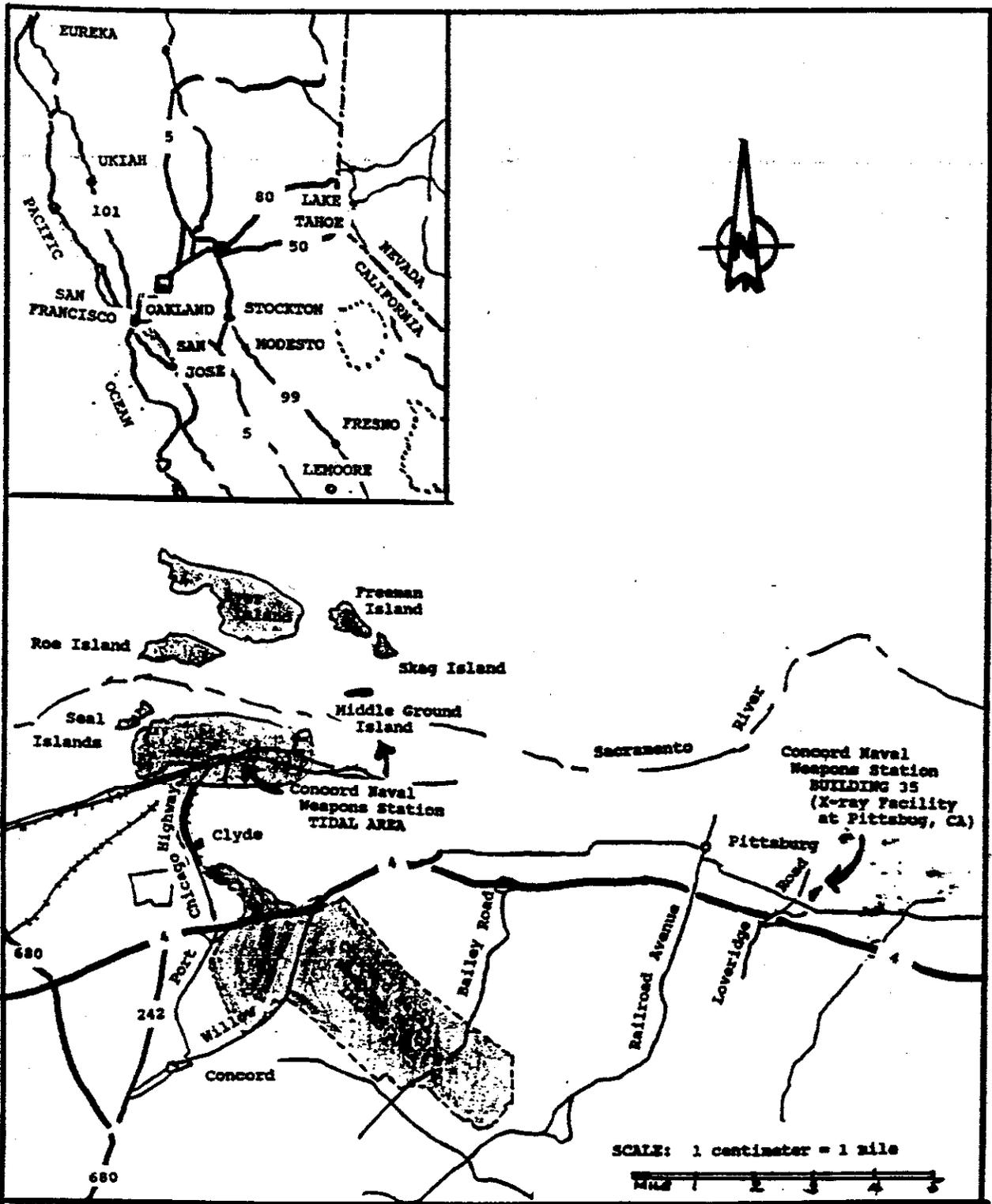


FIGURE 3. SITE LOCATION:
 CONCORD NAVAL WEAPONS STATION
 CONCORD, CALIFORNIA

which has a population of about 450. Due east is the City of Pittsburg.

The major public road to Concord Naval Weapons Station is State Highway 4. It cuts through the Inland Area and overpasses two internal Navy roadways in that Area. Twenty-four-hour access to the base for visitors and employees is provided through the Main Gate, off Port Chicago Highway.

Other access roads to the base which are open on a part time basis for employees and military dependents are Willow Pass Road, Bailey Road and Port Chicago Highway. All gates are manned by armed guards when open for entry.

There are other gates to the base used for fire response and land management purposes. Access to these is controlled by the security department. Some locks on gates accessing non-critical security areas are under joint key control with other user agencies like the Contra Costa Water District. There are also gates inside the station that separate secured areas and further restrict movement.

2.2 Facility Operations and Hazardous Waste Management

Concord Naval Weapons Station has an important national role as the Department of Defense West Coast Ammunition Ocean Terminal. To accomplish their mission, a variety of

specialized support facilities are on base. These include two radiographic facilities, missile and ordnance buildings, electrical and analytical laboratories, locomotive and vehicle repair/maintenance buildings.

Hazardous wastes are generated from these support facilities during routine maintenance, testing and packaging of ordnance. Hazardous wastes are also also generated during repair and maintenance of locomotives, vehicles and equipment used to support their operations. Each of those support facilities has a hazardous waste accumulation point or satellite accumulation point at a specific location and has a manager assigned to coordinate the hazardous waste activity with the hazardous waste coordinator at the Environmental and Natural Resource Branch, Department of Public Works.

There are five hazardous waste management units (HWMUs) at the station for which a hazardous waste permit has been requested (Figure 4). These are: 1. Hazardous wastes in drums and containers stored at Building 433. 2. The HWMU for the storage of used oil located at Building IA-12. 3. Used treated wood stored as a waste pile at Building A-29. 4. Crushing of fluorescent tubes at Building IA-46. and 5. Silver recovery from photographic fixer wastes at Buildings IA-58 and IA-22.

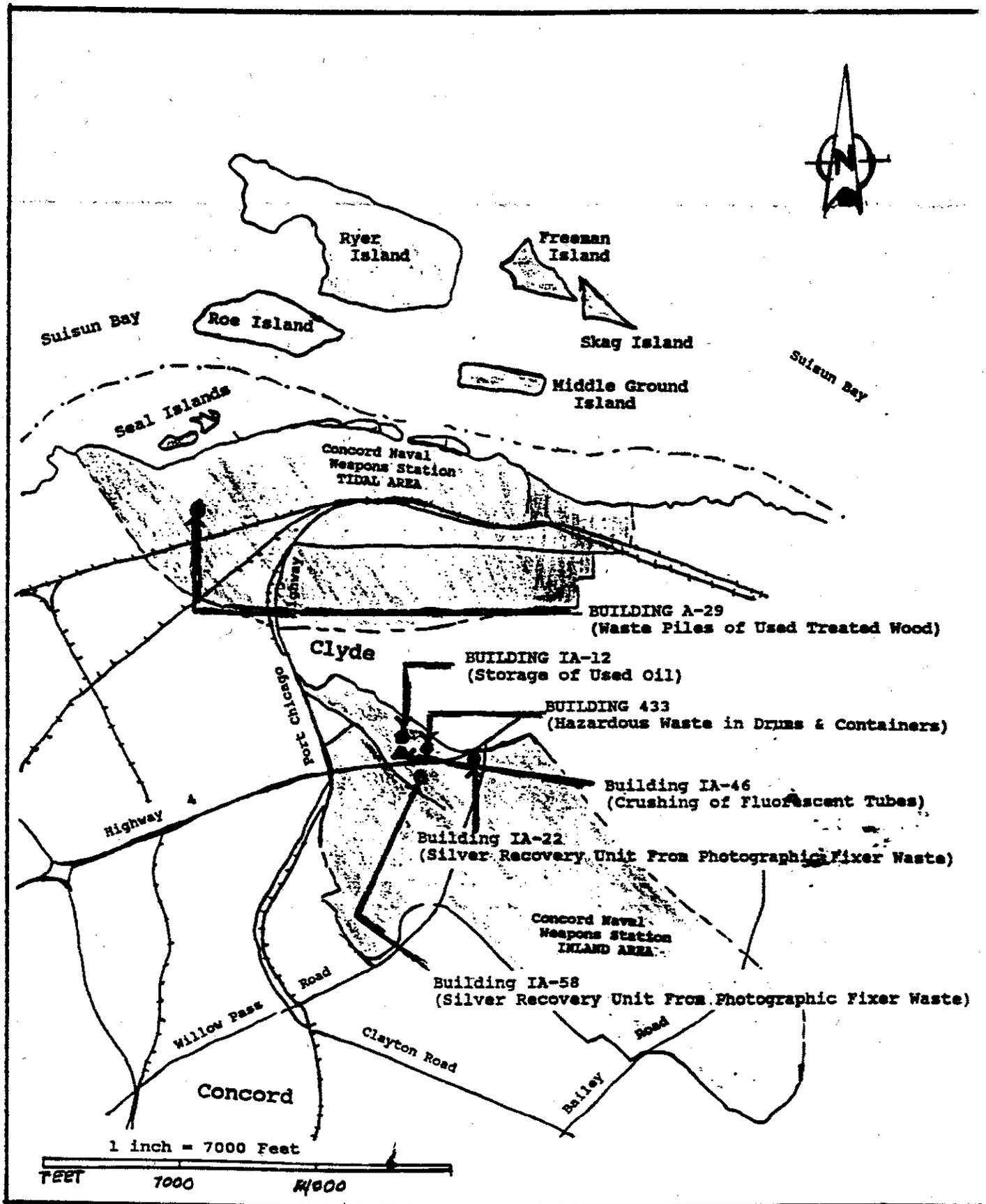


FIGURE 4. CONCORD NAVAL WEAPONS STATION:
LOCATION OF HAZARDOUS WASTE MANAGEMENT UNITS

Building 433 is 100 feet north of Highway 4 while Buildings IA-12 and IA-46 are about 600 feet north of Highway 4.

Building IA-22 is about 1000 feet south of Highway 4. They are located in the Inland Area designated by the City of Concord Planning Department as a Study Zone. According to the City Planning Department, the Station has no specific zoning and it will stay as such during the next 30 years.

Building A-29 is located in the Tidal Area which is within the jurisdiction of Contra Costa County. Much of the area in the Tidal Area is zoned for agricultural and industrial uses. Land use in the vicinity of Concord is shown in Figure 5.

2.2.1 Hazardous Waste Activity

Concord Naval Weapons Station (CNWS) is classified as a medium size facility for storage and treatment of hazardous waste. Most of the waste is generated on site. It also serves as the transfer station for torpedo Otto Fuel waste, classified as reactive (D003). This fuel which originates overseas is transferred to licensed haulers from ships.

The hazardous wastes handled at CNWS consists of solvents used ordnance maintenance like trichloroethene, methanol, xylene, etc, paints, varnish, adhesives, antifreeze, batteries, kerosene, ink, clothing contaminated with arsenic, lead and cadmium and non-RCRA wastes such as used

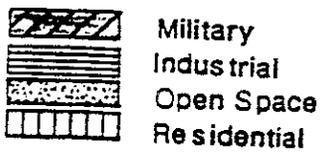
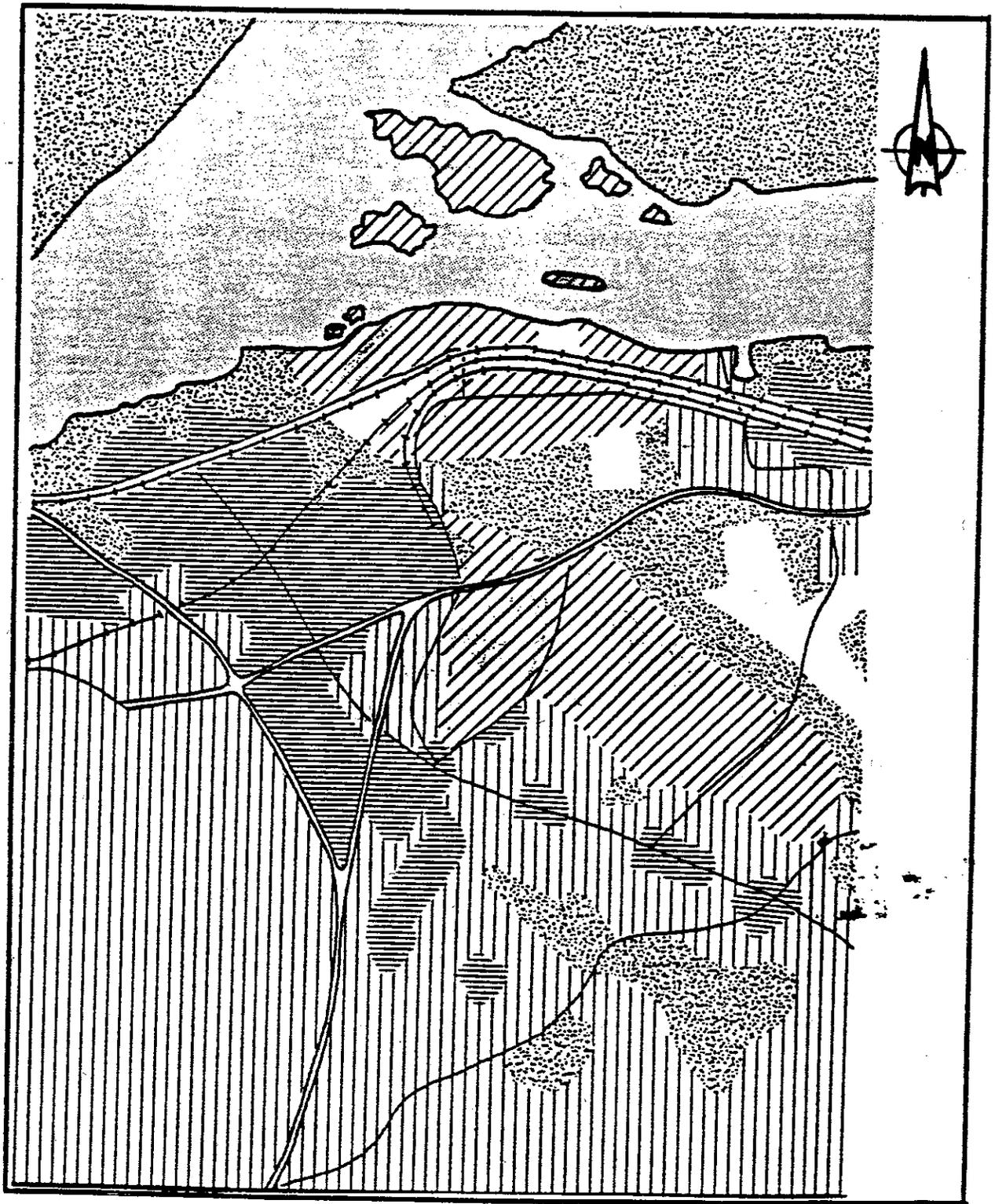


FIGURE 5. LAND USE: CONCORD VICINITY

(From: Draft Master Plan, Naval Weapons Station
Concord, December, 1988)

oil and asbestos. These hazardous wastes from a variety of specialized support facilities are brought by the designated managers to the appropriate hazardous waste management unit for treatment and/or storage prior to shipment to an offsite permitted disposal facility. The management of all hazardous waste activities is coordinated by the Department of Public Works which is responsible for assuring compliance with applicable local, state and federal laws.

The used oil UST at Building IA-12 is single-walled. It is located outside the building within the Public Works compound. The intake receptacle is a sink which is piped to the tank. The sink has a cover and is locked during non-working hours. A sign is posted at the tank which prohibits the storage of used oil with PCBs.

The Station plans to replace this UST with two smaller double-walled above-ground storage tanks which will be located inside the building. The replacement is being planned in order to comply with secondary containment regulations. The proposal for the replacement of the existing UST is included in the updated Part A application dated September 10, 1991.

The Navy base is a small community that generates used fluorescent tubes. To reduce the bulk of the tubes, a

fluorescent tube crusher attached to a 55-gallon drum is located at the east end of Building IA-46 (Photograph #21). This area serves as a satellite accumulation point for crushed tubes. The crusher operates by feeding the fluorescent tube through a cylindrical metal tube attached to a 55 gallon drum. Any particulates from the operation are entrained by a bag attached to the tube crusher's pump. Once the drum is filled, it is transferred to Building 433 prior to disposal at a permitted Class I disposal facility. This is one of the currently active hazardous waste management facilities at the Station.

