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NAS CECIL FIELD, FL
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MONITORING ONLY PROPOSAL FOR NATURAL ATTENUATION AT JET ENGINE TEST
CELL LETTER REPORT NAS CECIL FIELD FL
4/5/1999
HARDING LAWSON ASSOCIATES



April 5, 1999

2539-3305

Florida Department of Environmental Protection
Attention: Mr. Michael Deliz
Twin Tower Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399

**Subject: Monitoring Only Proposal for Natural Attenuation, Jet Engine Test Cell
Naval Air Station Cecil Field
Jacksonville, Florida
Contract No. N62467-89-D-0317/090**

Dear Mr. Deliz:

INTRODUCTION

Harding Lawson Associates (HLA) was contracted by Southern Division, Naval Facilities Engineering Command to prepare a Monitoring Only Proposal for Natural Attenuation (MONA) for the Jet Engine Test Cell at Naval Air Station (NAS) Cecil Field, Jacksonville, Florida. This memorandum provides details concerning the MONA and the supplemental sampling results to support this recommendation.

SITE BACKGROUND INFORMATION

The Jet Engine Test Cell site is located at NAS Cecil Field, Jacksonville, Florida. NAS Cecil Field is situated in southwestern Duval County at the junction of Highway 228 (Normandy Boulevard) and 103rd Street (see Figure 1 in Attachment A). The Jet Engine Test Cell facility is located on the main base northeast of the Jet Road and 9th Street intersection (see Figure 2 in Attachment A). The facility consists of three buildings and one foundation of a former building. The foundation of Building 811, which was formerly constructed as a temporary test cell, is northernmost; Buildings 339 and 334 are central; and Building 328 is southernmost.

Between former Building 811 and Building 339 is a fuel tanks yard, which is approximately 3,200 square feet in area. In the western part of the yard are two 20,000-gallon, asphalt-coated steel underground storage tanks numbered 339-TC1 and 339-TC2. These tanks, installed in 1953, contain jet propellant-5 jet fuel and have corrosion resistant-coated metal pipes with cathodic protection.

In October 1989, precision fitness tests were attempted on Tanks 339-TC1 and 339-TC2. Due to inadequate seals between the manway covers and the tank walls, leaks occurred and the tests were terminated. Several spills have also occurred as a result of overfilling. As an outcome of the release detection program findings, contamination assessment began at the Jet Engine Test Cell site.



The third storage tank, Tank 339-TC3, was located in the eastern part of the yard on a vacant tank pad. Tank 339-TC3 was a 5,000-gallon aboveground storage tank constructed of stainless steel. Tank 339-TC3, installed in 1970 to serve temporary operations in Building 811, rested on a concrete base and was surrounded by a 3-foot-high concrete block wall. This tank was removed in June 1996; following the removal, free product leaking from the product distribution line from Tank 339-TC3, which served Building 811, was observed by members of the NAS Cecil Field Public Works Center. This distribution line has been disconnected and left in place. The quantity of fuel released is unknown.

As part of the Remedial Action Plan (RAP) (ABB Environmental Services, Inc. [ABB-ES], 1996) implementation, an initial remedial action (IRA) was performed at the Jet Engine Test Cell site in August 1997. The IRA consisted of soil excavation and removal. The Environmental Detachment, Charleston, South Carolina (DET) removed approximately 2,400 cubic yards of contaminated soil from the site in an attempt to achieve source removal. However, the excavation was not completed due to the presence of a 6-inch steel sanitary sewer line near the former Building 811. An additional excavation took place in August 1998. The DET completed the remainder of the excavation, removing the steel sanitary sewer line, replacing it with a 6-inch polyvinyl chloride pipe, and backfilling the area of excavation. The volume of contaminated soil excavated was approximately 450 cubic yards (DET, 1998). For further details on the excavation, refer to the DET Completion Report, Jet Engine Test Cell (see Attachment D).

Following the IRA, three long-term monitoring wells were installed upgradient, within, and immediately downgradient of the groundwater plume. One shallow monitoring well, designated CEF-339-28S, was installed within the area of highest contaminant concentrations. A second shallow monitoring well, CEF-339-29S, was installed south of the former free-product area associated with monitoring well CEF-811-24 to be used for plume characterization. Monitoring well CEF-339-30S was installed to replace downgradient monitoring well CEF-811-27, which was destroyed during excavation.

Two other existing monitoring wells were also proposed as long-term monitoring wells in the RAP to observe the degradation of the contaminants and plume retardation. Monitoring well CEF-811-02 will be used to monitor upgradient site conditions. Monitoring well CEF-811-10 was to be used as a long-term monitoring well to monitor contaminant migration and transverse flow, but it was destroyed during excavation.

The above monitoring well identifications (e.g., CEF-339-28S) are the full standard Navy nomenclature used to identify all monitoring well locations at naval facilities. Monitoring well locations for the Jet Engine Test Cell are shown on Figure 3 (see Attachment A) using an abbreviated form of identification (i.e. MW28S) to eliminate congestion in reading and interpreting the figure.

