

**EXISTING CONDITIONS SURVEY AND  
SITE REPORT**

1-30-003B

**FOR**

**REMEDIAL DESIGN SITE 1**

**AT**

**NAVAL WEAPONS  
INDUSTRIAL RESERVE PLANT**

**BETHPAGE, NEW YORK**

**JUNE, 1995**

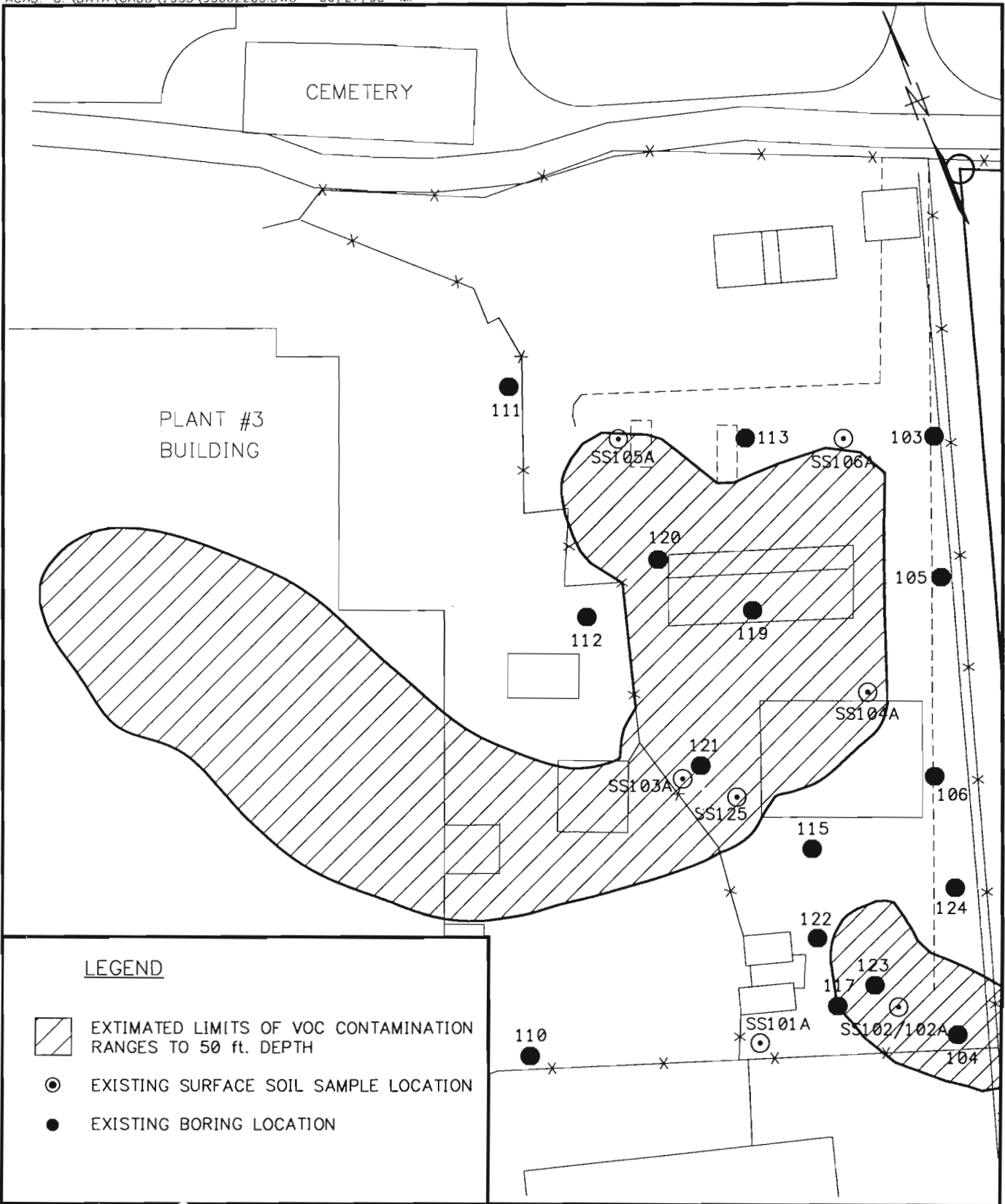
## 1.0 INTRODUCTION

This Existing Conditions Survey and Site Investigation Report (Report) for Site 1, Naval Weapons Industrial Reserve Plant (NWIRP), Bethpage, New York, has been produced from a recent site visit and from historic environmental data collected at the site. This Report has been prepared in response to Contract Task Order (CTO) 213 of Navy CLEAN Contract No. N62472-90-D-1298. The purpose of this report is to establish what historic information is available pertaining to the site and its accuracy with the site's current condition. This Report will also evaluate current conditions to determine if there are physical conditions which would impede or deter the design and implementation of the design.