Minor treatment such as acid neutralization and repackaging occurs at the new HWMU at Building 433. Gloves, coveralls, and pipettes used for sampling are disposable and require no cleaning. Oil catch pans are reusable; the outside of the catch pans are wiped with disposable towels as required. Disposable equipment associated with the management of hazardous waste is handled as hazardous waste. It is stored in drums and containers in Building 433 until shipped to a permitted Class I disposal facility. Loading and unloading associated with waste storage or treatment are done on paved areas adjacent to the storage units being used.

Concord Naval Weapons Station also has an Explosive

Ordnance Disposal (EOD) Mobile 9 Detachment assigned on base to neutralize hazardous explosive ordnance which presents a threat to operations, installations, or personnel. For emergency disposal or for training of EOD personnel, ordnance's fuses are occasionally detonated in table top-sized laboratory oven inside a three-foot thick concrete cells in Building 81. The metal casings are recovered and recycled. Minute amount of gaseous by-products are released to the atmosphere through an exhaust. Because the fuses are rather small and the detonation is doubly confined, the potential for release of contaminants is substantially minimized.

Other ordnance, which is declared surplus, is shipped to other Navy or Army facilities for evaluation where it is reused, reconditioned, or disposed.

2.2.2 Regulatory Status

Hazardous waste activities at the Concord Naval Weapons Station are regulated by seven agencies:

1. *U.S. Environmental Protection Agency (U.S. EPA)*
2. *Cal/EPA, Department of Toxic Substances Control (DTSC)*
3. *San Francisco Bay Regional Water Quality Control Board (RWQCB)*
4. *Bay Area Air Quality Management District (BAAQMD)*

5. Contra Costa County, Environmental Health Division
(CCCEHD)
6. Central Contra Costa Sanitary District (CCCSD)
7. Delta Diablo Sanitation District (DDSD)

The nature and status of regulation by each of these agencies follows:

U.S. Environmental Protection Agency (U.S. EPA) and Cal/EPA, Department of Toxic Substances Control (DTSC) - RCRA/Federal and State

Treatment, Storage and Disposal Facility (TSDF) for hazardous waste: Interim Status Document The original Part A application, dated November 18, 1980, was for the hazardous waste storage area near Building IA-46 and Used Oil Underground Storage Tanks (USTs) at Buildings 178 and IA-12. In July, 1982, the Department (previously within the Department of Health Services) issued an Interim Status Document to the facility. The latest revised Part A application submitted to DTSC and the U.S. EPA was dated March 24, 1992. It covers the five units listed in Section 2.2. The original Part B application (Operation Plan) for Treatment, Storage and Disposal Facility (TSDF) was submitted in January, 1986. The

latest revised Part B was dated October, 1991.

Closure of Hazardous Waste Storage Area near Building IA-46 and Closure of Hazardous Waste Underground Storage Tank (UST) at Building 178: Closure Plan was co-approved by DTSC and U.S. EPA on May 13, 1991. Sampling, analysis and clean-up of the sites have been done. The facility submitted the documentation and certification of closure on March 11, 1992. The regulation on the clean-up of contaminated site is discussed under Section 2.3 below.

San Francisco Bay Regional Water Quality Control Board
(RWQCB) -

Permit Issued: The RWQCB has not considered any permits for wastewater discharges because most site wastewater is discharged to local sewage treatment plants. These plants have RWQCB permits. Some site wastewater is discharged to septic tanks.

Whenever the Navy dredges the pier area, the facility must apply to the U.S. Army Corps of Engineers for a permit. The permit sets conditions for protection of water quality in the Bay as determined by the RWQCB.

Bay Area Air Quality Management District (BAAQMD) - Concord Naval Weapons Station is identified as Plant # 219 by the BAAQMD. The BAAQMD regulates air emissions from identified sources such as Hot Water Boiler, Steam Boiler, Diesel Generator, Fuel Storage, Paint shop, Paint and Cleaning Room, Acetylene Welding, Degreasing, Woodworking Equipment, Cold Cleaner, Spray Booth and Cyclone Dust Collectors. The District also requires that their gasoline service stations at Buildings IA-17 (Inland Area) and A-30 (Tidal Area) have Vapor Recovery Systems as abatement devices.

Between January 1, 1975 and October 30, 1991, Violation Notices (VN) were issued to the Station. Violations included operating solvent cleaners without permits, missing gasket on dustcover, use of paint coating not allowed in District regulations, operating a cyclone without a permit, improper submerged fill on gasoline storage tank, missing toll free complaint telephone number on the instruction signs for the vapor recovery nozzle unit. Violations which needed to be corrected were corrected. Those violations for which the facility had to pay fines were settled.

In January, 1992, a Violation Notice was issued to the Station for not having two poppetted fill pipes from bulk gasoline tanks at Building IA-17. The violation was corrected within 30 days.

Permit Status: The facility's permit application for Acetylene Welding, Paint Spray Booth and Blast Room is now being processed by the District.

Contra Costa County Environmental Health Division (CCCEHD) -

Permits Issued:

1. Permit to operate underground storage tanks and sumps
2. Permit to remove underground storage tanks
3. Permit to construct monitoring wells,

Records on file show that the Concord Naval Weapons Station has a permit to construct monitoring wells around Building IA-6 for the purpose of assessing diesel fuel contamination in groundwater. They also had permits to remove underground storage tanks. They have permits to operate underground storage tanks and sumps. The facility submits a Yearly Tank Testing Report to the County, to comply with this permit condition. Any unauthorized releases (leaks) and contamination from any underground storage tank are also reported by the facility to CCCEHD.

Central Contra Costa Sanitary District (CCCSD) -

Permit Issued: CCCSD Discharge Permit. This permit authorizes the facility to discharge wastewater from the Inland Area to the public sewers subject to compliance with the CCCSD's Source Control/Pre-treatment Ordinance (No.

147) and other requirements. Compliance with other special requirements for spent chemical solutions, wastes from locomotive steam cleaning area, and photoprocessing/X-ray development are specified in the permit. There are locations within the Inland Area's sanitary sewer system where sampling and analysis of constituents referenced in the permit are required during the months of January, May and September.

Delta Diablo Sanitation District (DDSD) -

Permit Issued: Industrial Wastewater Discharge Permit.

Permit No. 0181117-S was issued to the Station authorizing the discharge of wastewater from the Tidal Area to the District's treatment facility subject to compliance with the District's Ordinance No.15. There are locations within the Tidal Area's sanitary sewer where sampling and analysis of constituents referenced in the permit are required two times a year.

2.2.3. Hazardous Waste Permitting History

Concord Naval Weapons Station operates five hazardous waste management units (HWMUs) subject to RCRA and the State permitting requirements. These units are listed in Section 2.2.1. Dates of submittal of Part A and B Applications are listed in Section 2.2.2.

Old HWMU near Building IA-46 - This facility was originally installed in 1981 to store hazardous waste in drums and containers. It was an uncovered storage area of six 10 x 10-foot containment areas lined by plastic, bermed by wood and filled with sand. In June, 1990, all the drums and containers in this HWMU had been disposed properly and the site's use as a hazardous waste storage unit was discontinued.

Used Oil Underground Storage Tank (UST) at Building 178 - The used oil UST located at Building 178 was installed in 1969. It is made of steel and had a single wall. The maximum volume of used oil stored at any given time in the tank was between 280 and 500 gallons. Its use for storage of used oil was discontinued.

The Closure Plans for the old existing HWSU near Building IA-46 and the used oil UST at Building 178 were co-approved by the Department of Toxic Substances Control (DTSC) and the U.S. Environmental Protection Agency (U.S. EPA) on May 13, 1991. Their use as hazardous waste storage units was discontinued because neither unit complied with State and Federal regulations on secondary containment. A proposed Negative Declaration, State Clearinghouse (SCH) # 91023065, was filed by Department of Toxic Substances Control (DTSC) with the State Clearinghouse in Sacramento to

comply with the California Environmental Quality Act (CEQA).

The closures of these two HWMUs have been done according to the approved Closure Plan. On March 11, 1992, the facility submitted the documentation and certification of closure to DTSC and U.S. EPA for review and acceptance.

Building 433 replaced the old storage yard which has recently been closed. The HWMU at Building 433 began operation in July, 1990. Approval to use the new HWMU at Building 433 was co-approved by DTSC and U.S. EPA in June 1990 in order for the facility to comply with the State and Federal requirements regarding containment.

2.2.4. Surveillance and Enforcement History

A facility inspection was conducted by Cal/EPA, Department of Toxic Substances Control on March 20, 1991. Violations were observed and a determination of violations and schedule of compliance were sent to the Station on July 15, 1991. There were 14 violations which included inadequate labeling, inadequate aisle space, incomplete information in the manifest, lack of weekly inspections, lack of date and nature of repairs in the inspection record, mismanagement of containers and inadequate emergency systems. Most of these violations were found on hazardous waste satellite accumulation areas. Some were found at Building 433 and

Building IA-12. A total penalty of \$38,000 was levied. However, an out of court settlement was reached between the Department and the Navy and an administrative fee of \$6,100 was paid to the Department to close the case.

2.3 Site Contamination

Past hazardous materials storage, transfer, processing and disposal practices by the Navy, former landowners and adjacent private industries have contributed to the contamination at the base. The nature and extent of that contamination is being evaluated under both Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The area being handled under CERCLA is shown in Figure 6. All other contamination was investigated under this RFA.

Site contamination of parcels of land in the eastern half of the tidal area may have been the result of private industrial activities unrelated to the ammunition transshipment operations. The Navy acquired these parcels between 1969 and 1970 to create a buffer zone. These parcels are among those in the CERCLA sites designated as Litigation Area Sites. These CERCLA areas of suspected or known contamination are not associated with the current RCRA operations.

Figure 6

This detailed station map has been deleted from the Internet-accessible version of this document as per Department of the Navy Internet security regulations.

In a program similar to U.S. EPA's Superfund program, the U.S. Congress established a separate fund for federal facilities to respond to existing hazardous waste problems. Through this program, the Navy began its environmental investigation of the Station on August 3, 1982 to assess, identify and control environmental contamination. This environmental investigation was done under the Navy's Installation Restoration Program (IRP) activities to determine if potentially contaminated sites existed on the Station's property. Results of their investigation were reported in the WPNSTA Concord Initial Assessment Study (IAS), published in June, 1983.

The IAS collected and evaluated information on many different sites where hazardous wastes were alleged to have been disposed or spilled. This study and subsequent action identified a total of 20 potentially contaminated sites (Some sites have two or more individual sub-sites). All 20 of these sites are under investigation through CERCLA. These sites have been grouped under three designations (Table 2 and Figure 6), namely: (1) Inland Area Sites [All sites are located in the Inland Area with the exception of IAS Site #8 (Ryer Island) which is located in the Tidal Area], (2) Tidal Area Sites and the (3) Litigation Area Sites (located in the Tidal Area).

Environmental investigations at these three groups of sites are proceeding on separate schedules. The Department of Toxic Substances Control, Site Mitigation Branch, acts as the lead agency for the Inland Area Sites. Work plans for the remedial investigation in the Inland Area Sites, which consist of twelve individual sites, were finalized in December, 1989.

The Regional Water Quality Control Board (RWQCB) acts as the lead agency on Tidal Area Sites. Work plans for the remedial investigation of the four individual sites in this group were finalized in March, 1989. Chemical analysis, clam bioassays and surface water sampling have been performed during alternating dry and wet seasons. In January, 1990, twenty three (23) ground water monitoring wells were installed. A report is tentatively scheduled for completion in 1992.

The U.S. EPA is the lead agency for regulatory oversight of the Litigation Area Sites. The clean-up measures for the Litigation Area Sites are currently under way. There are four remedial action sub-sites (RASS) and 6 individual sites in this group. The design for the clean-up and the post clean-up monitoring of this group are nearly finalized.

Because these three regulatory agencies (DTSC, RWQCB and

EPA) are committed to pursuing corrective action on these CERCLA sites, these sites have not been evaluated in this RFA.

As discussed earlier, there are two hazardous waste management units (HWMUs) that have been closed under an approved RCRA and State Closure Plan. They are: an old storage area near Building IA-46 and a used oil underground storage tank (UST) at Building 178.

Old HWMU near Building IA-46 - (See also discussion under "Hazardous Waste Permitting History" above). The containment structure was made of earth and plastic and the whole storage area was unpaved. Hazardous waste stored at this unit consisted of paints, varnish, adhesives, antifreeze, batteries, solvents and clothing contaminated with arsenic, lead and cadmium, kerosene and ink. The waste was periodically shipped to a permitted disposal site using a licensed hauler who averaged 4.1 tons of hazardous waste per shipment. The amount of hazardous waste stored in drums and containers at this HWMU in 1989 was 31.5 tons. The estimated maximum inventory at any given time at the existing HWMU was 10,560 gallons (44 tons).

Used Oil Underground Storage Tank (UST) at Building 178 -
(See also discussion under "Permitting History" above.)

From 1987 until 1989, precision testing was performed yearly on the tank to determine if leakage was occurring. All the results prior to 1989 indicated that no leakage was occurring. In 1989, a leak was detected at the steel vent pipe. In the process of excavating the tank piping for repairs, the upper surface of the tank was punctured by the backhoe. Following this episode, the remaining fluid was pumped out and the tank's use was discontinued. This UST was closed because it had been damaged and did not comply with State and Federal regulations regarding containment.

Both of these HWMUs have been clean closed. Therefore, no corrective action will be needed.

The history of complaints and/or violations are as follows:

- a. In 1947, 11 head of cattle that had wandered onto the station through an open gate allegedly died of sodium arsenate poisoning. The property was believed to have been sprayed with this insecticide for termite control.
- b. In 1966, an agricultural lessee complained of poisonous chemicals being spilled into a drain which flowed into his cattle grazing area. The Department of Public Works acknowledged that chemical wastes from the pesticide shack had been disposed into an adjacent gutter

on D Street which drained to the area in question. This release was used to justify the subsequent installation of the drain from the shack to the sewer system. The Navy claims that this situation was corrected. We have found no information which would refute their claim.

- c. In 1968, the station received a cease and desist order from the Central Contra Costa Sanitary District for excessive chromium, cadmium and chemical oxygen demand in the stations sewage effluent. The problem was immediately rectified.
- d. In 1979, a major oil spill at the Tosco Oil Refinery polluted the Concord Naval Weapons Station marshlands. Approximately, 2,000 gallons of oil entered the marsh. Tosco cleaned up the spill.
- e. In 1978, the station received a cease and desist order from the Central Contra Costa Sanitary District due to excessive chemical oxygen demand, chromium and cadmium in the station's sewage. This problem was rectified immediately.
- f. On October 3, 1991, the station received a Notice of Violation # 1036 from the Central Contra Costa Sanitary District for discharging acetone and Freon into the sink

in Building IA-22 (Rm 12) and discharging battery acid into the shower drain in Building IA-12. Corrective measures were taken for those violations.

3. ENVIRONMENTAL SETTING

The Concord Naval Weapons Station is the largest ocean terminal on the West Coast for the transshipment of explosive ordnance. It is flanked by sandstone hills on the south and a broad expanse of delta on the west, north, and east. This part of north-central California is often referred to as the gateway to the Delta.

The Station stands on the site where the Pacific Coast Shipbuilding Company used to be located. The original name of the area was Bay Point. In 1927, it was chosen by the Navy to be the site for the naval ordnance operations because of its remoteness from populated areas and the presence of three major rail lines. In January, 1942, construction on the waterfront handling facilities began. The name Bay Point was changed to Port Chicago. Since then, more land in the Diablo Creek Valley was acquired which was linked to the Tidal Area by Port Chicago and Clayton Railroad.

On July 7, 1944, an explosion of a munitions ship rocked Port Chicago and the surrounding area. This explosion was the largest state-wide disaster of World War II. Two ships and

a pier were destroyed and 320 persons were killed. Many of the residents of the town of Port Chicago were injured and several buildings were heavily damaged.

The threat of another explosion kept the population of Port Chicago low. To protect the civilian population, the Navy undertook a program to develop an uninhabited safety zone between the explosive handling piers and the populated areas.

Public Law 90-110 was passed by Congress in 1967 giving the Navy the authorization to acquire all land within a two-mile radius of the loading piers. In 1968, the town of Port Chicago was bought by the U.S. Government, then torn down to provide the safety zone. The adjacent town of Nichols was also purchased between 1968 to 1972. These two town sites are now part of the Station. The residents and businesses have been relocated.