BASELINE GROUNDWATER SAMPLING

Groundwater sampling was conducted at the Jet Engine Test Cell on November 4, 1998 to establish post-evaluation baseline groundwater conditions. During this event, groundwater-level measurements were obtained and groundwater samples were collected from long-term monitoring wells designated in the RAP (ABB-ES, 1996) (see Figure 3 in Attachment A) with the exception of CEF-811-10, which could not be located and was assumed to be destroyed during the IRA excavation. Groundwater elevations are summarized in Table 1 (Attachment B) and presented on Figure 4 (Attachment A). Groundwater analytical results are summarized in Table 2 (Attachment B) and presented in Analytical Results (Attachment C).

After additional review and meetings with FDEP, a second set of baseline groundwater samples were collected at the Jet Engine Test Cell on March 2, 1999. During this event, groundwater-level measurements were obtained and groundwater samples were collected from monitoring wells designated by FDEP including CEF-811-17, CEF-811-18, CEF-811-21, and CEF-811-26 (see Figure 3 in Attachment A). Groundwater elevations are summarized in Table 1 (Attachment B) and presented in Figure 5 (Attachment A). Groundwater analytical results are summarized in Table 2 (Attachment B) and presented in Analytical Results (Attachment C).

Natural attenuation parameters were not collected during this sampling event.

For purposes of monitoring natural attenuation, electron acceptor concentrations and other physical parameters such as temperature, pH, specific conductivity, oxidation reduction potential, and turbidity were also measured during this sampling event. These data will provide a new baseline to evaluate natural attenuation at the site. These data were previously collected in September 1996, but due to the IRA excavation and source removal, site conditions are assumed to have changed. The physical parameters collected during this sampling event are listed in Table 3 (Attachment B).

Sample Collection and Analysis. Samples for both events were collected in accordance with Level E data quality requirements (Naval Energy and Environmental Support Activity, 1988). Low-flow purging was conducted using a peristaltic pump operating at a flow rate of approximately 1 liter per minute. Approximately three well volumes were purged from each well. On-site measurements of temperature, pH, specific conductivity, turbidity, and oxidation reduction potential were collected. Once the physical parameters stabilized, measured values were recorded in the field logbook and a groundwater sample was collected in a 1-liter glass jar to be analyzed for "in-field" data. HACH™ field test kits and the HACH™ DR 850 colorimeter were used for the detection of natural attenuation parameters, including dissolved oxygen, ferrous iron, sulfate, nitrate, carbon dioxide, and alkalinity. These data, along with the analytical results for methane and the 1996 data, are summarized in Table 4 (see Attachment B).

The contaminants of concern at the Jet Engine Test Cell site are total volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs), specifically naphthalene. Groundwater to be analyzed for PAHs by U.S. Environmental Protection Agency (USEPA) Method 610 was collected first directly from the peristaltic pump tubing. Groundwater to be analyzed for total VOCs by USEPA Method 602 and methane by Method RSK 175 was then collected from the Teflon™ tubing connected to the pump. The results are summarized in Table 2 (see Attachment B). Laboratory analytical results are presented in Attachment C.

Sampling Analytical Results. Benzene (2.1 micrograms per liter [$\mu\text{g}/\ell$]), ethylbenzene (30 $\mu\text{g}/\ell$), and total xylenes (30 $\mu\text{g}/\ell$) were detected in the source well, monitoring well CEF-339-28S. Ethylbenzene (1.2 $\mu\text{g}/\ell$) was detected in monitoring well CEF-339-29S. No VOCs were detected in monitoring wells CEF-811-02 and CEF-339-30S.

Three PAHs were detected in monitoring well CEF-339-28S: 1-methylnaphthalene (30 $\mu\text{g}/\ell$), 2-methylnaphthalene (50 $\mu\text{g}/\ell$), and naphthalene (75 $\mu\text{g}/\ell$). PAHs detected in monitoring well CEF-339-30S included 1-methylnaphthalene (29 $\mu\text{g}/\ell$) and 2-methylnaphthalene (45 $\mu\text{g}/\ell$). No PAHs were detected in monitoring well CEF-811-02 and CEF-339-30S.

MONA FOR GROUNDWATER

Based on the baseline groundwater sampling results, monitoring only for natural attenuation in groundwater is recommended for the Jet Engine Test Cell site. A MONA for the Jet Engine Test Cell would require the sampling of upgradient, source, and downgradient monitoring wells on a quarterly basis.

The Jet Engine Test Cell site meets the following natural attenuation criteria specified in Chapter 62-770.690, Florida Administrative Code:

- there is no free product present;
- contaminated soil was removed during the IRA soil excavation;
- groundwater contamination is limited to the source well, CEF-339-28S; and
- contaminant concentrations in the source well are less than the Natural Attenuation Default Source Concentrations (Table 2).

The following groundwater monitoring program is recommended:

- quarterly sampling of monitoring wells CEF-339-28S (source), CEF-339-29S (source), CEF-339-30S (downgradient), and CEF-811-02 (upgradient), CEF-811-17 (perimeter), CEF-811-18 (perimeter), CEF-811-21 (perimeter), and CEF-811-26 (perimeter);
- analysis of groundwater samples by USEPA Method 602 and USEPA Method 610; and
- submittal of quarterly monitoring event analytical results in a written report to Florida Department of Environmental Protection (FDEP) within 60 days of sample collection.

At the end of the 1-year monitoring period, if groundwater contaminant levels have not decreased to or below the target concentrations shown in Table 2, monitoring for an additional year may be required. If concentrations do not show decreasing trends during this time frame, further assessment or development of an RAP will be necessary.