Site 1; also known as the Former Drum Marshaling Area, occupies an area of approximately 4 acres. It is surrounded on three sides by a fence and on the fourth side by Plant No. 3, as shown in Figure 1. The site is bisected by a 7 foot high wooden picket fence running north-south. To the west of this fence, the surface consists of mainly concrete and to the east, the surface is earth, gravel, or grass. The northeastern part of the site is slightly elevated (4 feet), well vegetated and well maintained. The southeastern part of the site is gravel and earth and was used for the storage of containers, equipment, and debris which was cleared prior to this site visit. The majority of the investigation at Site 1 occurred in the southeastern portion of the site. A vegetated wind row (pine) and fence are present along the eastern edge of the site to reduce community visibility.

From the early 1950's through the late 1970's, drums containing liquid wastes were stored on a cinder-covered area on Site 1. In the late 1970's this drum marshaling area was relocated a few yards south of this cinder-covered site to a 100 ft x 100 ft concrete pad. This concrete pad was uncovered and did not have any spill containment berms. Drum storage on this concrete pad was terminated in 1982, when all waste containers were relocated to the covered Salvage Storage Area (Site 3).

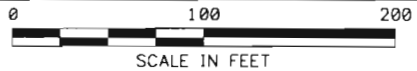
Approximately 200 to 300 drums were stored at Site 1 at any given time between the early 1950's and the early 1980's. The drums contained halogenated and nonhalogenated solvents, and liquids containing high concentrations of cadmium and cyanide.



**SITE 1 - SAMPLING LOCATIONS AND ESTIMATED AREA**

**FIGURE 1**

**OF VOC CONTAMINATION  
NWIRP, BETHPAGE, NEW YORK**



**C F Braun Engineering Corporation**

## 2.0 BACKGROUND DOCUMENTS

During a Remedial Investigation conducted in 1993, soil boring, soil/gas and groundwater samples were collected and analyzed by Halliburton NUS Corporation (HNUS) in order to characterize the nature and extent of subsurface contamination at Site 1.

These analytical results, along with reported historic site activities, were used in this investigation to define the boundaries of the subsurface contamination plume at Site 1. A detailed report of HNUS field activities performed at Site 1 is presented in the Remedial Investigation Report (RI) (Halliburton NUS, October 1993) and the Feasibility Study Report (FS) (Halliburton NUS, March 1994).

The soils at Site 1 were found to contain elevated concentrations of chlorinated solvents such as PCE (4.8 mg/kg), PCBs (1,470 ppm) and metals (arsenic: 3,380 ppm). In addition, PAHs, and other semivolatile organics and metals were found at concentrations greater than background levels. Solvents were detected in both subsurface and surface soils throughout Site 1. The higher concentrations were found in the subsurface soils near the former drum marshaling pad. The other contaminants were found throughout the surface soils at Site 1, indicating widespread surface soil contamination.

The soils at Site 1 contain sufficient residual volatile organic contamination to confirm the source of groundwater contamination as being near or at the former drum marshaling areas. However, based on observed groundwater contamination patterns, there are potentially other source areas at the NWIRP. The groundwater at Site 1 was found to contain elevated concentrations of chlorinated solvents (such as TCE - 1.1 mg/L, PCE - 3.6 mg/L, and TCA - 10 mg/L). Contaminated groundwater from Site 1 extends south and west to approximately the Long Island Railroad, at which point it reaches a depth of approximately 200 feet below ground surface (bgs). Computer modeling performed during the remedial investigation indicates that the contaminated groundwater plume may continue further south both laterally and vertically and eventually be intercepted by Grumman production wells.

Several inorganics (in unfiltered samples) were found at concentrations greater than drinking water criteria, including cadmium (392  $\mu\text{g/L}$ ), chromium (169  $\mu\text{g/L}$ ), and lead (134  $\mu\text{g/L}$ ). The chromium and cadmium results are from a monitoring well considered upgradient of Site 1, although based on the location of the well and the activities at the site, these results could potentially result from Site 1 activities. For filtered samples, inorganics were also detected at concentrations greater than drinking water criteria, including cadmium (91  $\mu\text{g/L}$ ) and chromium (56.7  $\mu\text{g/L}$ ).

The scope of CTO 213 is to remediate the volatile organic contamination using an air sparging/vapor extraction (ASVE) system. The approximate location of the VOC plume is provided in Figure 1.

### **3.0 SITE INVESTIGATION**

A field team visited Site 1 from June 5, 1995 through June 21, 1995 to perform an existing conditions evaluation in conjunction with providing oversight and sampling services to the drilling and surveying subcontractors engaged in performing pre-design activities. The site is divided into two distinct areas; the area inside Plant No. 3 and the area outside Plant No. 3.