3.1 Surrounding Area (See Figure 7)

The City of Concord developed adjacent to the Station. Housing subdivisions, schools and commercial sections face the station on its eastern and southern boundaries.

Concord Municipal Golf Course, Northern Pacific Railroad and light industrial areas are located within 2000 feet to the west of Building 433, one of the hazardous waste management

Figure 7

This detailed station map has been deleted from the Internet-accessible version of this document as per Department of the Navy Internet security regulations.

units being considered for a permit. Three and a half miles southwest from the facility boundary are Sun Terrace School and residential areas. Memory Gardens Cemetery and Mallard Reservoir are similar distances to the southeast. Holbrook Heights School is located 4 miles southwest of Building 433. Monte Garden School and other residential areas are five miles southwest of Building 433.

The small community of Clyde, with a population of about 450, lies between the Tidal Area and the Inland Area. Another small residential area named Shore Acres is located to the east of the Station's Tidal Area and north of the hills. A privately owned parcel of land belonging to General Chemical Corporation and the Chemical Pigments Company lies within the Tidal Area.

3.2 Meteorology

The climate in this area is characterized by westerly winds that come through the Carquinez Strait from San Francisco Bay. These westerly winds are minimal from November through February and dominant during the summer months. This prevailing wind has a significant impact on the microclimate of the Station and the vicinity.

Summer months in Contra Costa County are normally warm and dry while the winter months are moderately rainy. The mean

annual precipitation is 15.4 inches with 84% of the rainfall occurring between November and March. The one year 24 hour precipitation recorded in 1986 was 2.13 inches. Rainfall varies from 13 inches in the eastern portion of Contra Costa County to more than 30 inches on the upper slopes of Mt. Diablo. Snow does not usually occur.

Average temperatures in the area vary from 45 degrees Fahrenheit in January to 75 degrees Fahrenheit in August. The highest temperature of 106 degrees Fahrenheit was recorded in August, 1960; the lowest temperature of 16 degrees Fahrenheit was recorded in December, 1972. The average frost free season is 265 days in a year. Countywide, the mean annual temperature is 59 degrees Fahrenheit.

3.3 Topography

Elevations at the Concord Naval Weapons Station range from just below sea level in the Tidal Area to 800 feet above sea level along the northern boundary of the Inland Area. When the weapons station was constructed a large portion of the marshland was modified by the addition of fill material. Almost all existing facilities at the Tidal Area were built on this fill. The western half of the Inland Area is characterized by gentle slopes designated as colluvial slope. The northeast boundary of the Inland Area is a steeply sloping terrain which begins at 100 feet above sea

level and rises to over 800 feet. These hills are composed of soft sandstones which is poorly suited for construction.

3.3.1 Geology and Hydrogeology

Typical of the geology of Contra Costa County is the up-thrusted bedrock feature which separates the Inland and Tidal areas. The up-thrown blocks form the hills and the down thrown blocks form the valleys.

The Station lies within the Mt. Diablo-Seal Creek Watershed. This watershed is bounded on the south by the north peak of Mt. Diablo and on the north by Suisun Bay. Streams that drain the watershed have their headwaters on the slopes of Mt. Diablo and flow by way of Mt. Diablo Creek through Clayton Valley and the weapons station to the outlet at Suisun Bay. Mount Diablo Creek is known as Seal Creek throughout its length on the weapons station.

Records show that flooding occurs in the watershed almost every year. Flooding occurs on the Concord Municipal Golf Course, the entrance to the weapons stations, Port Chicago Highway and the tidal marsh.

The soil under Building 433, one of the hazardous waste management units is made up of hard, brown to dark brown clay. The depth of groundwater at Building 433 is greater

than 20 feet. The site where this HWMU is located is outside the 100-year floodplain.

The Station is located in the seismically active San Francisco Bay Region. The closest active fault is the Clayton Fault. It runs along an extended path that is about 2,200 feet west of Building 433. The Concord-Green Valley Fault, the next closest fault, is one and a quarter miles west of Building 433. Since 1934, over 200 minor earthquakes have been reported in Contra Costa County.

No faults or lineations which had a displacement in Holocene time pass within 200 feet of any portion of existing or closed storage facilities.

3.4 Surface Waters

The nearest surface water is Suisun Bay to the north. Contra Costa Canal and Clayton Canal are aqueducts that run along the Naval Reservation portion of the Inland Area. Contra Costa Canal and Mt. Diablo Creek (Seal Creek) pass through the southwestern part of the Inland Area near the bunker or munition storage area. A deep water shipping channel extends from San Francisco Bay to the station and further east, up the Sacramento River to Sacramento and to the Port of Stockton via the San Joaquin River.

3.5 Springs and Well Water

There are moderate amounts of groundwater in the unconsolidated formations and bedrock on the weapons station's Inland Area. Two wells irrigate the Golf Course. Six wells are used for wildlife and cattle; two ponds are filled by two of the wells. There are also two springs used for wildlife and cattle. One spring at a former ranch house site had been capped. In the Inland Area, there are fourteen abandoned wells.

Several wells in the industrial complex area to the west are used primarily for process and cooling water. A series of wells surrounding Mallard Reservoir to the west are used for water supply. The owner of the Mallard Reservoir, the Contra Costa Water District, uses groundwater to augment the normal aqueduct supplies of drinking water to the reservoir during periods of drought.

There is one remediation well at Building 1A-6. Just outside the boundary of the Inland Area, there is one well used by the Concord Police for potable water and another well used for cattle drinking water.

In the Tidal Area, there is one water well currently owned and used by Allied Chemical Company. There are numerous abandoned residential water wells in the former town

of Port Chicago. In addition, there are four abandoned wells in the former town of Nichols.

3.6 Gas Wells/Reservoir

On the Station, there are natural gas wells owned and operated by Chevron U.S.A. In an off site location between the Tidal Area and the Inland Area, Pacific Gas and Electric Company operates an underground natural gas storage facility known as Los Medanos Reservoir.

4. SOLID WASTES MANAGEMENT UNITS (SWMUs)

Forty nine sites were identified at which hazardous waste release has been documented or at which such a release could have occurred. The nature of activities, the history of releases which did or could have occurred and the status of corrective actions are discussed below for each of these sites.

SWMU # 1. Building IA-6 (Boiler House, Inland Area)

Description of Activities

Building IA-6 is a Boiler House also called the miscellaneous utility plant building. It supplies heating to some structures in the Inland Area (Photograph #1). It houses three steam boilers which are now fired by natural gas.

The three boilers used to use diesel fuel from an underground storage tank near the building. On September 4, 1991, during the visual site inspection, a mound of soil was noticed at the back side of the building. Half of the mound was partially covered by a plastic sheet while the other half was exposed to the weather (Photographs #2, 3 & 4). Sampling wells were also noticed around the building (Photographs #5 & 6).

At the back of the building, there was a grease and sand trap (Photograph #8 & 9) to prevent oil and mechanical debris from going to the sanitary sewer system. This trap is inspected and

cleaned every three months as required by their wastewater discharge permit from the Central Contra Costa Sanitary District.

History of Releases

The release of contaminants allegedly happened in September, 1987 when repair work was being done on the 10,000 gallon diesel fuel underground storage tank (UST). Water entered the tank while the lid was off causing the tank to overflow. An estimated 1900 gallons of diesel fuel overflowed.

Status of Corrective Actions

In 1989, this UST was excavated under the lead of the Contra Costa County Environmental Health Department. Investigation reports show that the soil was contaminated with 940 ppm of total petroleum hydrocarbon. Diesel fuel was also found in the groundwater. To monitor the groundwater, remediation wells were installed. Records on file at the Contra Costa County Environmental Health Department show that the Station applied for a permit to construct 2 monitoring wells near Building IA-6 (Permit NOS. 89-0447 and 89-0448).

About 80 cubic yards of contaminated soil was excavated but left on the observed mound. The facility provided the information on these activities to the Regional Water Quality Control Board (RWQCB). No clean-up and abatement order for the contaminated soil and groundwater was issued to the facility. No other

corrective action has been taken.

According to the Navy, remediation is planned on this contaminated soil and groundwater. The latest investigation report was completed in February, 1991 and the design to implement the final remediation is about to begin.

SWMU #2. Building IA-7 (Shallow Burn Pit south of the Firehouse House, Inland Area)

Description of Activities

Building IA-7 is a Fire Station. Between 1969 and 1973, practice burns, using fuel oil and napalm, were conducted twice a year in a shallow pit located south of the Fire Station (Photograph #10).

Extinguisher chemicals used included potassium chloride, sodium chloride, ammonium phosphate and potassium carbonate. Between 1969 and 1973, residues of these chemicals were scraped off the ground and disposed in the Seal Creek bed which runs just south of the fire station. Since 1973, these burns have been conducted in shallow metal pans and chemical residues have been contained within the pans and disposed at approved sites.

A location near Building IA-7 is one of the satellite accumulation points for hazardous waste. The hazardous waste is held in drums near a yellow metal shed adjacent to the station (Photo-

graph #11 & 12) until delivery to Building 433, a hazardous waste storage facility.

History of Releases

People who have worked at the fire station affirmed that the burning of napalm and dumping of residue at this burn pit were done in the past. It is suspected that the area of the burn pit down to the creek might be contaminated.

Status of Corrective Actions

No corrective action has been undertaken.

SWMU #3. Building IA-8 (Explosive Ordnance Disposal Detachment Building, Inland Area)

Description of Activities

Building IA-8 is an office building that provides personnel support for the Explosive Ordnance Disposal (EOD) Detachment. Occasional painting of office equipment is done generating a few used paint spray cans. The small amount of hazardous waste generated is pooled and taken to Building IA-12. No hazardous waste was observed at Building IA-8 during the site visit.

History of Releases

No history of releases was found at this location.

Status of Corrective Actions

No corrective actions are needed at this site.

SWMU #4. Building IA-10 (Print Shop, Inland Area)

Description of Activities

Building IA-10 is an administration office where the Print Shop was located. Activator, which became hazardous waste, was used for the copying machine. At the time of the site visit, the copying machine that generated the waste had been removed. This building does not now generate hazardous waste.

History of Releases

No history of releases were found for this location.

Status of Corrective Actions

No corrective actions are needed at this site.

SWMU #5. Building IA-12 (Locomotive Repair Shop, Inland Area)

Description of Activities

Building IA-12 houses the Locomotive Repair Shop where the maintenance of approximately 1,100 pieces of automotive, construction, railroad and weight handling equipment is conducted.

There are various locations in Building IA-12 where hazardous

waste is generated and accumulated. A locomotive and rail car steam cleaning pad is located west of Building IA-12 (Photographs #13 &14). The records show that it was installed in 1944 to collect oily wastes into a sump. The sump is single-walled, 6 inches thick concrete with a 200-gallon capacity (Sump Container No. IA-12B). It has an oil-water separator. It is periodically cleaned by a contractor by pumping the oil to a vacuum truck. The water is discharged to the sewer system with the approval of the Central Contra Costa Sanitary District.

Battery maintenance and recharging was done at the northeast corner of Building IA-12. Water was added to batteries that were low in liquid. This procedure has been discontinued in early 1992. Batteries are recycled and are accumulated at the northeast corner outside Building IA-12 (Photograph #15). This area serves as a satellite accumulation point for these batteries. Approximately 40 automotive batteries are disposed or recycled annually. In the past 12 years, an estimated 24 locomotive batteries have also been disposed from this facility. Building IA-12 is also used for locomotive equipment repair and maintenance. (A locomotive uses about 250 gallons of oil.) An underground storage tank (UST) for used oil is provided outside and west of the building. An improvised sink on the outside platform delivers the used oil to the UST (Photographs #16, 17 & 18). This UST is included in their State and Federal permit application.

A 55 gallon antifreeze hazardous waste drum was seen west of Building IA-12, in the same vicinity as the used oil UST, (Photograph #19). This area also serves as a satellite accumulation point for oil filters and used paint spray cans.

History of Releases

There is no known history of releases of hazardous waste at or around this site. However, there are oil stains around the paved area where the used oil UST is located.

Status of corrective Actions

No corrective action has been undertaken.

SWMU #6. Building IA-15 (Automotive Vehicle Maintenance Division, Inland Area)

Description of Activities

Building IA-15 houses the Automotive Vehicle Maintenance Division, Public Works Shops and an Administrative Office. The Facilities Maintenance Division, commonly known as Shops Division, includes the paint, auto, machine, electrical and pest control shops. This division operates all the utility systems and provides all maintenance services and support to tenants at the weapons station.

Hazardous waste from the paint shop includes solvents, used paint

spray cans and paint. It is estimated that the paint shop generates approximately three drums of solid hazardous waste per year.

Originally, 15 to 20 painters were responsible for most of the interior and exterior painting at the Naval Station. In the past, most of the paints used were oil based resulting to exteriors potentially containing lead. For all waste paints, thinners and cans, the Tidal Area Landfill reportedly became the dumping site. By early 1960s, paint shop personnel started to use latex based paints which significantly reduced the use of lead containing paint. Wastes generated by the paint shop in the early 1980s, were discarded in a dumpster for pick-up and disposal by an approved contractor. Latex paint wash water was reportedly poured directly into the sewer system.

In the late 1960s, personnel were reduced to only three painters who were responsible for touch-up, repair and minor interior finishing work. Major painting jobs are now performed by contractors who are responsible for the clean-up and disposal of all hazardous waste which they generate.

Hazardous wastes generated by the electrical shop are made up of solvents and lubricants from repair of electrical equipment. Building IA-15 also serves as a hazardous waste satellite accumulation point for ballasts from the lighting system.

The auto shop of Building IA-15 serves as a hazardous waste satellite accumulation point for oil filters, oil, antifreeze and paint spray cans. During the site visit, an aboveground used oil drum storage tank was noted inside the building.

The machine shop in Building IA-15 is also a hazardous waste satellite accumulation point for used paint spray cans and rags.

The Pest Control Shop was responsible for insect and rodent control at the station as well as vegetation control along streets, sidewalks, and buildings. Methyl bromide and poison bait were used in the 1960s and 1970s to control ground squirrels and other rodents. Since 1980, contractors are used to perform large scale vegetation control along roadsides and railroad tracks. They reportedly use Roundup, Oust and Karmex. Dursban, Tempo and Diazinon are used mainly for insect control.

Contractors mix chemicals according to label instructions. Empty cans are triple-rinsed and the rinsings are placed in the spray tanks for use on soil. Rinsed cans then became suitable for disposal as non-hazardous solid waste.

History of Releases

There are no known releases of hazardous waste to the environment at this site.

Status of Corrective Actions

No corrective actions have been conducted or are needed at this site.

SWMU #7. Building IA-16 (Public Works Shop and Auto Vehicle Maintenance Division, Inland Area)

Description of Activities

The Transportation Division has a paved fenced area outside the building where the motor pool vehicles are parked. Four underground storage tanks are under this paved area (two 10,000 gallon for gasoline and two 10,000 gallons for diesel fuel. Inside Building IA-16, there is also a paint shop and a paint locker. A satellite accumulation area for waste paints and thinners is located near the storage shed at the back of the building (Photograph #20). Leftover paint from one and five gallon cans is drained into a 55 gallon drum. Empty paint cans are allowed to dry and then disposed as non-hazardous waste at a municipal trash bins (California Code of Regulations 66621.7).

History of Releases

Through routine level and volume checks station personnel reported that no leaks have ever been detected in the underground tanks. Leak tests of underground storage tanks are done annually and reported to Contra Costa County Environmental Health Department. Small spills (one to two gallons) have occasionally

occurred at the station. These spills were confined to the immediate area of the asphalt pad where they were contained and cleaned up. Reportable spills are recorded and reported as required by the regulations. Some wet surfaces at the satellite accumulation area were noted during the site visit (Photograph #20).

Status of Corrective Actions

No corrective actions have been undertaken.

SWMU #8. Building IA-20 (Chemical Laboratory, Inland Area)

Description of Activities

Building IA-20 is a Chemical Laboratory for testing the hydraulic fluids for guided missiles. It is also used in the development of new weapons test methods. Hazardous wastes generated include acids, bases, Freon 113 (Genesolv D), denatured alcohol, mineral spirits and oils.

History of Releases

We were told that occasionally, a small amount of laboratory waste is dumped into the sink which drains to the sanitary sewer system. The land behind Building IA-20 is a site being considered under CERCLA. The inside of the laboratory, however, looks tidy.