The approved remedial action by natural attenuation monitoring period is 5 years. "Milestone" objectives are established if monitoring is projected to take greater than 1 year. The following are the "milestone" objectives that will be used for annual evaluation of remediation progress by natural attenuation. An explanation of the progress relative to these milestone objectives, and the need for corrective action (if applicable), should be provided in the annual evaluation.

Compound	Milestone Objectives (µg/l)				
	End of:				
	Year 1	Year 2	Year 3	Year 4	Year 5
Benzene	2	1	1	1	<1
Ethylbenzene	30	<30	<30	<30	<30
Xylenes	28	26	<20	<20	<20
Naphthalene	60	45	30	20	<20

Groundwater Sampling and Analyses for MONA. Groundwater samples will be collected in accordance with a Florida-approved Quality Assurance Plan (QAP). Samples will be shipped to an approved analytical laboratory and will be analyzed for VOCs by USEPA Method 602 and PAHs by USEPA Method 610.

Report Preparation. A written report will be prepared and submitted to Southern Division, Naval Facilities Engineering Command and FDEP within 60 days of each quarterly sampling event. The report will discuss the groundwater sampling analytical results and present a brief review of site background information and site conditions. Site location maps, locations of monitoring wells, and groundwater analytical results tables will be included in the reports.

CONCLUSIONS AND RECOMMENDATIONS

Based on the supplemental sampling results, it is recommended that quarterly monitoring for natural attenuation in groundwater be implemented at the Jet Engine Test Cell site. It is recommended that the monitoring be implemented for a 1-year period beginning immediately upon approval of this proposal. This monitoring will be performed in accordance with a Florida-approved QAP. If concentrations do not show decreasing trends during this time frame, further monitoring and/or assessment may be required or an RAP will be developed.

Please contact me if you have any questions or comments regarding this report.