#### **3.1 AREA INSIDE PLANT NO. 3**

According to the RI, the area of VOC contamination extends under Plant No. 3. This plant is currently inactive and equipment is frequently being relocated and removed. The most current map of the inside of Plant No. 3 (INDW group, #0127.RGZN, Model = ML of DSL 003) was evaluated for accuracy. It was noted that major equipment has been relocated and removed. The floor inside Plant No. 3 is concrete approximately 8" thick. A major portion of the floor had wooden blocks approximately 4" thick placed over the concrete to provide a softer surface. The different surfaces were noted on the drawing and will be located on the topographic survey. It was discovered during drilling activities that in some areas a layer of reinforced concrete, estimated to be at least 8" thick is located approximately 6' below the surface. The location of the borings installed by the driller is provided in Figure 2. An area where subsurface concrete was discovered, located in the area of boring No. 1, was known to exist based on plant interviews. This concrete is at the base of an abandoned tank pit measuring approximately 15' wide by 20' long by 6' deep. This pit was filled with soil and covered with a concrete floor. Another area, near the location of boring No. 4, was found to have subsurface concrete. No historical information was found that indicated the existence of this concrete, therefore, other areas could also contain subsurface concrete.

A support column survey was conducted to establish what utilities are available inside Plant No. 3. The location of the columns will be established by the topographic surveyors. Table 3-1 provides an inventory of each support column.

#### **3.2 AREA OUTSIDE PLANT NO. 3**

The area outside Plant No. 3 consists of concrete (approximately 8" thick) and soil areas. Six buildings are located East of Plant No. 3 in the immediate area of concern. Building 03-38 is a small utility shed in relatively good condition. Building 03-32 and Building 130 are connected by an enclosed walkway. These



**TABLE 3-1  
SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
DD43	Electric for overhead door control. Sits on a footer block.
DD42	Compressed air connection. Sits on a footer block.
DD41	Equipment shut-off switch. Compressed air connections.
DD40	Outlets, compressed air, equipment shut-off switch.
DD39	Two large equipment breakers, compressed air, loud speaker.
DD38	8-inch water pipe and 3/4-inch hose connection, compressed air, fire hose, outlets, equipment shutoff box.
DD37	Fire extinguisher, outlets, equipment shutoff box, current breaker box (41 spots), compressed air.
DD36	Nothing (circuit breaker boxes on wall between columns DD36 and DD55)
DD35	Nothing
DD34	Outlets, compressed air.
DD33	Compressed air, equipment shutoff box.
DD32	Compressed air, 2 equipment shutoff boxes, 8-inch water line.
DD31	Compressed air, circuit breaker box (42 spots, 277 volts), fire extinguisher, sump pump shutoff box.
EE41	Compressed air.
EE40	Compressed air, large equipment shutoff box, small equipment shutoff box.
EE39	Outlets, compressed air, 2 equipment shutoff boxes.
EE38	Outlets, compressed air, 3 equipment shutoff boxes.
EE37	Fire extinguisher, outlets, compressed air, 3/4-inch water line connection.
EE36	Compressed air, 2 equipment shutoff boxes.
EE35	Outlet, Equipment shutoff box.
EE34	Compressed air.
EE33	Control panel for pumps, compressed air, outlets, equipment shutoff boxes, water line valves and connections.
EE32	Large crane power service and control box, compressed air, equipment shutoff box, 8-inch water line with 3/4" connections.
EE31	Compressed air, equipment shutoff box, outlets, 3/4-inch water connection.

**TABLE 3-1 (Continued)**  
**SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
FF48	In secured area "Caution Hazardous Material." No access.
FF47	In secured area "Caution Hazardous Material." No access.
FF46	In secured area "Caution Hazardous Material." No access.
FF45	In secured area "Caution Hazardous Material." No access.
FF44	In secured area "Caution Hazardous Material." No access.
FF43	Electrical connection boxes (junctions).
FF42	Fire extinguisher, auxiliary drain valve.
FF41	Eye wash and emergency shower, compressed air, outlets.
FF40	Outlets, 26-slot circuit box, compressed air.
FF39	Outlets, compressed air.
FF38	Circuit breaker box (18 connections), outlets, compressed air, eye wash station.
FF37	Circuit breaker box (30 connections), outlets, compressed air.
FF36	Emergency shower, compressed air.
FF35	Compressed air, fuse box, outlets.
FF34	Outlets.
FF33	Outlets, control panel, compressed air.
FF32	Several outlets, 8-inch water line, circuit box, compressed air.
FF31	Outlet.
GG48	In secured area. No access.
GG47	In secured area. No access.
GG46	In secured area. No access.
GG45	In secured area. No access.
GG44	In secured area. No access.
GG43	Compressed air.
GG42	Nothing.
GG41	Compressed air, outlets, equipment shutoff box.
GG40	Nothing.