Status of Corrective Actions

No corrective action has been conducted or is needed in the laboratory.

SWMU #9. Building IA-21 (Material Test Laboratory, Inland Area)

Description of Activities

The Weapons Quality Engineering Center (WQEC) material test laboratory is located at Building IA-21. Non-destructive tests which include chemical, environmental and metallurgical tests are conducted on weapons materials. Tests on the structural integrity and dynamics of ordnance casings, shells and missiles are also performed. Hazardous waste generated includes hydraulic test fluids. Steel, brass casings and aluminum are recycled. About 100 pounds per year of these recyclable metal wastes are generated.

Testing equipment includes humidity test ovens and salt deterioration testing cabinets. Saltwater (20% NaCl) is the liquid waste generated. It is disposed into the sanitary sewer system.

The Material Test Laboratory also utilizes sealed radiation sources which are periodically leak tested. If the leak test produces a positive reading, the source is secured and returned to the manufacturer. This has occurred only two or three times

since 1958. All leak-test swabs are analyzed and disposed offsite by the contractor performing the task.

Another source of radiological materials is depleted uranium from the disassembly of 20-millimeter penetrators. The laboratory handles approximately 130 penetrators per year, generating approximately two 55-gallon drums of low-level radioactive wastes in the past five years. All materials coming into direct contact with the bare metal, including gloves and water from the ultrasonic baths, have been stored in 55-gallon drums. These low level radioactive wastes are shipped to the Navy Supply Center-Oakland for transfer to an off-base disposal contractor.

This material test laboratory has not been used much since 1976.

History of Releases

No known releases were noted at this facility.

Status of Corrective Actions

No corrective action has been conducted or needed.

SWMU #10. Building IA-21A (Evaluation Laboratory, Inland Area)

Description of Activities

Building IA-21A is an Evaluation Laboratory that does sophisticated electronic testing on microcircuit components. This

building serves as a hazardous waste satellite accumulation point for chemicals, oil, paint spray cans, coolant and rags.

History of Releases

No known history of releases was noted at this site.

Status of Corrective Actions

No corrective action is needed.

SWMU #11. Building IA-22 (Photography Laboratory, Inland Area)

Description of Activities

The Weapons Quality Engineering Center (WQEC) photography laboratory has been located in Building IA-22 since 1955. Both black and white and color films are developed. About one gallon of hazardous waste is generated per week. This includes Kodak "Ektaflo" fixer, Hunt Graph-O-Lith Developer, and aluminum hydroxide. This waste is hazardous only because of its silver metal content.

This facility has a small silver metal recovery unit in which all exposed film and fixer waste is collected and processed. This unit does not have secondary containment. The fixer wastes are combined with the starter and developer wastes, diluted to 1:600 parts of water and discharged to the sewer system with the approval of the Central Contra Costa Sanitary District.

Currently, fixer wastes are collected and disposed as hazardous waste. They are no longer discharged to the sewer due to the inability of the unit to recover silver efficiently and meet the regulatory limit of 1 ppm silver.

History of Releases

Suspected releases were noted at this site. However, since the unit is on the floor and does not have secondary containment, releases of contamination to the drain is very likely.

Status of Corrective Actions

No corrective action is needed. Since silver recovery is considered treatment, the facility was informed of the need to have it included in the permit application. It is now included in the March, 1992 Part A application.

SWMU #12 Building IA-24 (Forklift Maintenance Building, Inland

Area)

Description of Activities

Maintenance of forklift equipment is done at Building IA-24. Some of the hazardous wastes generated are used oil, absorbent materials soaked with oil, used paint spray cans from touch-up painting jobs and batteries which are recycled. The building has a satellite accumulation area for these wastes.

According to records, Building IA-24 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

Except for occasional small spill of used oil on paved working area, no other releases were noted in front of the building. The land behind the building, however, is a site being considered under CERCLA.

Status of Corrective Actions

Due to the nature of operations in this building and the use of a septic tank to receive wastes, there is a possibility that hazardous waste may have leached into the soil from the septic tank system.

SWMU #13. Building IA-25 (Missile Component Maintenance, Inland Area)

Description of Activities

Building IA-25 used to house the missile component maintenance operations until 1988. Ordnance reconditioning such as painting and labeling was done at this building. Paint spray cans and solvents were among the hazardous wastes generated. This facility is no longer in use; the building is locked.

According to records, however, Building IA-25 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was noted from this building.

Status of Corrective Actions

Due to the nature of operations in this building and since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from septic tank system.

SWMU #14. Building IA-27 (Carpenter Shop, Inland Area)

Description of Activities

Building IA-27 used to house the carpenter shop. Carpentry works often used paints and thinners. It is now a storage building for the furniture of Marines housed on base.

According to records, however, Building IA-27 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was noted from this building.

Status of Corrective Actions

Due to the nature of operations in this building and since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system.

SWMU #15. Building IA-41 (Paint Storage Shop, Inland Area)

Description of Activities

Building IA-41 was used as a paint storage shop in the Inland Area. According to records, this building has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was noted from this building.

Status of Corrective Actions

Due to the nature of operations in this building and since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system.

**SWMU #16. Building IA-46 (Public Works Maintenance Storage,
Inland Area)**

Description of Activities

A storage shed for accumulation of asbestos waste is located at

the west side of Building IA-46 (Photograph #22). Friable asbestos is stored in drums. These drums are disposed at a permitted Class II disposal facility.

Non-friable asbestos pipe, used for minor repairs, is also stored near the shed (Photograph #23). The tube crushing operation, described earlier, is also located in this building.

History of Releases

Suspected releases of asbestos from packing operation in drums and releases of mercury vapors from tube crushing operation were noted at this site.

Status of Corrective Actions

No corrective action is needed.

SWMU #17. Building IA-50 (Rail/Truck Transfer Depot, Inland Area)

Description of Activities

The rail/truck transfer depot at Building IA-50 structure is similar to an end of a railroad station. Both sides of the building have a platform leading to a spur railroad track. The platforms and the spur railroad tracks were used to transfer ordnance from rail to truck and vice versa. Currently, Building

IA-50 is not being used. The central warehouse structure is locked.

Six years ago, Building IA-50 was used as a transfer station for ordnance materials. Often, packages of ordnance materials had to be broken down and repackaged inside the building. Ordnance had to be labeled using stencil and paint spray cans. Hazardous wastes generated at that time were the used paint spray cans.

According to records, Building IA-50 has sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was found for this site.

Status of Corrective Actions

Since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system. No corrective action has been undertaken.

SWMU #18. Building IA-51 (Vehicle Maintenance Facility, Inland Area)

Description of Activities

Building IA-51 housed the vehicle maintenance facility. A steam cleaner is also in this building. This was used in the past for

light steam cleaning of locomotives. It is no longer used. Oily waste drained directly into a sump (Container No. IA-51). The oil was pumped out by a contractor's vacuum truck and the sump was periodically cleaned by the contractor. The water was discharged to the sewer system with the approval of the Central Contra Costa Sanitary District.

The records show that the sump was installed in 1945 to collect oily wastes. It is made of concrete, 6 inches thick and has a capacity of 40 gallons.

Adding or changing antifreeze was also part of vehicle maintenance. Until the early 1960's, antifreeze was typically spilled onto the ground and into the storm drains.

History of Releases

Approximately 5 years ago, chromates were detected in Seal Creek. These were traced back to zinc chromate rust inhibitor that was added to engine antifreeze which was typically dumped onto the ground and into the storm drains. The use of zinc chromate in antifreeze has been replaced by a biodegradable rust and scale inhibitor.

Status of Corrective Actions

No corrective action has been undertaken.

SWMU #19. Building IA-54 (Electric Substation, Inland Area)

Description of Activities

Building IA-54 serves as an electric substation. It houses the electrical transformer that steps power down to distribution voltage levels. This transformer does not contain PCB.

History of Releases

According to Al Petersen, the naval base does not have any more PCB containing or PCB contaminated (over 50 ppm PCB) transformers. There is no known history of releases at this site.

Status of Corrective Actions

No corrective actions are needed.

SWMU #20. Building IA-55 (Ordnance Operations Building, Inland Area)

Description of Activities

Building IA-55 is an office building where tools are issued and supplies are recovered. New materials are locked in the nearby shed (Building 422). Hazardous wastes generated include used paint spray cans and adhesives. The building serves as one of the hazardous waste satellite accumulation points for used paint spray cans.

According to records, Building IA-55 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was noted at this facility.

Status of Corrective Actions

Due to the nature of operations in this building and since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system.

SWMU #21. Building IA-58 (X-ray Building, Inland Area)

Description of Activities

The Weapons Quality Engineering Center (WQEC) Scientific and Engineering Division operates two X-ray facilities: one at Building IA-58 at NWS Concord and the other at its Pittsburg facility. The station's industrial X-ray unit was housed in Building IA-58 until 1958, when it was moved to its present Pittsburg location. A new X-ray unit was built at Building IA-58. The X-rays are generated electrically and produce no radiological wastes.

Photographs of the X-rayed ordnance are taken and films developed. Approximately 10 quarts of hazardous wastes are generated daily. These includes film developers, fixers, and starters.

This waste is hazardous because of the concentration of silver metal. Silver, however, is extracted from all fixer wastes using Tandem 200 (by Accu Tech). After silver is recovered, the fixer wastes are diluted to 1:600 parts of water and discharged to the sewer system with the approval of the Central Contra Costa Sanitary District.

At the present time, fixer wastes are no longer discharged to the sewer due to the inability to meet the 1 ppm silver metal concentration. They are now collected and disposed as hazardous waste.

This building serves as one of the hazardous waste satellite accumulation point for film developers and used paint spray cans.

History of Releases

No known history of releases was noted from this building.

Status of Corrective Actions

No corrective action is needed. The facility, however, was informed of the need to have the silver recovery unit included in the permit application or a Permit by Rule, since the unit is considered treatment.

**SWMU #22. Building 81 (Ordnance Maintenance and Test Building,
Inland Area)**

Description of Activities

The Weapons Quality Engineering Center (WQEC) ordnance maintenance and test building is located in Building 81. The building has cells or small rooms with reinforced walls and screened ceilings for safety. Each room has a small oven size fuse detonating machine where small quantities of ordnance's fuses are detonated. Small volumes of air emissions, if any, are carried out of the building through exhaust fans. We were told that no permit from the Bay Area Air Quality Management District (BAAQMD) is needed because of their size.

Fuses and hydraulic fluids are tested in this building for handling and temperature sensitivity. As part of the regular maintenance operation, ordnance's label is painted using stencils and paint spray cans.

The hazardous waste satellite accumulation point for used paint spray cans is located on the south of this building.

According to records, Building 81 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was noted from this facility. Any hazardous waste generated from this building is kept in a separate location in the building. During the site visit, the accumulation area was observed to be tidy.

Status of Corrective Actions

Due to the nature of operations in this building and since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system. No corrective action has been undertaken.

SWMU #23. Building 87 (Storage Building, Inland Area)

Description of Activities

Building 87 is a storage building for inert materials. Minor maintenance such as labeling of ordnance using stencil and paint spray cans was done at this building. Hazardous wastes generated included used paint spray cans, oil and solvents. At the present time, no hazardous waste is generated at this site. The naval station lost the missile work that had been done at this facility.

According to records, however, Building 87 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No known history of releases was noted from this facility.

Status of Corrective Action

Due to the nature of operations at this building and since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system. No corrective action has been undertaken.

SWMU #24. Building 93 (Guided Missile Division, Inland Area)

Description of Activities

Building 93 houses the Guided Missile Division. It appears to be one of the biggest generators of hazardous waste at the naval base. These wastes include used paint spray cans, solvents and adhesives. Wastes generated are stored at a satellite accumulation point provided at Building 429 (a shed at the back of Building 93).

According to records, Building 93 has a sink and sanitary sewer system that drains into a septic tank.

History of Releases

No history of releases was found for this site.

Status of Corrective Actions

Due to the nature of operations at this building and since a septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system. No corrective action has been undertaken.

SWMU #25. Building 97 (Ordnance Assembly Building, Inland

Description of Activities

Building 97 is an ordnance assembly building for the Guided Missile Department in the Inland Area. Maintenance operations in this building include the rebuilding of rocket motors, cleaning and painting rocket parts and testing rocket engine components. Hazardous wastes generated in this building include used paint spray cans, oily rags, solvents and adhesives.

Three underground storage tanks (USTs #97B, 97C, 97D) were located near Building 97. These three tanks used to contain JP-5 Fuel for missiles. On December 9, 1990, these three USTs were excavated. Results of analysis of the soil samples from USTs #97B, 97C and 97D were below the method detection limit (Minter & Fahy construction Co., Inc, letter dated January 4, 1991). The excavation was overseen by the Contra Costa County Environmental Health Department.

According to records, Building 97 has a sink and sanitary sewer

system that drains into a septic tank.

History of Releases

Building 97 is included among the sites being considered in the CERCLA list because of the alleged possible JP-5 fuel leak from USTs # 97B, 97C and 97D.

Status of Corrective Action

Due to the nature of operations at this building and since a septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system. No corrective action has been undertaken near the location of the septic tank.

SWMU #26. Building 178 (Navy Exchange Gasoline Service Station, Inland Area)

Description of Activities

Building 178 is the Navy Exchange Gasoline Service Station. Gasoline was dispensed and automotive service and repair for public customers were done at this location (Photograph #24 & 25). Used oil, oil filters and oily rags were some of the hazardous waste generated. This service station is no longer in use. The building was padlocked and the three underground storage tanks (Tanks # 178A, 178B, 178C) were excavated. A mound of soil was noticed at the back of Building 178 during

the site visit. We were told that soil contamination was detected down to 22 feet at the site of tanks # 178A, 178B and 178C. The excavated soil at the back of the building is still waiting for remedial action.

No clean up order has been issued by any government agency. Al Petersen mentioned that the lead agency on this site is the Regional Water Quality Control Board. Their contact person is Bobbie Smith.

Inside the building (which is now closed) there was also a grease and sand trap (Sump Container No. 178E). The record showed that it was installed in 1969 to receive drainage in the automotive repair area. It is single-walled, 4 inches thick with a capacity of about 190 gallons. When this trap was in use, it was inspected and cleaned every three months as required by their wastewater discharge permit from the Central Contra Costa Sanitary District. At the time of the site visit, this grease and sand trap was closed and permanently covered with concrete.

Although Building 178 is the same building referenced in the RCRA closure, the location of these three tanks is different from the used oil UST which has undergone RCRA closure.

History of Releases

The leakage of gasoline from three underground storage tanks

located on the north side of this service station was discovered in 1990. The operation of the service station was closed in 1991. The contents of the tanks were removed and the three tanks were excavated on October 30, 1991 under the permit issued by the Contra Costa County Environmental Health Department. A mound of alleged contaminated soil is still near the site waiting for remediation.

Status of corrective Actions

No corrective action has been undertaken at the site.

SWMU# #27. Building 193 (Auto Hobby Shop, Inland Area)

Description of Activities

Building 193 is the auto hobby shop provided for the sailors and tenants of the base. It is the place where they can do minor repairs and maintenance of their cars. All work is done on paved areas. Hazardous wastes generated at this site include anti-freeze, used oil, oil filters and paint spray cans. Receptacles are provided for each of these.

History of Releases

No history of releases was noted from this site.

Status of corrective Actions

No corrective actions are needed.

SWMU #28. Building 263 (Ordnance Maintenance, Inland Area)

Description of Activities

Complex-mission oriented ammunition requires careful storage, periodic maintenance and inspection which were conducted at this building. (Photographs # 26, 27, 28). Some operations included quality assurance and some limited renovations of ordnance. Hazardous waste generated included used paint spray cans, solvents and adhesives. Currently, Building 263 is not being used.

History of Releases

No history of releases were found for this site.

Status of Corrective Actions

No corrective actions are needed.

SWMU #29. Building 429 (Hazardous Waste Accumulation Shed,

Inland Area)

Description of Activities

Building 429 is a shed behind Building 93 where hazardous wastes in drums and containers are stored until delivery to Building 433. It serves as a hazardous waste accumulation point for the wastes generated from Building 93.

Building 93 houses the Guided Missile Division. It appears to be one of the biggest generators of hazardous waste at the naval base. Wastes include used paint spray cans, solvents and adhesives. Access to the shed (Building 429) is through a chain link gate which is padlocked when not in use.

History of Releases

No known history of releases was found for this site.