Yours very truly,

HARDING LAWSON ASSOCIATES



Rao Angara
Project Manager



Eric Blomberg, P.G.
Senior Hydrogeologist

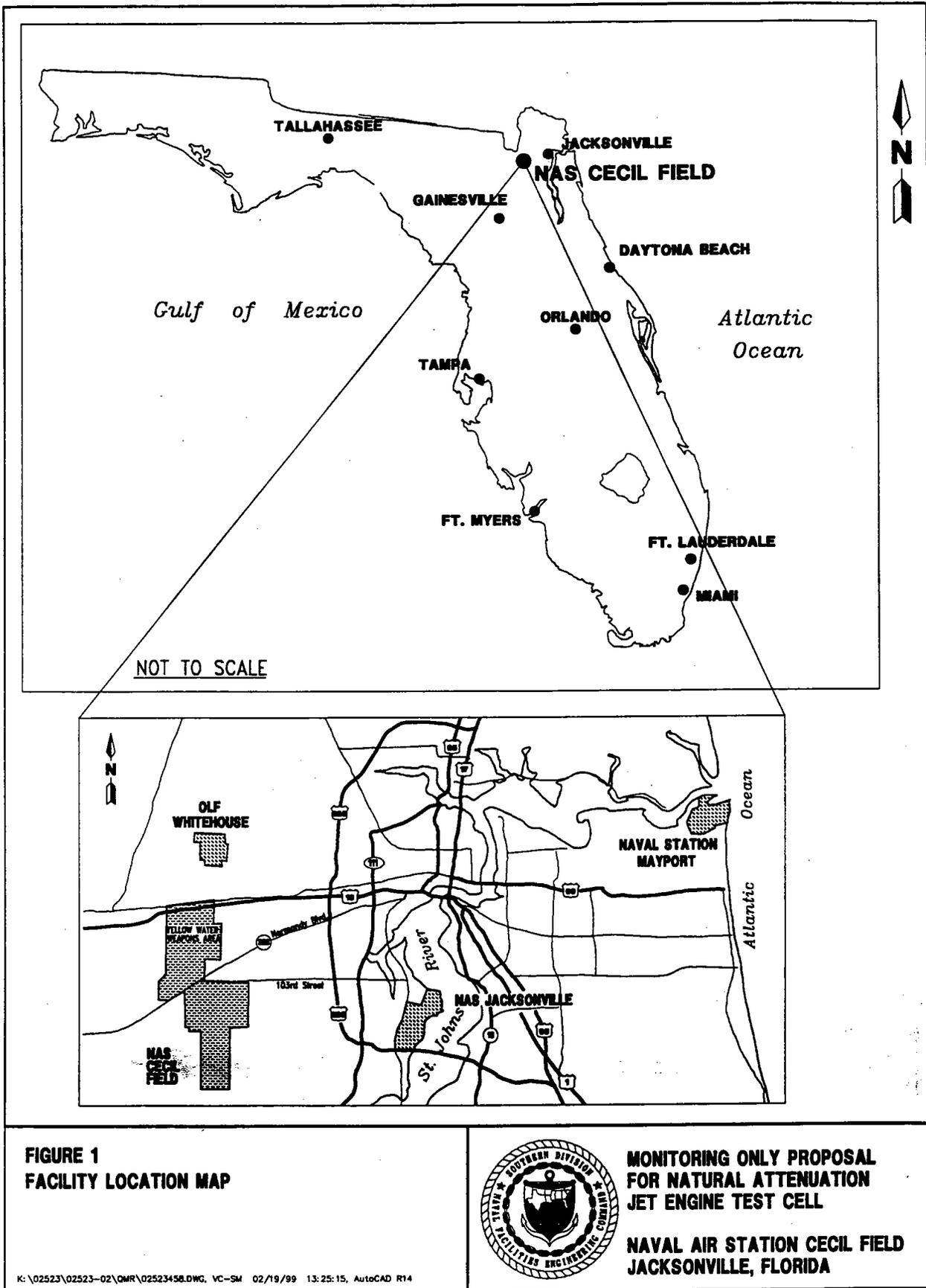
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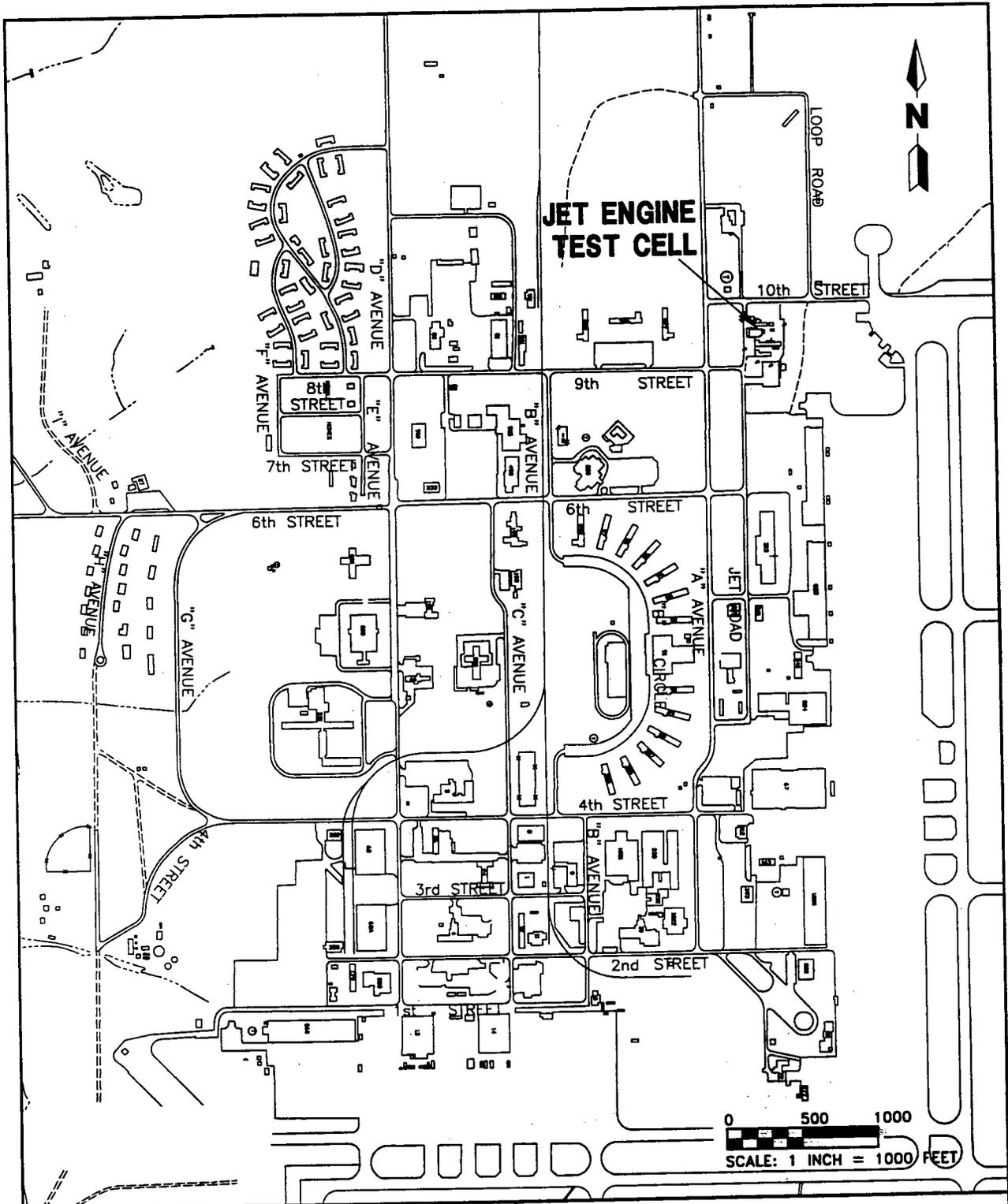
cc: B. Kizer, Southern Division
S. Glass, Southern Division
J. Flowe, City of Jacksonville
D. Vaughn-Wright, USEPA
S. Pratt, TTNUS
D. Ferris, TTNUS
D. Kruzicki, NASCF
N. Hatch, CH₂MHill
File

REFERENCES

- ABB Environmental Services, Inc. (ABB-ES). 1996. *Remedial Action Plan, Jet Engine Test Cell, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina.
- Environmental Detachment, Charleston, South Carolina. 1998. *Jet Engine Test Cell Contaminated Soil Removal, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina.
- Naval Energy and Environmental Support Activity (NEESA). 1988. *Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation and Restoration Program*. NEESA 20.2-047b. Port Hueneme, California.