**TABLE 3-1 (Continued)**  
**SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
GG39	Nothing.
GG38	Nothing.
GG37	Nothing.
GG36	Nothing.
GG35	Nothing.
GG34	Outlet, overhead door motor, equipment shutoff box.
GG33	Large control panel/circuit breaker box (PP-GG-33).
GG32	Outlet.
GG31	Fire hose station (both sides of wall).
HH48	Compressed air, fire extinguisher.
HH47	Electrical junction boxes.
HH46	Nothing.
HH45	Electrical junction box.
HH44	Electrical junction box and outlet.
HH43	Compressed air, 480 volt equipment shutoff box for crane.
HH42	Electrical connection for explosion-proof equipment.
HH41	Outlets, compressed air.
HH40	Outlet, loud speakers.
HH39	Compressed air.
HH38	Circuit box (277-volt) outlets.
HH37	Nothing.
HH36	Outlets.
HH35	Circuit box with 12 connections.
HH34	Circuit box with 42 connections, fire extinguishers, outlet.
HH33	Outlet, equipment shutoff box, telephone (internal only).
HH32	Compressed air, outlets, sprinkler system valves, 8-inch water pipe.
HH31	Compressed air, 277-volt circuit box, 15C control box and electric supply.

**TABLE 3-1 (Continued)**  
**SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
JJ48	Outside wall, compressed air, hydrofluoric acid line and valve
JJ45	Large tank; no access.
JJ44	Circuit box, outlets.
JJ43	Two circuit breaker boxes (480 volts) (28 and 36 spaces).
JJ42	Outlet.
JJ41	Outlet.
JJ40	Nothing.
JJ39	Compressed air; outlet.
JJ38	Outlet, 8-inch water line.
JJ37	Water line (3"), outlets, 3 equipment shutoff boxes, 4-inch water line.
JJ36	Compressed air, outlet, 2- to 4-inch line
JJ35	Circuit breaker box (20-space)
JJ34	Outlet, equipment shutoff box, valve cluster for water, compressed air.
JJ33	Compressed air.
JJ32	Water line (8"), outlets.
JJ31	Control panel for overhead tracks, outlets.
KK48	Nothing.
KK47	Tank farm; no access.
KK46	Tank farm; no access.
KK45	Tank farm; no access.
KK44	Tank farm; no access.
KK43	Electrical junction box.
KK42	480-volt box switch for crane, outlet.
KK41	Compressed air, outlet.
KK40	Outlet, equipment box auto-off.
KK39	Compressed air, outlets.

**TABLE 3-1 (Continued)**  
**SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
KK38	Water fountain, 8-inch water line, 22-space circuit box, outlets, compressed air, equipment shutoff box.
KK37	Fire extinguisher, compressed air, outlets, circuit breaker box, equipment control box, loud speakers.
KK36	Not accessible due to structure (office).
KK35	Compressed air, outlets.
KK34	Compressed air, outlets, equipment control box (2).
KK33	Compressed air, equipment shutoff box.
KK32	Outlets, fire hose, 8-inch water pipe, circuit breaker box.
KK31	Equipment panel box, outlets, equipment shutoff box.
LL48	Compressed air, caustic line, 430-volt boxes for pumps (2).
LL47	Tank farm; no access.
LL46	Tank farm; no access.
LL45	Tank farm; no access.
LL44	Tank farm; no access.
LL43	Outlet.
LL42	Nothing.
LL41	Outlet, compressed air.
LL40	Outlet.
LL39	Fire hose.
LL38	8-inch water pipe, 2 crane control boxes, outlet.
LL37	2 crane control boxes.
LL36	1 outlet.
LL35	Nothing.
LL34	Fire hose, compressed air, outlet.
LL33	Nothing.

**TABLE 3-1 (Continued)**  
**SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
LL32	Outlets, 8-inch water line, 3 crane control boxes.
LL31	Nothing.
MM49	Water pump control box.
MM48	Outlets.
MM47	Water shower and eye wash station, compressed air.
MM46	Outlets.
MM45	Blocked in by electric cabinets and tanks.
MM44	Large electrical and control cabinet.
MM43	Compressed air, outlet.
MM42	Nothing.
MM41	Compressed air, emergency eye wash and shower station.
MM40	Compressed air.
MM39	Loud speaker, well water valves, equipment shutoff box.
MM38	Emergency eye wash and shower station, compressed air.
MM37	4-inch water line, large cabinet electrical and pump control.
MM36	Emergency eye wash and shower station, compressed air.
MM35	2 equipment shutoff boxes, circuit breaker box.
MM34	Compressed air, 4-inch water line.
MM33	Equipment shutoff box.
MM32	Eye wash and shower station, compressed air, loud speaker.
MM31	2 equipment shutoff boxes.
NN42	Other wall; nothing on visible columns; columns NN43 and NN44 behind tanks.
NN41	Brick column; nothing directly on brick column.
NN40	Brick column; nothing directly on brick column.
NN39	Brick column; nothing directly on brick column.
NN38	Brick column; nothing directly on brick column.