Status of Corrective Actions

No corrective actions are needed. During the site visit, this hazardous waste storage area was observed to be very well maintained.

SWMU #30. UNOCAL CORPORATION Oil Pipeline Site, Inland Area

Description of Activities

UNOCAL has an easement for their pipeline across the Naval base. This pipeline traverses the base in an east-west direction, crossing under the Contra Costa Canal. Immediately south and parallel to the pipeline are two other pipelines: one owned by Southern Pacific Pipeline (SPP) and the other by Texaco U.S.A. (Texaco). In November, 1989, UNOCAL Corporation had a release of crude oil from this pipeline onto Concord Naval Weapons Station property.

History of Releases

A release of crude oil from the UNOCAL pipeline happened during the installation of cathodic protection in November, 1989. A hole was inadvertently ground into the side of the pipeline at a site adjacent to the west side of the canal. An estimated 2 to 3 barrels of crude oil was accidentally released and leaked onto the ground owned by the Concord Naval Weapons Station.

Status of Corrective Actions

No clean-up and abatement order has been issued by any government agency. UNOCAL, however, performed some soil excavation in November, 1989 to remove hydrocarbon contaminated soils. Preliminary excavation work revealed that the contaminated soils were present on the east and west sides of the Canal. Excavation activities were ceased and subsurface assessment was conducted to evaluate further corrective action options.

UNOCAL contracted with Groundwater Technology to assess the extent of contamination. Subsurface soil and groundwater conditions were investigated. In March, 1990, monitoring wells were drilled. Analysis of groundwater samples showed a concentration of 4,300 parts per billion (ppb) total petroleum hydrocarbons (TPH) as gasoline and 270 ppb benzene. The data indicated that the vadose-zone soils and groundwater had been contaminated. Contamination extended at least 60-feet to the northwest of the known-leak. The extent of the contamination on the east side of

the Canal appeared to be confined to a 15-foot-diameter.

UNOCAL presented the Remedial Action Plan to the Regional Water Quality Control Board and the Contra Costa County Health Services Department. About 1900 cubic yards of contaminated soil were excavated and the pipeline was repaired. About 817 cubic yards of soil with more than 100 ppm total petroleum hydrocarbon (TPH) was incinerated at Port Costa Material. About 1460 cubic yards of soil with less than 100 ppm TPH was disposed in a Class III landfill at Forward Incorporated Facilities in Stockton, California. The soil containing greater than 100 ppm total petroleum hydrocarbons was excavated to a depth of approximately 2 feet below the water table. There is still an area near the Canal that could not be excavated. The soil in this area has petroleum hydrocarbons greater than the 100 ppm clean-up objectives.

Quarterly monitoring and sampling report at this UNOCAL pipeline location are being submitted by UNOCAL and, under requirements, to the Regional Water Quality Control Board.

SWMU #31. Diesel Fuel Oil Leak near Main Entrance to the Inland Area

Description of Activities

A commercial semi-tractor truck fuel tank's drain valve failed and leaked about 35 gallons of diesel fuel oil onto the pavement

near the Main Entrance to the Inland Area in November, 1990. The spill was contained on the blacktop and was cleaned-up by the Concord Naval Weapons Station personnel using absorbent materials.

History of Releases

There is no history of releases of hazardous waste at this site except for this accidental leak.

Status of Corrective Action

Since all of the diesel fuel was cleaned-up, no corrective action is necessary.

SWMU #32. Site 5AT Underground Storage Tank (Abandoned Tank #17, Inland Area)

Description of Activities

One tank (Tank #17), discovered during the search for abandoned tanks two years ago, was located at Site 5AT. It was believed to have been installed by a previous land owner for storage of heating oil for his house. Its year of installation cannot be determined. It was a suspect because of possible leaks that might have come from an old underground oil storage tank. Records showed, however, that the tank had a capacity of 400 gallons. The tank had been excavated on November 8, 1990 under

the direction of Contra Costa County Environmental Health Department. Documentations submitted by Minter and Fahy Construction Company showed that the tank site was not contaminated.

History of Releases

No history of releases was noted at this site.

Status of Corrective Actions

No corrective actions are needed.

**SWMU #33. Site 6LC98 Underground Storage tank (Magazine Boiler,
Inland Area)**

Description of Activities

Building 6LC98 houses the steam boiler that provides heating in the Magazine building. The source of fuel was the diesel fuel oil stored in a nearby underground storage tank. The operation of the boiler is now discontinued.

History of Releases

In November 1990, Site 6LC98 was found to have diesel fuel oil contamination. The contamination was discovered while Minter and Fahy Construction Company was removing abandoned underground storage tanks. Records showed that this tank was installed in 1957 for storage of diesel fuel oil for the Magazine Area's

boiler.

Status of Corrective Actions

In January, 1991, the leaking UST # 6LC98 was removed under the direction of the Contra Costa County Environmental Health Department.

On November 13, 1990, H & H Environmental Services issued a tank disposal certificate to Minter & Fahy. The certificate stated that the tank was transported to H & H Environmental Services, steamed cleaned, rendered harmless and disposed of as scrap metal to Schnitzer Steel, Oakland, California.

Hageman-Aguilar, Inc. was contracted to conduct a limited soil sampling investigation at Site 6LC98. Results of their investigations showed that up to 140 milligrams per kilogram (mg/Kg) total petroleum hydrocarbon (TPH) as diesel fuel remains in the soil immediately adjacent to this tank. Soil sampling data indicated that no significant lateral migration of petroleum constituents had occurred. This document was signed by Gary Aguilar, Registered Professional, State of California, Engineer RCE 34262, dated March 14, 1991.

Due to subsurface contamination, remedial action on Site 6LC98 was recommended by Gary Aguilar.

No corrective action has been undertaken at this site.

SWMU #34. Building A-3 (Public Works Heavy Equipment Maintenance and Storage, Tidal Area)

Description of Activities

Building A-3 serves as maintenance and storage area for heavy equipment. During the course of the maintenance operations, used oil, antifreeze and paints are generated. This building serves as the satellite accumulation point for these hazardous wastes. During the site visit, no hazardous waste was noted at this location.

There were two tanks near Building A-3 that were used to store diesel fuel for the building.

History of Releases

On November 15, 1990, these two tanks (Tank #A-3A and #A3-B) were excavated. The work was done under the direction of the Contra Costa Environmental Health Department. Soil contamination was discovered at this site. The county advised the removal of additional soil from these tanks holes. The contaminated soil was disposed at a Class I Site on February 15, 1991.

Status of Corrective Actions

Since the removal and clean-up of the two underground storage

tanks were done under the direction of a government agency, no further corrections are needed.

SWMU #35. Building A-10 (Public Works Shop, Tidal Area)

Description of Activities

Building A-10 serves as a Rigger's Shop. Big cranes owned by the Navy are parked in an open shed attached to the building. Hazardous waste are generated from the maintenance of these cranes. It includes used oil, used paint spray cans, paint and antifreeze. There is an area in this building that serves as a satellite accumulation point for these hazardous wastes. At the time of the site visit, one 55 gallon drum was noted at the accumulation site.

History of Releases

There is no known history of releases noted at this site.

Status of Corrective Actions

No corrective actions are needed.

SWMU #36. Building A-22 (Ordnance Operations Building, Tidal Area)

Description of Activities

Building A-22 is a transit shed for ordnance operations. Minor maintenance of ordnance like labeling, using paint spray cans and stencils, is done at this building. It serves as a hazardous waste satellite accumulation point for used paint spray cans.

History of Releases

No history of releases were noted at this building.

Status of Corrective Actions

No corrective actions are needed.

SWMU #37. Building A-29 (Dunnage Salvage Yard, Tidal Area)

Description of Activities

Concord Naval Weapons Station generates used treated wood from their maintenance operations of the piers and railroad tracks. At the time of the site visit, huge piles of treated (Photograph #29 & 30) and untreated wood (Photograph #31 & 32) were at the yard. The pile of used untreated wood was generated from packaging ammunition. It is recycled by resale.

Approximately 600 cubic yards of treated wood debris is located

near the non-treated wood dunnage area. Most of this wood waste has been chemically treated. (According to Mr. Al Petersen, dark brown wood has been treated with creosote; light brown wood with pentachlorophenol and the greenish wood with copper arsenate.)

Most treated wood waste items such as used railroad ties or wharf timbers are recycled on Station in projects such as landscaping and retaining walls or are sold to contractors who reuse the timbers for applications requiring use of treated wood. Some used treated wood which is considered scrap is stockpiled near Building A-29. (Building A-29 is included in their application for storing hazardous waste as waste piles.) Sawdust and small fragments of miscellaneous treated wood generated from shipping operation (e.g. from cutting of rail car deck planks) are containerized and disposed at a municipal landfill. The local municipal landfills at the present time have reached their capacity and no longer accept any solid wastes. Historically, it was disposed at the Acme Landfill in Martinez. Now it is sent to Alameda County landfill near Livermore, which still accepts creosote treated wood for disposal.

Building A-29 is adjacent to the Wood Hogger site which is being cleaned under CERCLA.

History of Releases

The pile of used treated wood has been in this area exposed to the weather. Leaching of creosote, pentachlorophenol and copper

arsenate may have occurred.

Status of Corrective Actions

No corrective actions have been undertaken.

SWMU #38. Building E-61 (Navy's General Warehouse, Tidal Area)

Description of Activities

Building E-61 houses the navy's general warehouse. A small amount of used paint spray cans and paint are generated in this building. The paint is often used in the miscellaneous maintenance of office equipment. Other hazardous waste comes from chemicals with expired shelf life. A satellite accumulation area for these wastes is provided at Building E-61.

History of Releases

No known history of releases were noted from this building.

Status of Corrective Actions

No corrective actions are needed.

SWMU #39. Building 109 (Air Force Storage Office, Tidal Area)

Description of Activities

Building 109 is an office building used by the Air Force contingent. Miscellaneous maintenance on office equipment generate

hazardous waste which includes paint and used paint spray cans. These hazardous wastes are accumulated in a satellite location near the paint locker.

History of Releases

There is no known history of releases noted at this site.

Status of Corrective Actions

No corrective actions are needed.

SWMU #40. Building 174 (Electric Substation, Tidal Area)

Description of Activities

Building 174 serves as an electric substation. It houses the electrical transformer that steps power down to distribution voltage levels. The transformer does not contain PCBs.

History of Releases

According to Al Petersen, the naval base does not have any more PCB containing transformers. They were disposed appropriately out of State. In the past, this site was used to store old PCB transformers discarded by the facility. These old transformers were reported to have leaked. Drip pans were used to contain the leaks. Because of this suspected releases, the site may have some PCB contamination.

Status of Corrective Actions

No corrective actions have been undertaken.

SWMU #41. Building 177 (Transfer Facility, Tidal Area)

Description of Activities

Building 177 is a transfer facility located at the Tidal Area. It looks like a railroad station with spur railroad tracts in front and back of the building. Building 177 receives supplies and ordnance shipments and serves as transfer facility between rail and truck. At the time of the site visit, two stacks of 55 gallons supply containers were at the middle of this building.

Commercial rail companies, (Atchison Topeka and Santa Fe; Southern Pacific; Sacramento Northern Union Pacific), deliver rail cars containing supplies and ammunition to the yard located near their railroad lines. Trucks carrying ordnance park their trailers or containers on lots near the wharves. The Navy, using its own locomotive equipment, shuttles the rail cars and the trailers/containers to the appropriate sites, such as a wharf, for loading aboard ships or to a magazine in the Inland Area for storage.

History of Releases

There is no history of releases of hazardous waste at and around this site. No releases were observed during the site visit.

Status of Corrective Actions

No corrective action is needed.

SWMU #42. Building 188 (Coast Guard Office, Tidal Area)

Description of Activities

Building 188 is an office building used by the the Coast Guard. Miscellaneous maintenance on office equipment generates a small quantity of hazardous waste which includes paint and used paint spray cans. These hazardous wastes are accumulated in a satellite location near the paint locker.

History of Releases

No history of releases were noted at this site.

Status of Corrective Actions

No corrective actions are needed.

SWMU #43. Building 267 (Tug Boat Office, Tidal Area)

Description of Activities

Building 267 is the waterfront operations building. (Photograph #33). It is also called the tug boat office. Maintenance work on boats, like painting, changing oil and antifreeze, is done at this building. Hazardous waste generated includes used paint spray cans, used oil, oily rags, solvents and antifreeze. The

hazardous waste accumulation area is located adjacent to the paint storage locker.

History of Releases

There is no known history of releases of hazardous waste at or around this site.

Status of Corrective Actions

No corrective actions are needed.

SWMU #44. Building 350 (Marines Ordnance Maintenance Building, Tidal Area)

Description of Activities

Building 350 is a high security building for special weapons. It is guarded by U.S. Marine Corps. Special weapons are maintained and inspected. During the course of this operation, used paint spray cans, rags and solvents are generated. This building is one of the satellite accumulation point hazardous waste.

Records showed that Building 350 has two underground storage tanks (#350A and 350B) for diesel fuel oil. Tank #350A is used to fuel the steam boiler that provides heating to this building; this tank was installed in 1981 and has a capacity of 2000 gallons. Tank #350B provides fuel to an emergency electrical generator for the building; this tank was installed in 1981 and

has a capacity of 2000 gallons. A yearly leak test is done on these underground tanks and the results are submitted to the County.

According to records, Building 350 and Building 351 (a Marine Guard Post) have sinks and sanitary sewer systems that drain into a common septic tank.

History of Releases

In June, 1991, a pressure gage leaked about 20 gallons of diesel fuel oil onto the floor in Building 350. The spill was contained and cleaned-up by the navy personnel using absorbent materials.

Status of Corrective Actions

Since the diesel fuel was cleaned-up, no corrective actions are needed on the diesel fuel leak in Building 350.

Since septic tank was used to receive wastes, there is a possibility that hazardous waste may have leached from the septic tank system.

SWMU #45. Leak on Paved wharf, Tidal Area

Description of Activities

The paved wharf at the Tidal Area is where most of the activities in loading and unloading ammunition onto and from ships occurs.

A rented 40 ton portable crane suffered a hydraulic system failure on the paved wharf in February, 1991.

History of Releases

The failure leaked about 175 gallons of hydraulic oil onto the blacktop. Most of the spill was contained and cleaned-up by use of absorbent material. About 2 gallons of the hydraulic fluid leaked into the water and was dissipated by the currents..

The paved wharf was visited; the spill had been cleaned up.

Status of Corrective Actions

Since the spilled hydraulic fluid oil had been cleaned up, no further corrective action is needed.

SWMU #46. Site E-111 Underground Storage Tank (Heating Plant, Tidal Area)

Description of Activities

Building E-111 houses the steam boiler that provides heating to buildings at the Tidal Area. The source of fuel was diesel fuel oil stored in a nearby underground storage tank (UST). At the time of the visual site inspection, the former tank location was shown to us. The tank had been excavated in January, 1991 under the direction of the Contra Costa County Environmental Health Department.

History of Releases

In November, 1990, Site E-111 was found to have diesel fuel oil contamination (Photographs #34 & 35). The contamination was discovered while Minter and Fahy Construction Company was removing abandoned underground storage tanks. Records showed that this tank was installed in 1945. Analysis of the water from the tank excavation showed a concentration of 2500 microgram per liter total petroleum hydrocarbon (TPH) as diesel fuel.

Status of Corrective Actions

On November 15, 1990, the leaking diesel fuel UST at Site E-111 was taken out and the hole was filled for safety reason. A letter of certification, dated March 19, 1991 and signed by Gary Aguiar, a registered professional engineer in California (License No. C-34262), was issued stating that tank removal and closure processes were conducted in accordance with Contra Costa County underground storage tank regulations.

Due to subsurface contamination, remedial action on site E-111 was recommended by Gary Aguiar.

No corrective action has been taken even though soil and water contamination was found at the site.

SWMU #47. R Area Building (Segregation Facilities, Tidal Area)

Description of Activities

Buildings R1, R3, and R4 are collectively known as the R Area Building. The building looks like a railroad station with barricaded sidings for safety. Conventional ammunition which has been off-loaded from ships is transferred from the pier, sorted and inspected in the R Area Building. Once inspected, the ammunition is then designated for disposition and transferred to a magazine or holding yard. Retrograde material is usually transferred to an inland depot for renovation.

Exterior maintenance, such as painting, stenciling, renovation and packaging of conventional weapons is done at the R Area. Hazardous waste generated includes used paint spray cans and adhesives. Building R-3 (in the R Area Building) serves as a hazardous waste satellite accumulation point for these wastes. During the site visit, the only hazardous waste observed in the R Area was a drum of used aerosol paint cans.