ATTACHMENT A
FIGURES





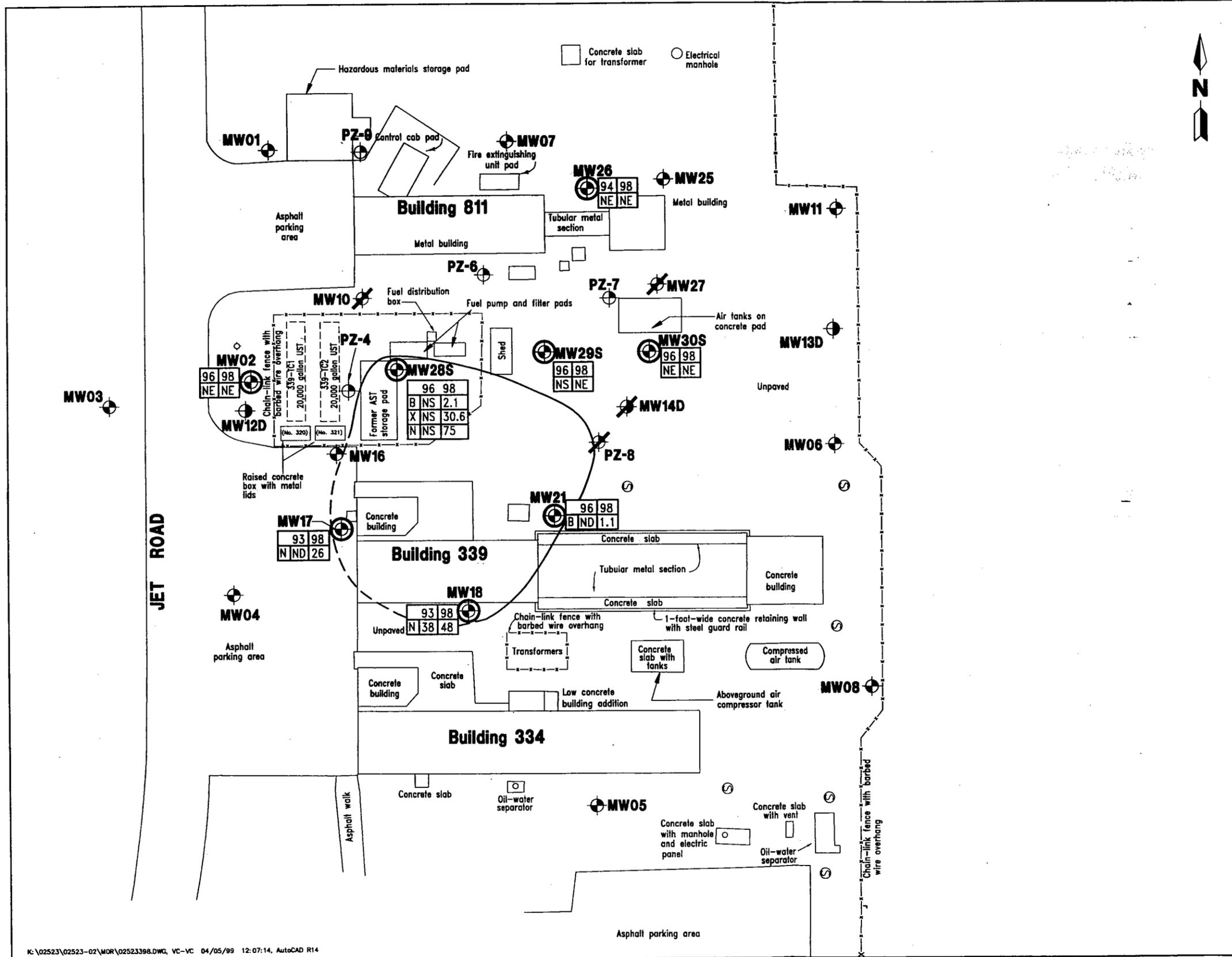
**FIGURE 2
SITE LOCATION MAP**



**MONITORING ONLY PROPOSAL
FOR NATURAL ATTENUATION
JET ENGINE TEST CELL**

**NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

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NOTES:

- Monitoring wells MW28S, MW29S and MW30S were installed following excavation.
- MW30 was installed to replace MW27. MW27 was destroyed during excavation activities.
- MW10 destroyed during excavation.

LEGEND

- PZ-8 Piezometer location and designation
- MW01 Monitoring well location and designation
- MW12D Deep monitoring well location and designation
- MW27 Destroyed monitoring well location and designation
- MW29S Monitoring wells selected for MONA program