**TABLE 3-1 (Continued)**  
**SUPPORT COLUMN SURVEY**

Support Column Number	Utility Description
NN37	Brick column; nothing directly on brick column.
NN36	Brick column; nothing directly on brick column.
NN35	Brick column; nothing directly on brick column.
NN34	Brick column; nothing directly on brick column.
NN33	Brick column; nothing directly on brick column.
NN32	Brick column; nothing directly on brick column.
NN31	Brick column; nothing directly on brick column.

buildings are used for equipment storage and as garages. Building 03-33 is the newest and largest of these buildings and is used as a utility shed. In the southeastern corner of the site two old sheds are currently being used to store old equipment. The map created in the RI was verified and updated based on the site visit to include building names and additional detail of the site as shown in Figure 2.

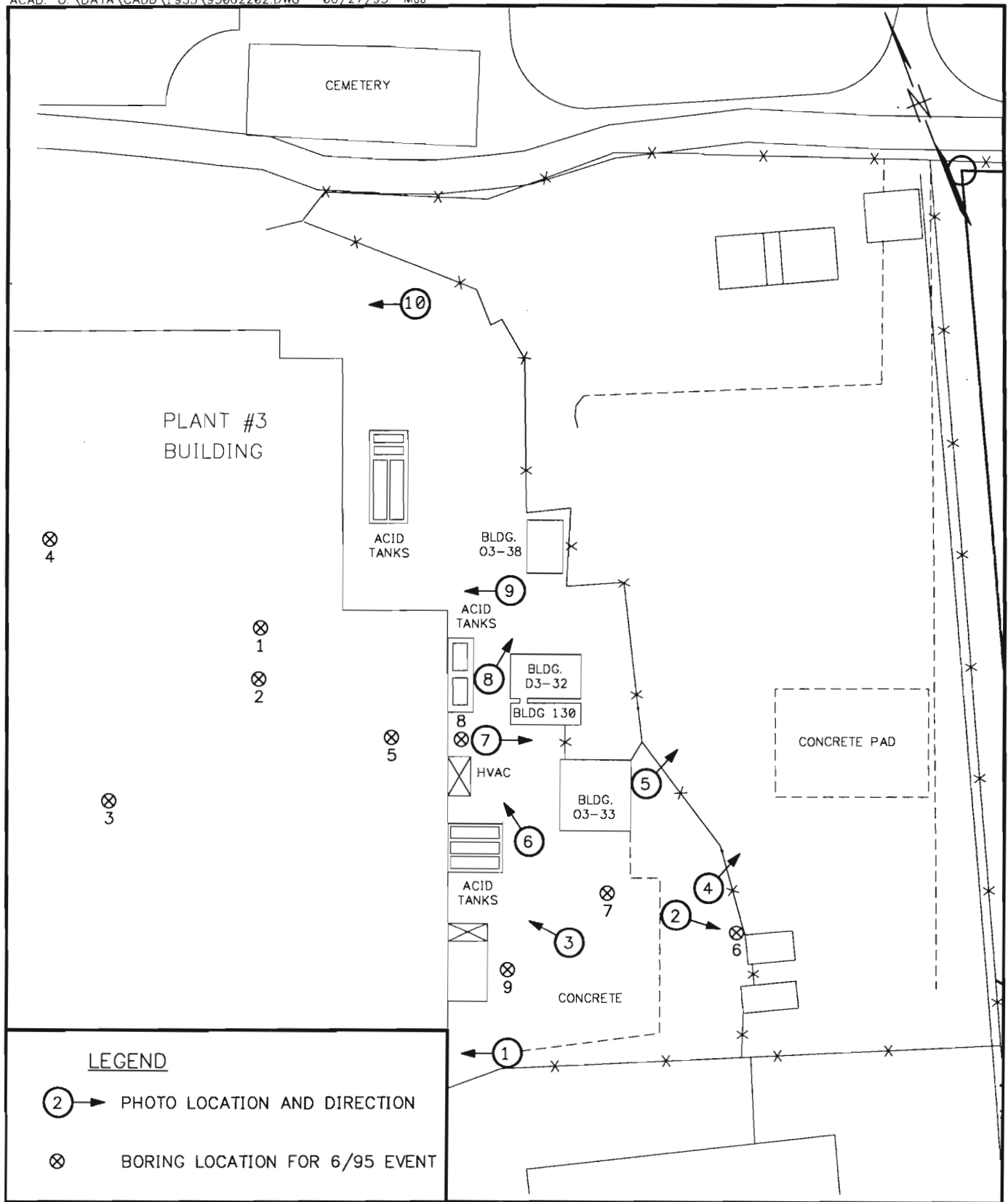
Photographs were taken of the area outside Plant No. 3 which included the outside of Plant No. 3. These photographs were taken to show the existing condition of the existing buildings, concrete, and bare ground areas. These photographs also show the Plant No. 3 equipment access doors. Figure 3 provides the location of and direction from which the photographs were taken.

The other concrete area of the site currently is covered with large casts. These casts are easily moved. A large tank also exists in the area. Attached to the outside of Plant No. 3 exists several acid storage tanks as shown in Figure 2.

#### **4.0 CONCLUSIONS**

No significant changes were noted when comparing the historical information to the current site conditions. Because the facility is inactive, equipment is being removed, however this will not adversely affect the design or implementation of the design.