History of Releases

No history of releases was found for this location.

Status of Corrective Actions

No corrective actions are needed.

**SWMU #48. Pacific Gas and Electric Company's Spill of Cutting
Oil from a Pipeline near Hastings Slough and
Waterfront Road (Tidal Area)**

Description of Activities

Pacific Gas and Electric Company (PG&E) has an easement across the Concord Naval Weapons Station for their pipeline between Antioch and Richmond, California. This pipeline is no longer being used. However, some residual oil was still present in this pipeline when the spill occurred on the naval station's property.

History of Releases

On July 20, 1988, a spill of about 50 to 100 barrels of oil occurred near Hastings Slough and Waterfront Road. Pacific Gas and Electric company capped this pipeline. IT Corporation was contracted to perform the clean-up. Government representatives on the scene included the Federal Environmental Protection Agency (EPA), California Fish and Game Department (CFGD), the Regional Water Quality Control Board (RWQCB), the State Lands Commission and the U.S. Coast Guard (USCG). The CFGD monitored the clean-up of oil and was satisfied with its adequacy. At the site visit, the area looked clean.

Status of corrective Actions

The site of the spill was cleaned-up by IT Corporation. Since

the spill was cleaned-up under regulatory agency supervision, no further corrective actions are needed.

SWMU #49. Building 35 (X-ray Facility at Pittsburg, California)

Description of Activities

The X-ray facility at Pittsburg is operated by the Weapons Quality Engineering Center (WQEC) Scientific and Engineering Division. This facility uses X-ray units to detect material imperfections in the ordnance. Real time imaging is used at this facility using a video monitor. No photographs nor tape recordings were taken thus generating no hazardous waste. X-rays are generated electrically and produce no radiological wastes. X-ray machines currently being used have no PCB containing capacitors.

History of Releases

At Building 35, there were old X-ray machines which used polychlorobiphenyl (PCB) filled capacitors. The PCB fluid from the capacitors leaked onto the 10 x 10 concrete floor. In 1987, the facility reported this leak to the U.S. Environmental Protection Agency (U.S. EPA). The capacitors, the entire concrete floor including six inches of soil underneath it were removed and disposed at U.S. Ecology Landfill in Beatty, Nevada. The old X-ray machines were also disposed. The clean-up was completed in October, 1991.

No other history of releases has been noted for this facility.

Status of Corrective Actions

Since the clean-up was done under the directions of a government agency, no other corrective actions are needed.

5. CONCLUSIONS AND RECOMMENDATIONS

There are 49 SWMUs identified at this facility (Figure 8 and Table 3). Seventeen SWMUs had documented releases. They are SWMU's # 1, 2, 5, 8, 12, 18, 26, 30, 31, 33, 34, 36, 44, 45, 46, 48, and 49. Of these 17 SWMUs, seven, namely: # 1, 2, 18, 26, 30, 33 and 46, have high priority recommendation for an RFI because of the documented releases which threaten the spread of contamination to soil and groundwater. SWMUs # 5 has medium priority recommendation for an RFI because the visible oil or hazardous waste stains on the accumulation area may be confined on this paved surface. SWMU # 37 has medium priority recommendation for an RFI because small amounts of the hazardous contaminants could have been released by leaching to the soil and nearby surface water. SWMUs # 31, 36, 45, 48 and 49 need no further action; they were spills or leaks which have been satisfactorily cleaned up. No further action is needed on SWMU #8 because any release to the sewer is regulated by the Central Contra Costa Sanitary District. SWMUs # 12 and 44 had spills which were cleaned up; however, both facilities have septic tanks from which hazardous waste could have been released to the soil.

SWMUs that are suspected of having releases because they have septic tanks where hazardous waste could have been released are # 13, 14, 15, 17, 20, 22, 23, 24 and 25. These SWMUs plus # 12 and 44 are recommended for medium priority RFI.

SWMU # 7 is suspected to have had releases because of the wet

surfaces on the hazardous waste accumulation area; however, it is recommended for low priority RFI because of the small amount of waste that could have spilled. It is recommended that better management of waste be practiced. SWMU # 11 is a suspect for possible releases because the silver recovery unit in this photography laboratory does not have any secondary containment; any spill could go directly to the floor, drain, or sink. It is recommended for a high priority RFI. The facility was advised of the need to apply for a Permit By Rule or to have the unit included in their permit application.

In SWMU # 16, there could be releases of mercury to the air during crushing of fluorescent tubes or releases of asbestos during packing. It is recommended for a low priority RFI. However, it is also recommended that it be included in the Stations hazardous waste permit application.

SWMU # 32 is suspect, being an abandoned tank which used to contain heating oil. However, documentation submitted by the facility showed that the tank site at SWMU #32 was not contaminated. No further action is needed at this site.

SWMU # 40 is also suspect because of possible polychlorinated biphenyl (PCB) leakage from historic storage at this facility. SWMU # 40 is recommended for a low priority RFI because of possible contamination the storage of old transformers containing

PCB may have left in this building.

No further action is needed on SWMU # 3, 4, 6, 9, 10, 19, 21, 27, 28, 29, 35, 38, 39, 41, 42, 43 and 47. SWMUs #19 and 29 are new buildings. Preliminary review and site investigation showed no history of releases at these facilities.

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- March 21, 1991. Letter of transmittal to Mr. Steven Berger California Regional Water Quality Control Board. Re: Concord Naval Weapons Station - Unocal Pipeline Leak. Closure Report: soil excavation and site restoration Unocal Pipeline, Concord Naval Weapons Station UNOCAL Refining and Marketing Division. March 1991.
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- June 24, 1991. Letter Signed by G.R. Wegener, CDR, CEC, USN, Public Works Officer. Concord Naval Weapons Station. Responses to Request of information for a RCRA Facility Assessment at Naval Weapons Station Concord, CA, EPA I.D. No. CA 7170024528.
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TABLE 3. SUMMARY LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IDENTIFIED AT CONCORD NAVAL WEAPONS STATION FOR RCRA FACILITY ASSESSMENT (RFA)

SWMU #	Building Number and Description of Site
INLAND AREA	
1	Building IA-6 (Boiler House, Inland Area)
2	Building IA-7 (Shallow Burn Pit South of the Firehouse, Inland Area)
3	Building IA-8 (Explosive Ordnance Disposal Detachment Building, Inland Area)
4	Building IA-10 (Print Shop, Inland Area)
5	Building IA-12 (Locomotive Repair Shop, Inland Area)
6	Building IA-15 (Automotive Vehicle Maintenance Division, Inland Area)
7	Building IA-16 (Public Works Shop and Auto Vehicle Maintenance Division, Inland Area)
8	Building IA-20 (Chemical Laboratory, Inland Area)
9	Building IA-21 (Material Test Laboratory, Inland Area)
10	Building IA-21A (Evaluation Laboratory, Inland Area)
11	Building IA-22 (Photography Laboratory, Inland Area)
12	Building IA-24 (Forklift Maintenance Building, Inland Area)
13	Building IA-25 (Missile Component Maintenance, Inland Area)
14	Building IA-27 (Car Blocking Shop, Inland Area)
15	Building IA-41 (Paint Storage, Inland Area)
16	Building IA-46 (Public Works Maintenance Storage, Inland Area)
17	Building IA-50 (Rail/Truck Transfer Depot, Inland Area)

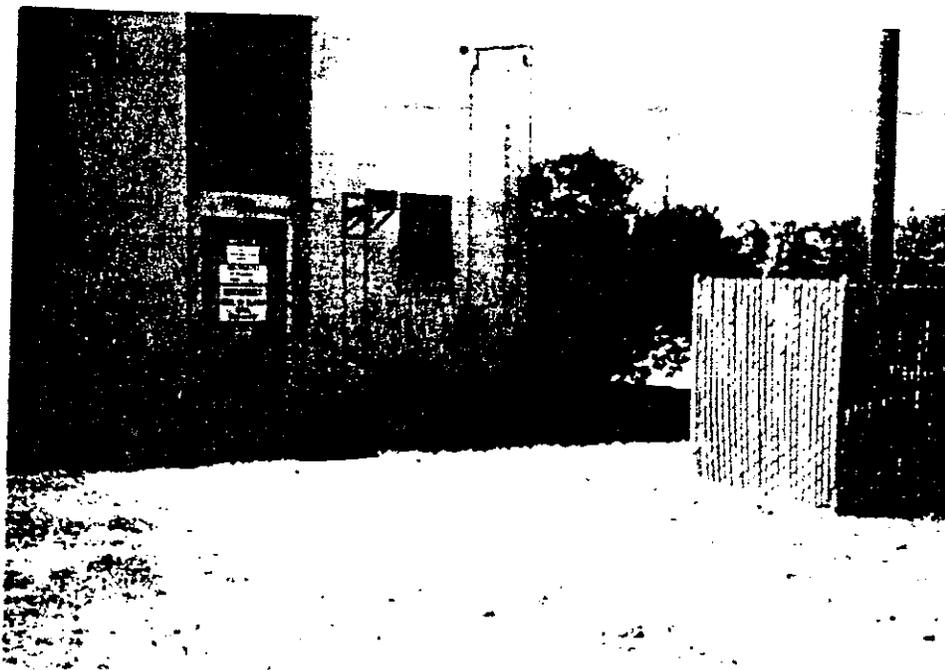
SWMU #	Description of Site
18	Building IA-51 (Auto Vehicle Maintenance Facility, Inland Area)
19	Building IA-54 (Electric Substation, Inland Area)
20	Building IA-55 (Ordnance Operations Building, Inland Area)
21	Building IA-58 (X-ray Building, Inland Area)
22	Building 81 (Ordnance Maintenance and Test Building, Inland Area)
23	Building 87 (Storage Building, Inland Area)
24	Building 93 (Guided Missile Division, Inland Area)
25	Building 97 (Ordnance Assembly Building, Inland Area)
26	Building 178 (Navy Exchange Service Station, Inland Area)
27	Building 193 (Auto Hobby Shop, Inland Area)
28	Building 263 (Ordnance Maintenance, Inland Area)
29	Building 429 (Hazardous Waste accumulation shed, Inland Area)
30	UNOCAL CORPORATION Oil Pipeline site, Inland Area
31	Diesel Fuel Oil Leak near Main entrance to the Inland Area
32	Site 5AT Underground Storage Tank 5AT (Abandoned Tank # 17, Inland Area)
33	Site 6LC98 Underground Storage Tank (Magazine Boiler, Inland Area)
<u>TIDAL AREA</u>	
34	Building A-3 (Public Works Heavy Equipment Maintenance and Storage, Tidal Area)

SWMU #	Description of Site
35	Building A-10 (Public Works Shop, Tidal Area)
36	Building A-22 (Ordnance Operations Building, Tidal Area)
37	Building A-29 (Dunnage Salvage Yard, Tidal Area)
38	Building E-61 (Navy's General Warehouse, Tidal Area)
39	Building 109 (Air Force Storage Office, Tidal Area)
40	Building 174 (Electric Substation, Tidal Area)
41	Building 177 (Transfer Facility, Tidal Area)
42	Building 188 (Coast Guard Office, Tidal Area)
43	Building 267 (Tub Boat Office, Tidal Area)
44	Building 350 (Ordnance Maintenance Building, Tidal Area)
45	Leak on Paved Wharf, Tidal Area
46	Site E-111 Underground Storage Tank (Heating Plant, Tidal Area)
47	R Area Building (Segregation Facilities, Tidal Area)
48	Pacific Gas and Electric Company's Spill of Cutting Oil from a Pipeline Near Hastings Slough and Waterfront Road (Tidal Area).
49	Building 35 (X-ray Facility at Pittsburg, California)

Figure 8

This detailed station map has been deleted from the Internet-accessible version of this document as per Department of the Navy Internet security regulations.

Photographs fo Some SWMUs



Photograph # 1. Building IA-6, Boiler House, Inland Area



Photograph # 2. Building IA-6, Boiler House, Inland Area
(partially covered mound at the back side
of the building)

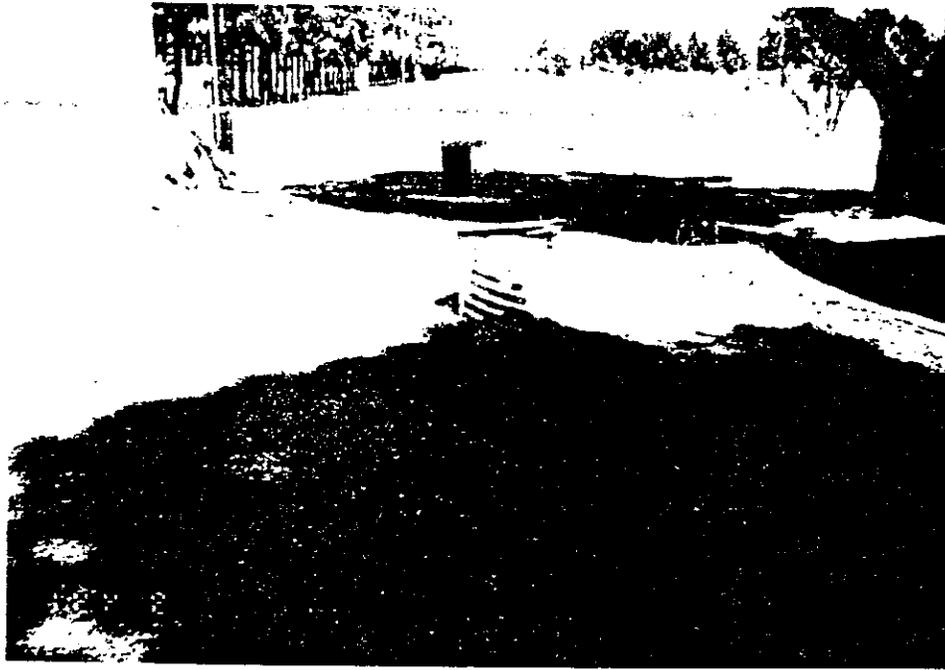
Concord Naval Weapons Station
RCRA Facility Assessment
June, 1992



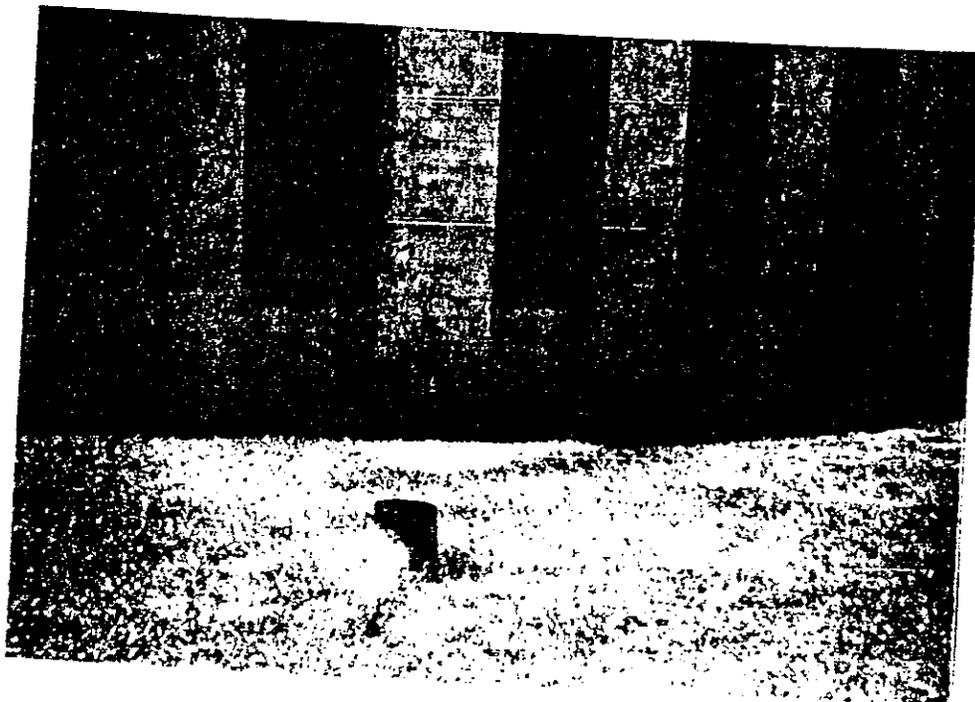
Photograph #3. Building IA-6, Boiler House, Inland Area
(Partially covered mound at the back side
of the building)