96	98	
B	NS	2.1
X	NS	30.6
N	NS	75

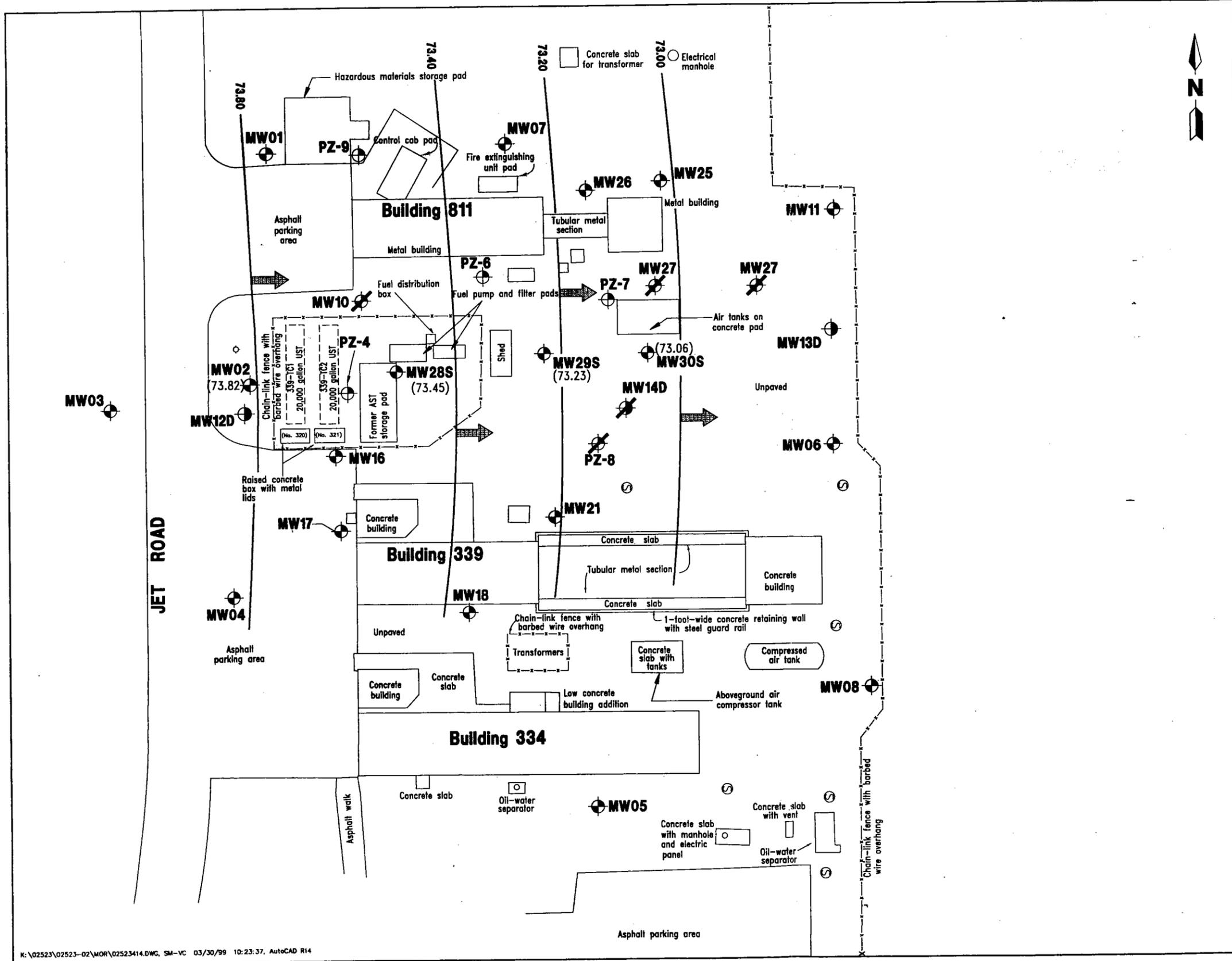
Approximate extent of petroleum contamination in groundwater (dashed where inferred)

- AST Aboveground storage tank
- UST Underground storage tank
- ND Not detected
- NE No exceedences
- NS Not sampled
- MONA Monitoring only for natural attenuation
- µg/l Micrograms per liter
- Sanitary sewer manhole

FIGURE 3
MONITORING WELL LOCATIONS AND EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER

FIRST QUARTER MONITORING REPORT
JET ENGINE TEST CELL

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA



- NOTES:**
1. Monitoring wells MW28S, MW29S and MW30S were installed following excavation.
 2. MW30 was installed to replace MW27. MW27 was destroyed during excavation activities.
 3. MW10 destroyed during excavation.

LEGEND

- PZ-8 Piezometer location and designation
- MW02 Monitoring well location and designation with groundwater elevation in feet (NGVD) (73.82)
- MW12D Deep monitoring well location and designation
- MW27 Destroyed monitoring well location and designation
- 73.80- Groundwater equipotential contour line in feet (NGVD)
- NGVD National Geodetic Vertical Datum
- Groundwater flow direction
- AST Aboveground storage tank
- UST Underground storage tank
- Sanitary sewer manhole