Based on the site conditions the design and implementation of the design does not appear to be a problem. There is no physical obstacles that would prevent completing the remediation at the site.



**SITE 1**

**FIGURE 3**

**SKETCH OF PHOTOGRAPH LOCATIONS  
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT**

**BETHPAGE, NEW YORK**

**CF Braun Engineering Corporation**

June 8, 1995



Photo #1: South side of plant #3 looking west.

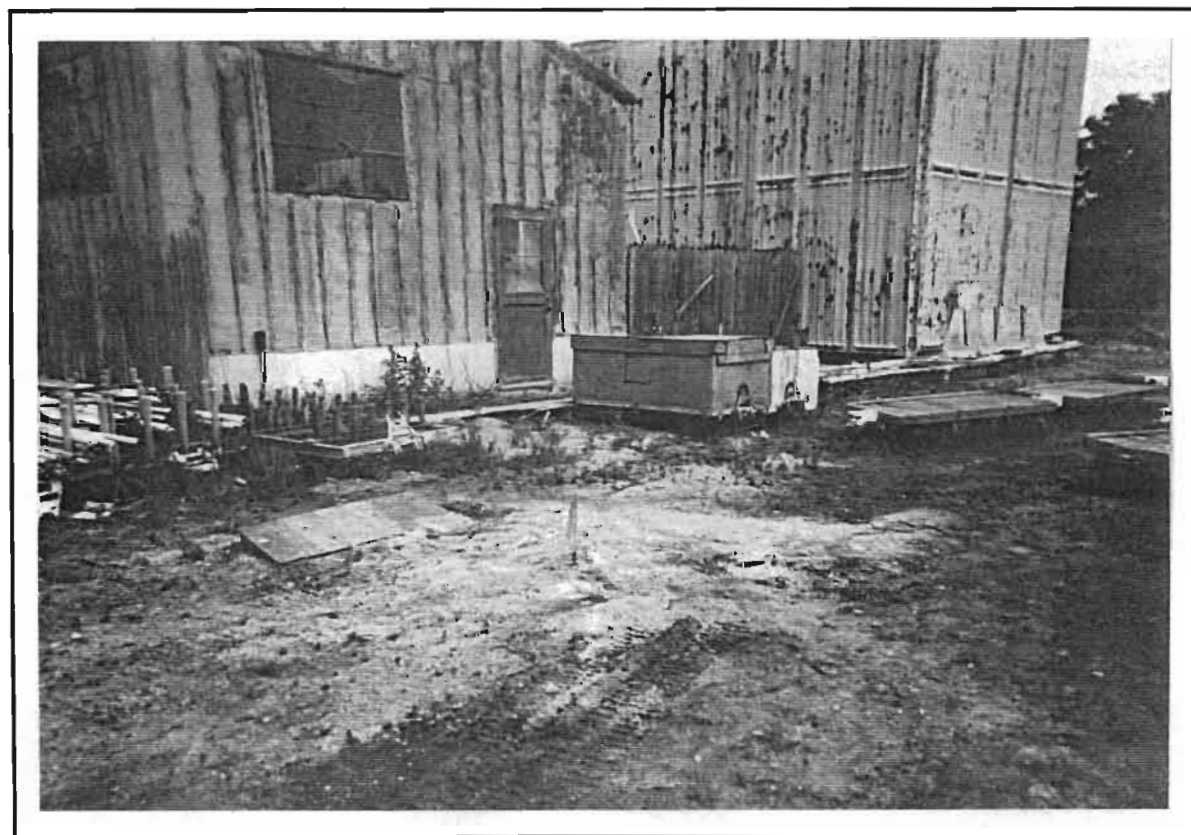


Photo #2: Boring #6 behind old maintenance shed looking east.



EXISTING CONDITION PHOTOGRAPHS

June 8, 1995



Photo #3: East side of Plant #3 looking northwest.



Photo #4: Area east of fence looking toward eastern extent of VOC contamination.