Photograph #4. Building IA-6, Boiler House, Inland Area
(Partially covered mound at the back side
of the building)



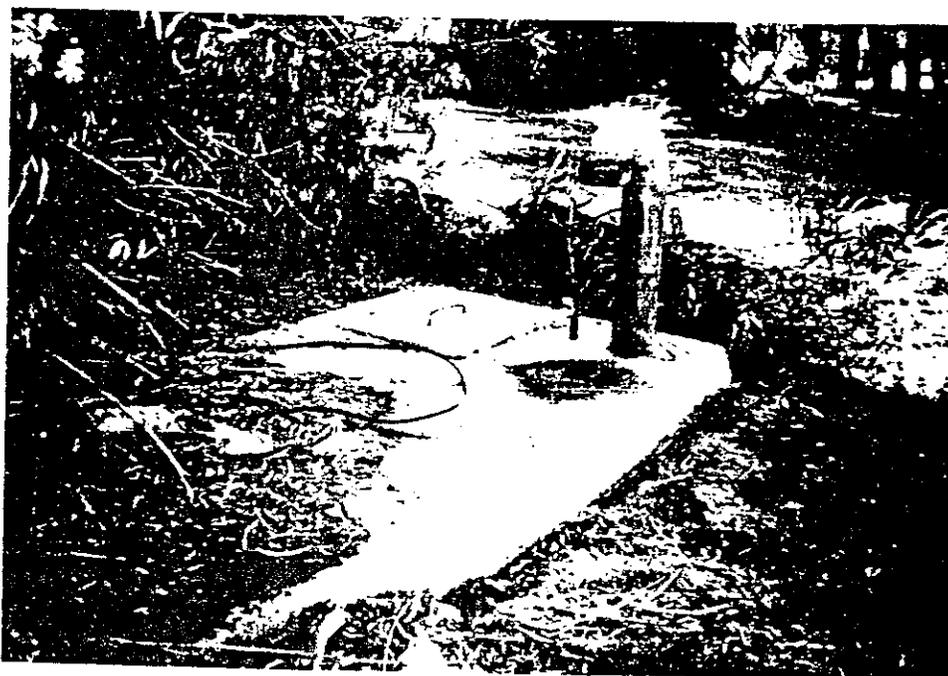
Photograph #5. Building IA-6, Boiler House, Inland Area
(Sampling wells)



Photograph #6. Building IA-6, Boiler House, Inland Area
(Sampling wells)



Photograph #7. Building IA-6, Boiler House, Inland Area
(Grease and Sand Trap)



Photograph #8. Building IA-8, Boiler House, Inland Area
(Grease and Sand Trap)



Photograph #9. Building IA-6, Boiler House,
Inland Area (Grease and Sand Trap)



Photograph #10. Building IA-7, Firehouse
Shallow Burn Pit South of the
Firehouse, Inland Area



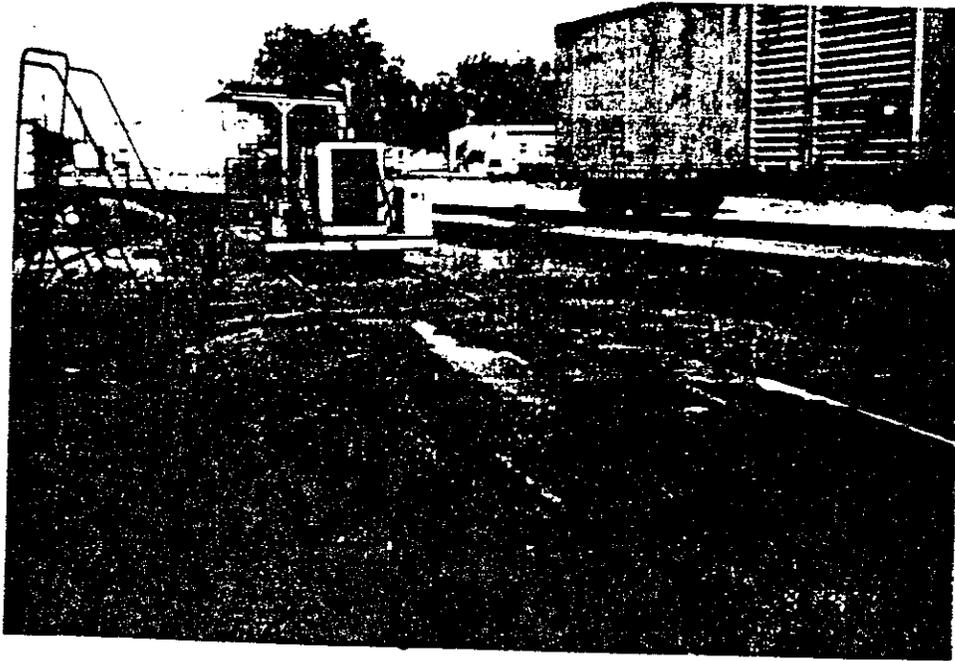
Photograph #11. Building IA-7, Firehouse
Satellite Accumulation Point for
Hazardous Waste, Inland Area



Photograph #12. Building IA-7, Firehouse
Satellite Accumulation Point for
Hazardous Waste, Inland Area



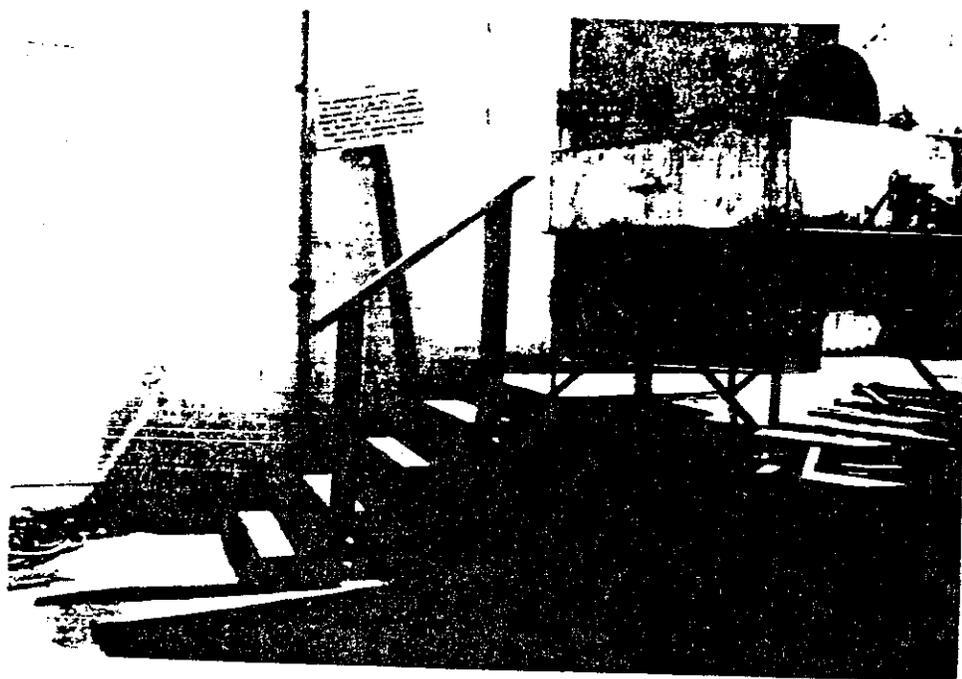
Photograph #13. Building IA-12, Locomotive
Repair Shop, Steam Cleaning Pad,
Inland Area



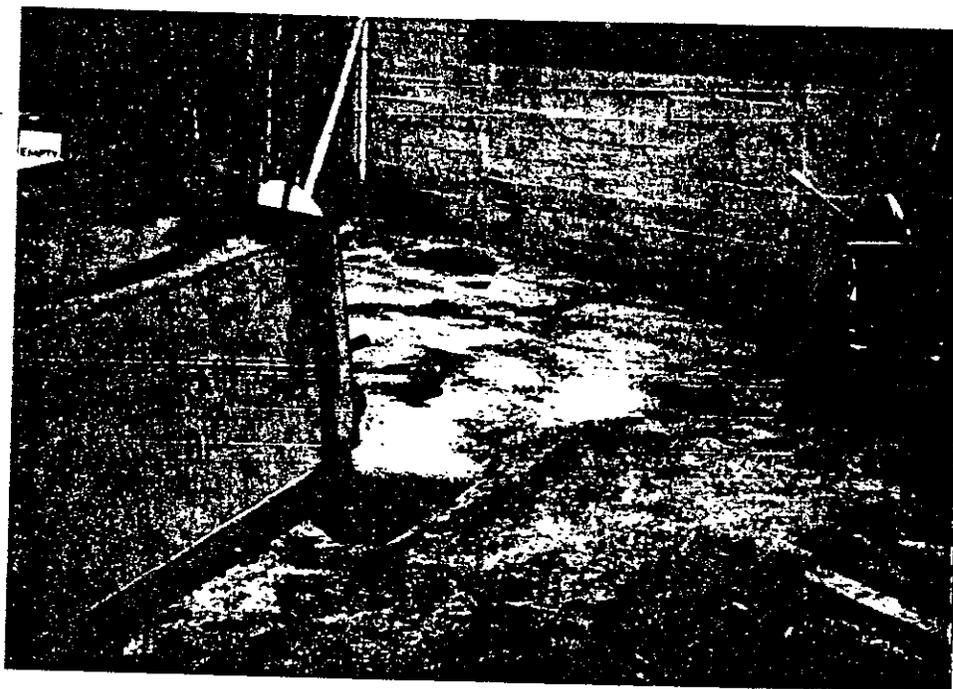
Photograph #14. Building IA-12, Locomotive
Repair Shop, Steam Cleaning Pad,
Inland Area



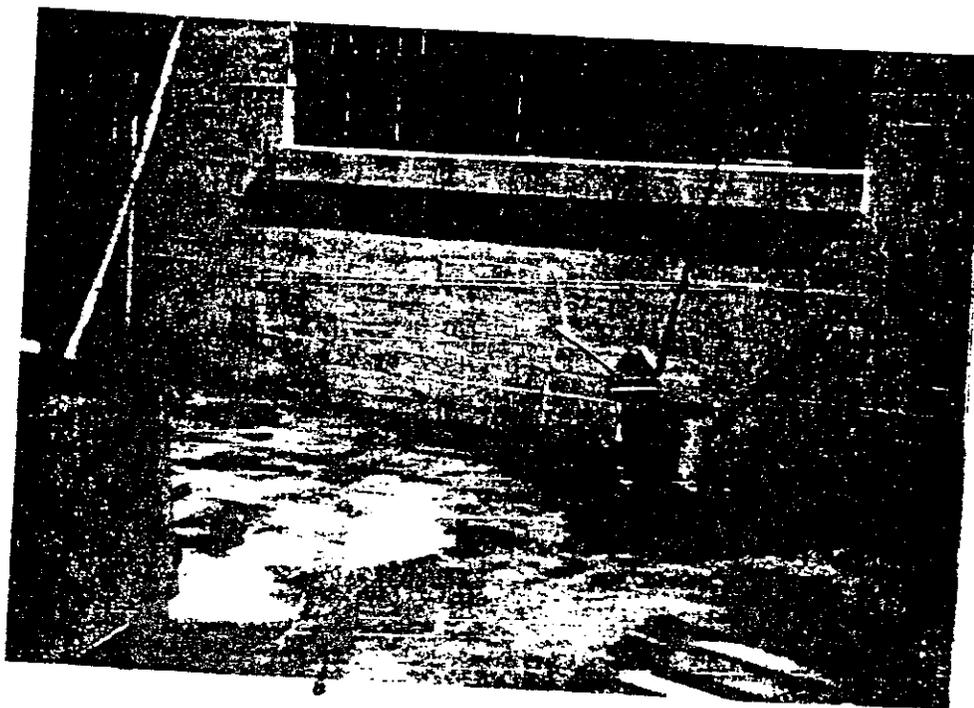
Photograph #15, Building IA-12, Locomotive Repair Shop, Battery Maintenance, Inland Area



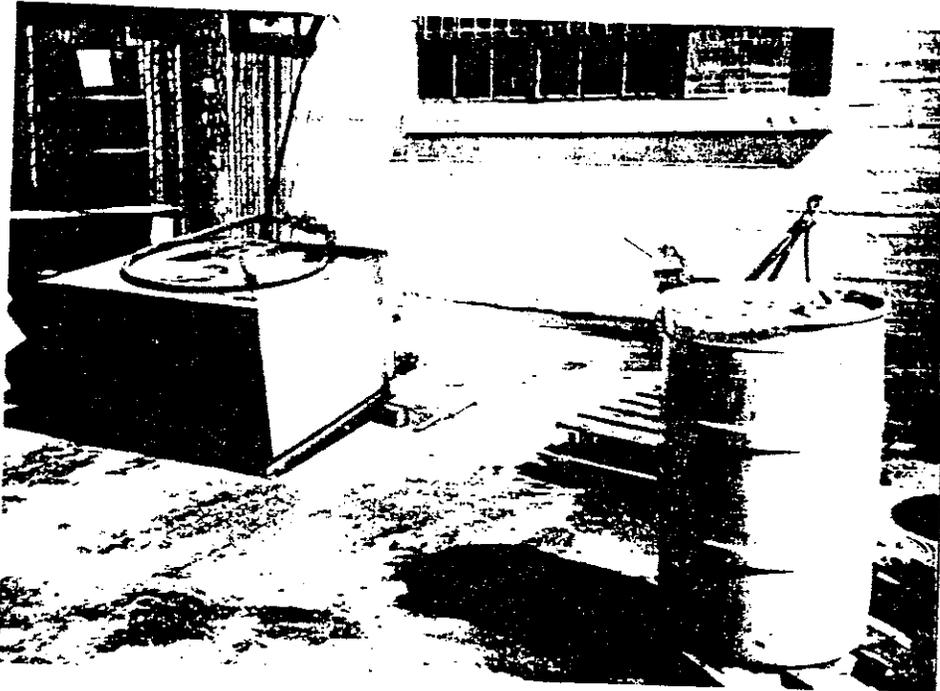
Photograph #16. Building IA-12, Locomotive Repair Shop, Improvised Sink for Used Oil Intake to Underground Storage Tank, Inland Area



Photograph #17. Building IA-12, Locomotive Repair Shop,
Opening of the Used Oil Underground Storage
Tank, Inland Area



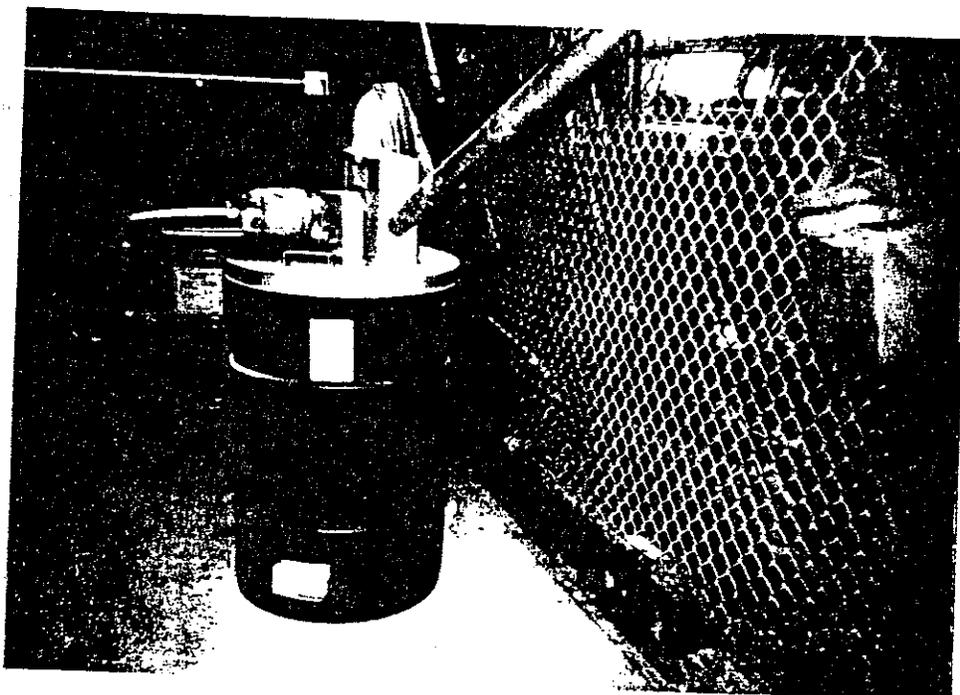
Photograph #18. Building IA-12, Locomotive Repair Shop,
Opening of the Used Oil Underground Storage
Tank, Inland Area