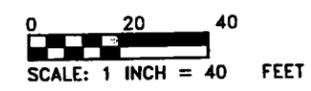
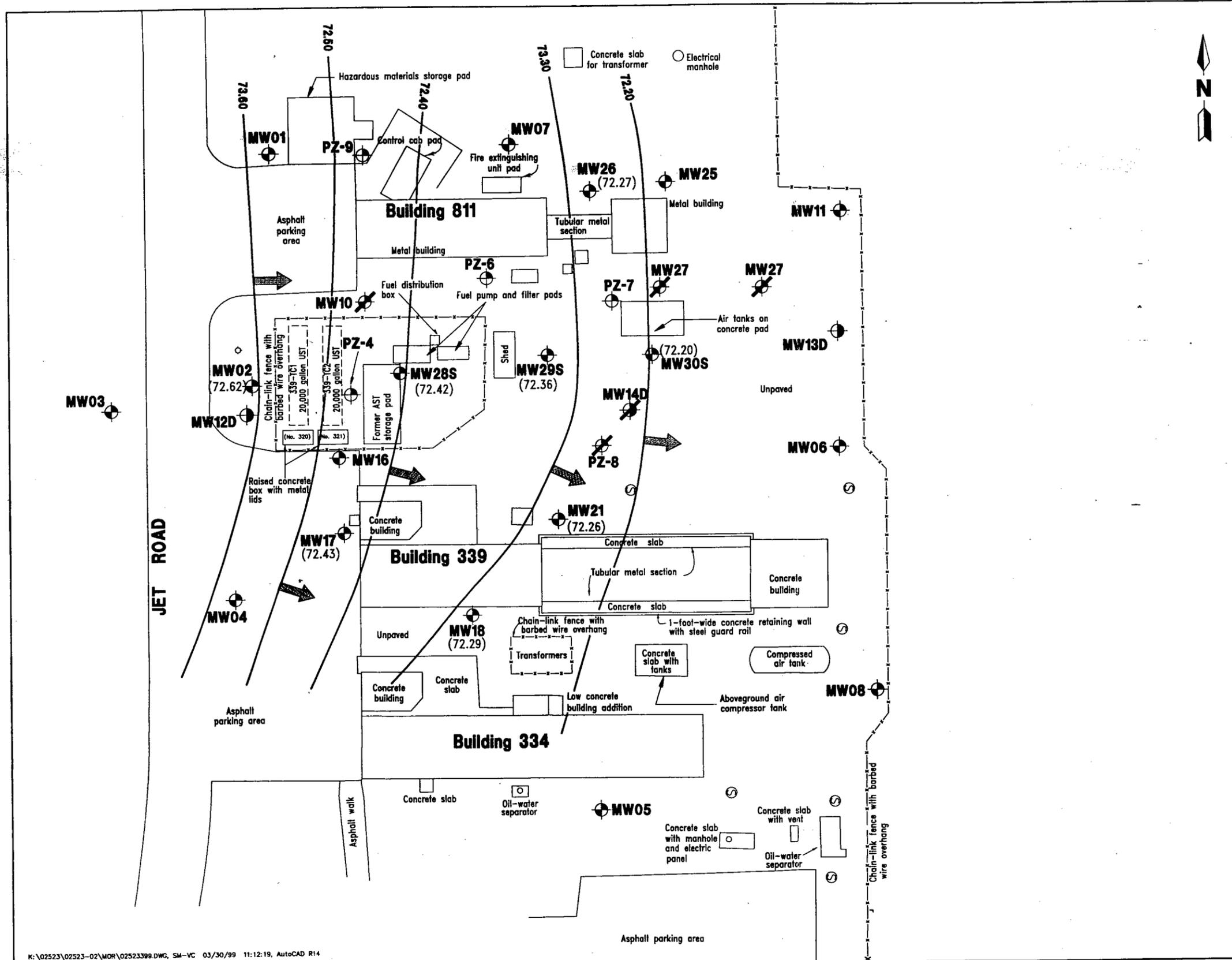


FIGURE 4
GROUNDWATER ELEVATION MAP
NOVEMBER 4, 1998



MONITORING ONLY PROPOSAL
FOR NATURAL ATTENUATION
JET ENGINE TEST CELL
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

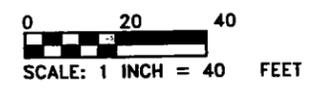


NOTES:

1. Monitoring wells MW28S, MW29S and MW30S were installed following excavation.
2. MW30 was installed to replace MW27. MW27 was destroyed during excavation activities.
3. MW10 destroyed during excavation.

LEGEND

- PZ-8 Piezometer location and designation
- MW02 Monitoring well location and designation with groundwater elevation in feet (NGVD) (73.82)
- MW12D Deep monitoring well location and designation
- MW27 Destroyed monitoring well location and designation
- 72.60- Groundwater equipotential contour line in feet (NGVD)
- NGVD National Geodetic Vertical Datum
- Groundwater flow direction
- AST Aboveground storage tank
- UST Underground storage tank
- Sanitary sewer manhole



**FIGURE 5
GROUNDWATER ELEVATION MAP
MARCH 2, 1999**



**MONITORING ONLY PROPOSAL
FOR NATURAL ATTENUATION
JET ENGINE TEST CELL

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

ATTACHMENT B

TABLES

Table 1
Well Construction and Water Table Elevation Data

Monitoring Only Proposal for Natural Attenuation
 Jet Engine Test Cell
 Naval Air Station Cecil Field
 Jacksonville, Florida

Monitoring Well No.	Total Well Depth (feet bls)	Screened Interval (feet bls)	TOC Elevation ¹ (feet NGVD)	November 4, 1998		March 2, 1999	
				Depth to Water (feet BTOC)	Water-Level Elevation ¹ (feet NGVD)	Depth to Water (feet BTOC)	Water-Level Elevation ¹ (feet NGVD)
CEF-811-02	14.83	4.83 to 14.83	79.47	5.65	73.82	6.85	72.62
CEF-339-28S	14.00	4.00 to 14.00	79.64	6.19	73.45	7.22	72.42
CEF-339-29S	14.00	4.00 to 14.00	79.49	6.26	73.23	7.13	72.36
CEF-339-30S	14.00	4.00 to 14.00	79.16	6.10	73.06	6.96	72.20
CEF-811-17	14.70	4.70 to 14.70	79.25	NM	NA	6.82	72.43
CEF-811-18	14.92	4.92 to 14.92	79.42	NM	NA	7.13	72.29
CEF-811-21	15.00	5.00 to 15.00	79.06	NM	NA	6.80	72.26
CEF-811-26	14.00	4.00 to 14.00	79.70	NM	NA	7.43	72.27

¹ Benchmark elevation of 79.48 taken from concrete wall at the intersection of "A" Avenue and Loop Road at the North Fuel Farm site. Elevations for wells containing free product have been corrected to account for density differentials between the product and the water column.