EXISTING CONDITION PHOTOGRAPHS

June 8, 1995

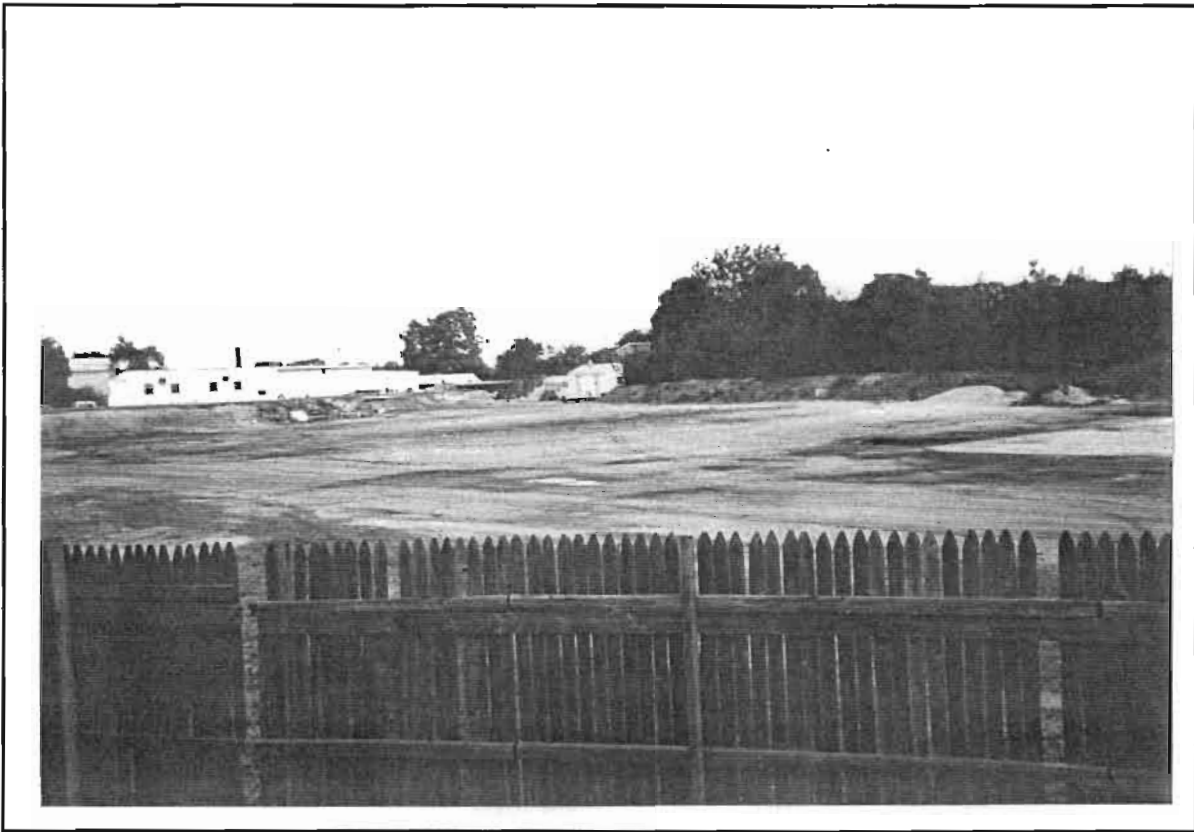


Photo #5: Area east of fence looking toward eastern extent of VOC contamination.



Photo #6: East side of plant #3 looking northwest.