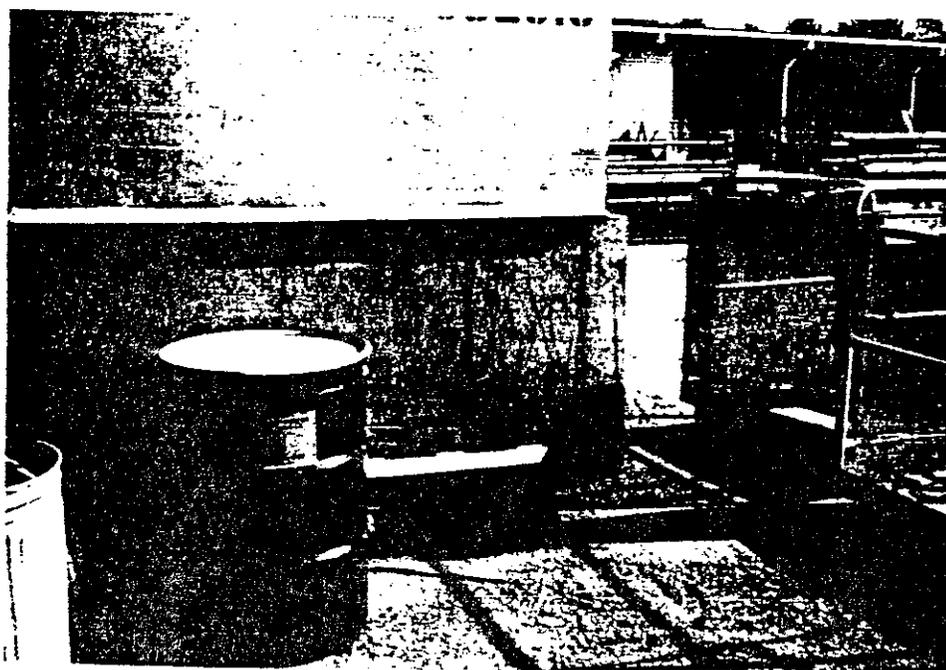
Photograph #19. Building IA-12, Locomotive Repair Shop, Satellite Accumulation Area for Antifreeze, Inland Area



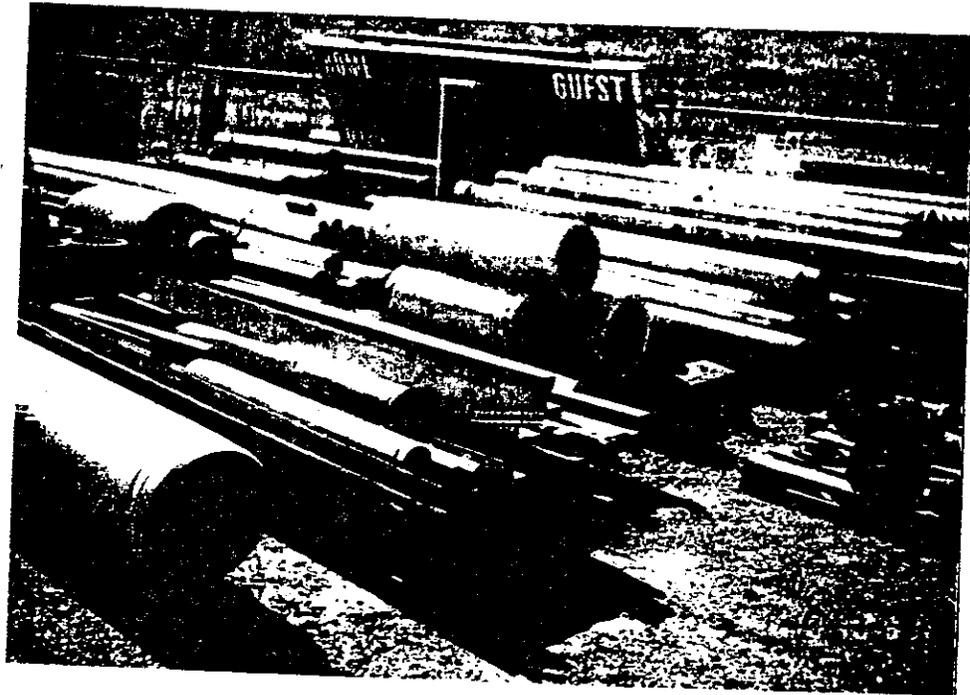
Photograph #20. Building IA-16, Public Works shop and Auto Vehicle Maintenance Division, Inland Area



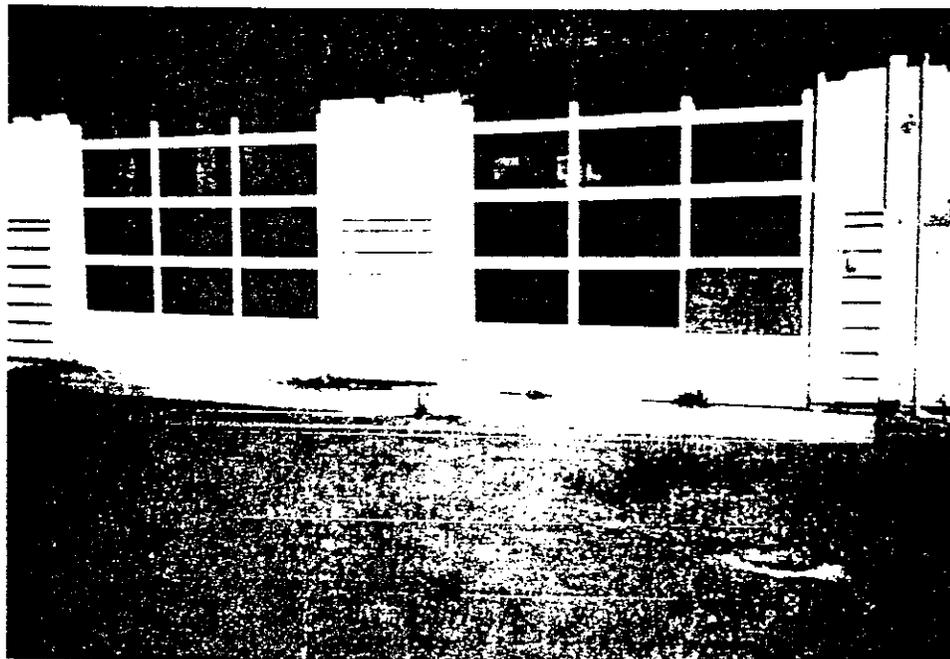
Photograph #21. Building IA-46, Public Works Maintenance
Storage, Fluorescent Tube Crushing
Operation, Inland Area



Photograph #22. Building IA-46, Public Works Maintenance
Storage, Satellite Accumulation point
For Asbestos, Inland Area



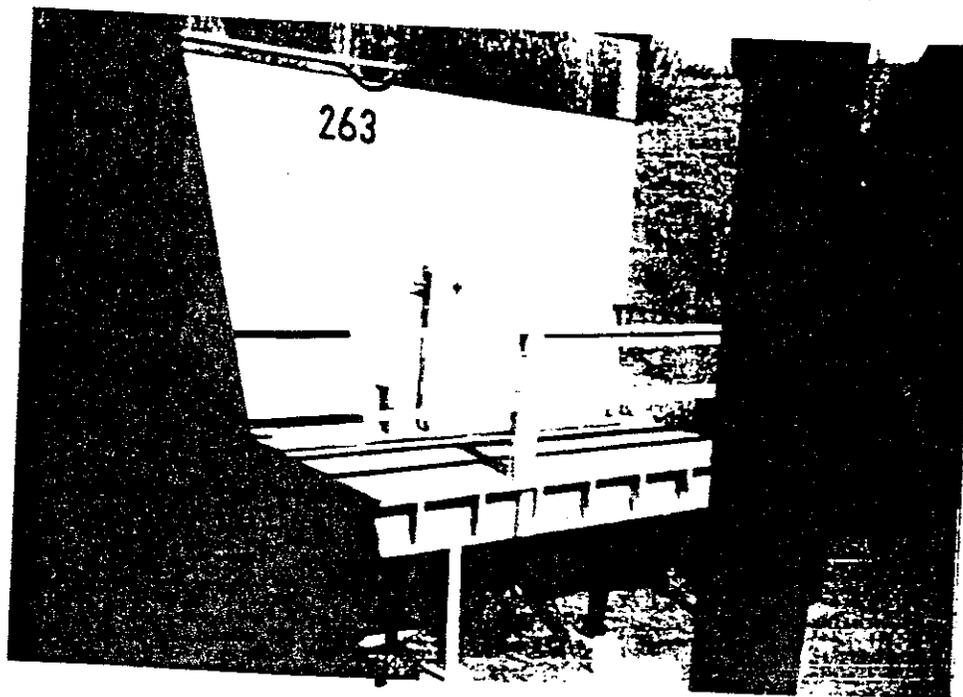
Photograph #23. Building IA-46, Public Works Maintenance Storage, Non-friable Asbestos Pipes Inland Area



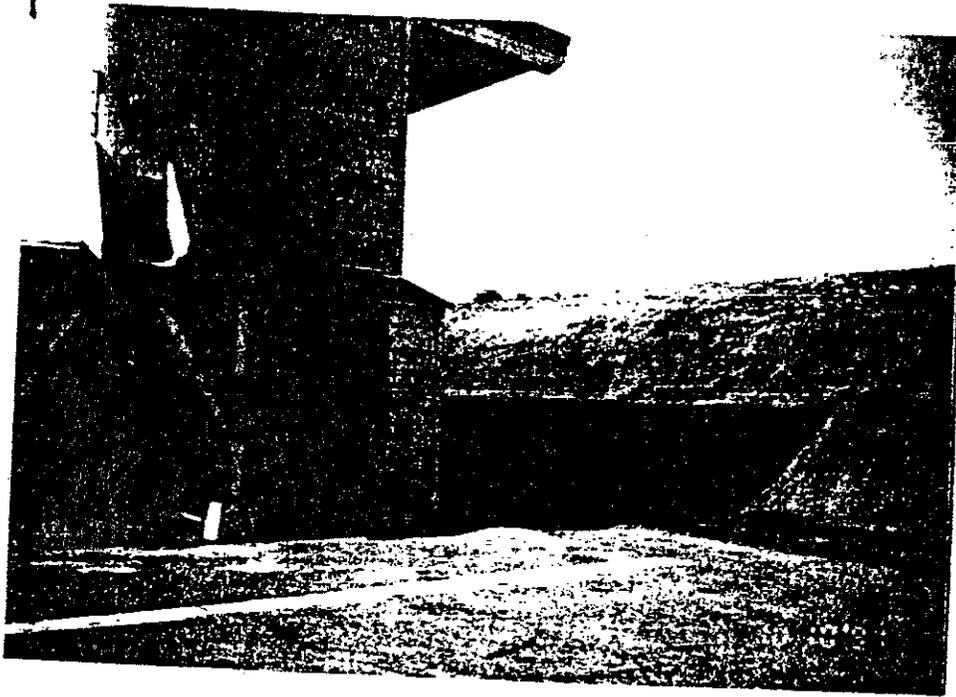
Photograph #24. Building 178, Navy Exchange Gasoline Service Station, Inland Area



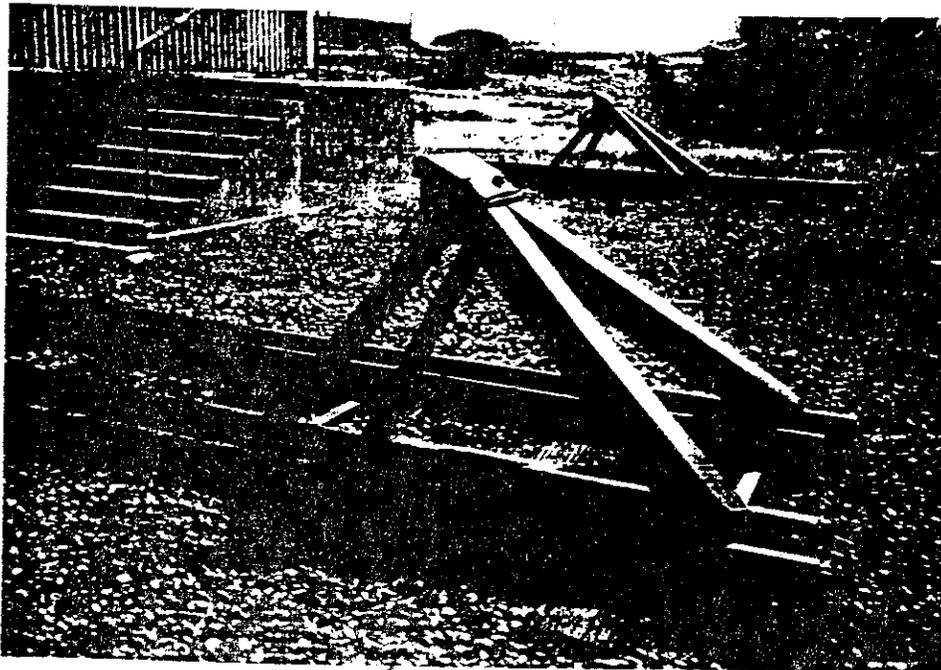
Photograph #25. Building 178, Navy Exchange Gasoline Service Station, Inland Area



Photograph #26. Building 263, Ordnance Maintenance, Inland Area



Photograph #27. Building 263, Ordnance Maintenance,
Inland Area



Photograph #28. Building 263, Ordnance Maintenance,
Inland Area



Photograph #29. Building A-29, Dunnage Yard, Pile of Treated Wood, Tidal Area



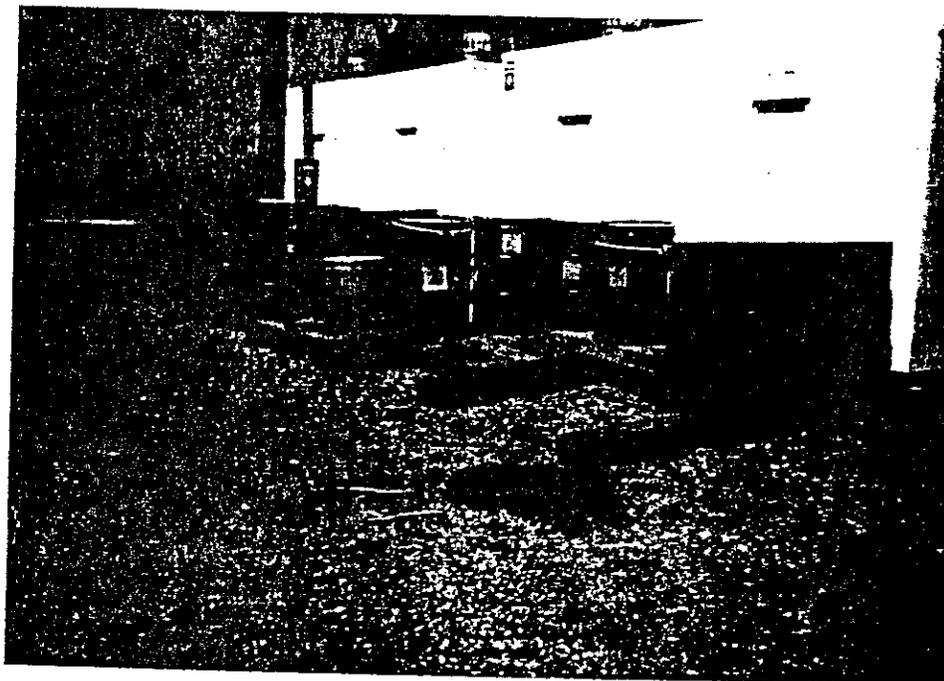
Photograph #30. Building A-29, Dunnage Salvage Yard, Pile of Treated Wood, Tidal Area



Photograph #31. Building A-29, Dunnage Salvage Yard, Pile of Untreated Wood, Tidal Area



Photograph #32. Building A-29, Dunnage Salvage Yard, Pile of Untreated Wood, Tidal Area



Photograph #33. Building 267, Tug Boat Office, Satellite Accumulation Point, Tidal Area



Photograph #34. Site E-111 Underground Storage Tank Tidal Area

Concord Naval Weapons Station
RCRA Facility Assessment
June, 1992



Photograph #35. Site E-111 Underground Storage Tank,
Tidal Area