EXISTING CONDITION PHOTOGRAPHS

June 8, 1995

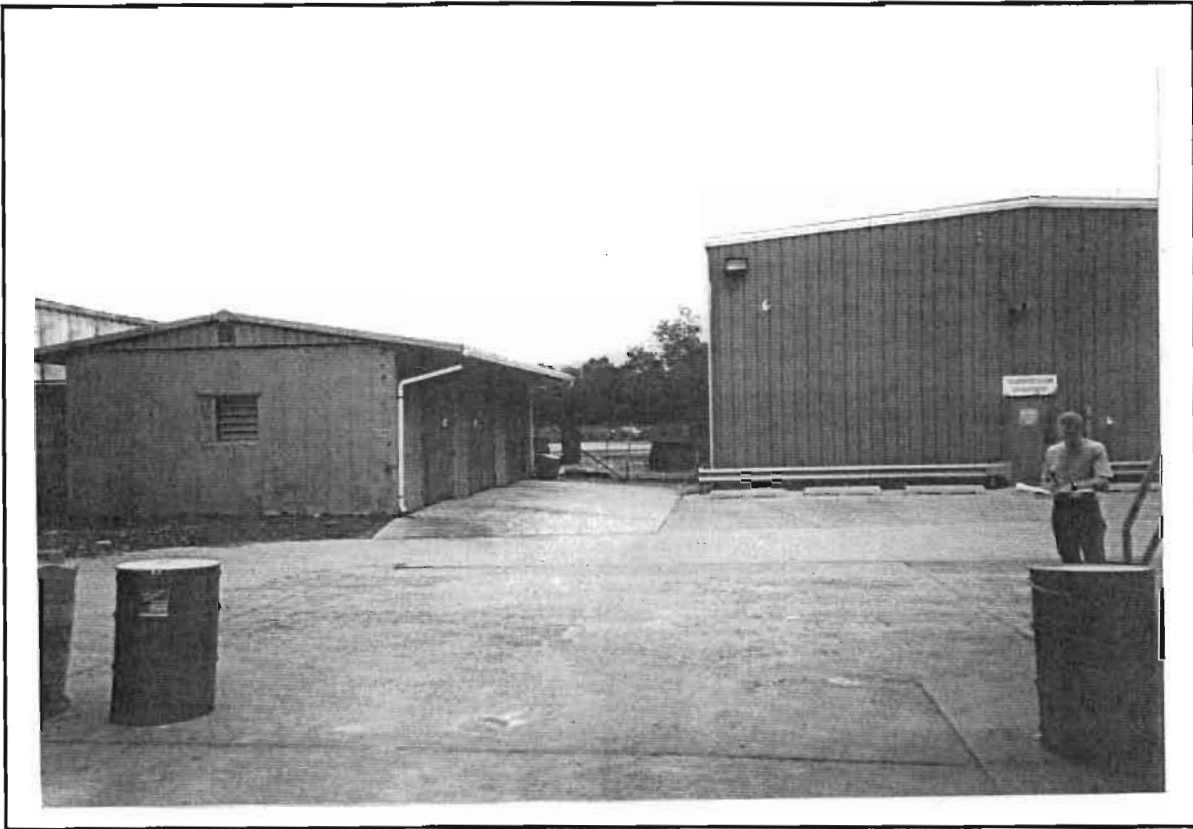


Photo #7: Looking east between building 130 & 03-33 toward eastern extent of VOC contamination.

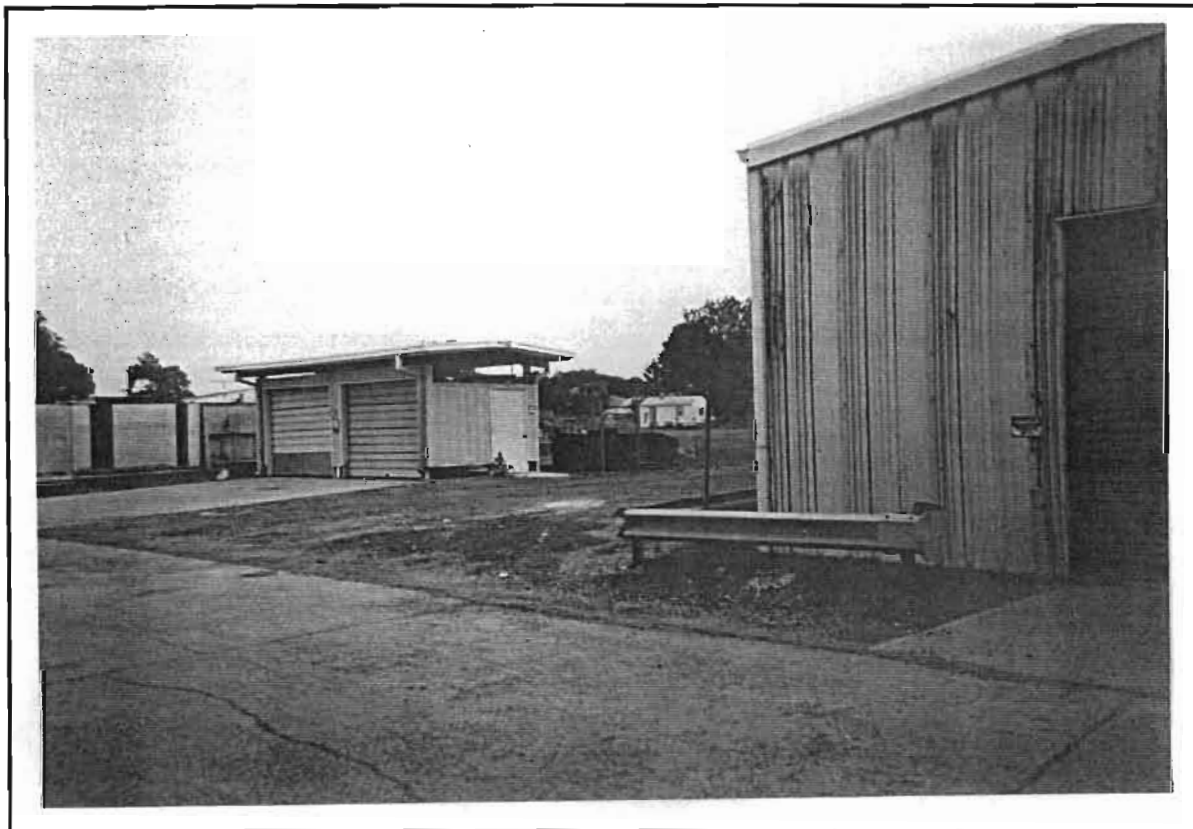


Photo #8: Looking northeast in the direction of building 03-38 toward northern extent of VOC contamination.

EXISTING CONDITION PHOTOGRAPHS

June 8, 1995



Photo #9: East side of plant #3 looking west.



Photo #10: Northeast corner of plant #3 looking west.

## REFERENCES

Halliburton NUS, March 1994. Feasibility Study Report for NWIRP Bethpage, NY.

Halliburton NUS, October 1993. Phase 2 Remedial Investigation Report for NWIRP Bethpage, NY.

Halliburton NUS, May 1995. Field Sampling and Analysis Plan for Site 1 - Former Drum Marshaling Area, NWIRP Bethpage, NY.