Notes: Groundwater elevations taken only for those points sampled in November 1998.

- bls = below land surface.
- TOC = top-of-casing.
- NGVD = National Geodetic Vertical Datum.
- BTOC = below top of casing.
- NA = not applicable.
- NM = not measured.

Table 2
Summary of Detections in Groundwater

Monitoring Only Proposal for Natural Attenuation
Jet Engine Test Cell
Naval Air Station Cecil Field
Jacksonville, Florida

Analyte	Monitoring Well CEF-								Groundwater Cleanup Target Levels ¹	Natural Attenuation Default Source Concentrations ²	Milestone Objectives (End of Year 1)
	811-02		339-28S		339-29S		339-30S				
	1996	1998	1996	1998	1996	1998	1996 ³	1998			
Volatle Organic Compounds (USEPA Method 601/602) (µg/l)											
Benzene	ND	ND	NS	2.1	NS	ND	ND ³	ND	1	100	2
Ethylbenzene	ND	ND	NS	30	NS	1.2	ND ³	ND	30	300	30
Toluene	ND	ND	NS	ND	NS	ND	ND ³	ND	40	400	NA
Total Xylenes	ND	ND	NS	30.6	NS	ND	ND ³	ND	20	200	28
Polynuclear Aromatic Hydrocarbons (USEPA Method 610) (µg/l)											
Naphthalene	ND	ND	NS	75	NS	ND	ND ³	ND	20	200	60
1-Methylnaphthalene	ND	ND	NS	36	NS	ND	³ 56	29	NA	NA	NA
2-Methylnaphthalene	ND	ND	NS	50	NS	ND	³ 39	45	NA	NA	NA
Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/l)											
TRPH	ND	ND	NS	ND	NS	ND	ND ³	ND	5	50	NA
See notes at end of table.											

Table 2 (Continued)
Summary of Detections in Groundwater

Monitoring Only Proposal for Natural Attenuation
Jet Engine Test Cell
Naval Air Station Cecil Field
Jacksonville, Florida

Analyte	Monitoring Well CEF-										Groundwater Cleanup Target Levels ¹	Natural Attenuation Default Source Concentrations ²	Milestone Objectives (End of Year 1)
	811-17		811-18		811-21			811-26					
	1993	1998	1993	1998	1993	1996	1998	1994	1998				
Volatile Organic Compounds (USEPA Method 601/602) ($\mu\text{g}/\text{l}$)													
Benzene	ND	ND	ND	NS	ND	ND	1.1	ND	ND	1	100	2	
Ethylbenzene	ND	ND	2.2	NS	ND	ND	ND	ND	ND	30	300	30	
Toluene	ND	ND	ND	NS	ND	ND	ND	ND	ND	40	400	NA	
Total Xylenes	18	ND	ND	NS	4.6	ND	ND	ND	1.2	20	200	28	
Polynuclear Aromatic Hydrocarbons (USEPA Method 610) ($\mu\text{g}/\text{l}$)													
Naphthalene	ND	26	38	48	ND	ND	ND	ND	ND	20	200	60	
1-Methylnaphthalene	11	16	27	22	ND	ND	ND	ND	ND	NA	NA	NA	
2-Methylnaphthalene	ND	25	20	36	ND	ND	ND	ND	ND	NA	NA	NA	
TRPH (FL-PRO) (mg/l)													
TRPH	ND	NS	ND	NS	ND	ND	NS	ND	NS	5	50	NA	

¹ Groundwater Cleanup Target Levels based on Chapter 62-770, Florida Administrative Code (FAC).

² Default source concentrations as promulgated in Chapter 62-770.690, FAC.

³ Sample collected from monitoring well CEF-811-27, which was later destroyed during excavation and replaced by CEF-339-30S.

Notes: **Bold** = exceeds cleanup target level.
USEPA = U.S. Environmental Protection Agency.
 $\mu\text{g}/\text{l}$ = micrograms per liter.
ND = not detected.
NS = not sampled.
NA = not applicable.
FL-PRO = Florida-Petroleum Residual Organics.
 mg/l = milligrams per liter.

**Table 3
Natural Attenuation Parameters**

Monitoring Only Proposal for Natural Attenuation
Jet Engine Test Cell
Naval Air Station Cecil Field
Jacksonville, Florida

Analyses	Method	Data Use
Temperature	Direct-reading thermometer, YSI temperature/conductivity meter	Low-flow well purging; biological processes are temperature dependent.
pH	Direct-reading meter, Orion 250A with pH probe	Biological processes are pH sensitive.
Conductivity	Direct-reading meter, YSI temperature/conductivity meter	General water quality parameter used to verify that site samples are obtained from the same groundwater system.
Turbidity	Direct-reading meter, Lamotte Turbidity Meter	General water quality parameter used to verify that site samples are obtained from the same groundwater system.
Oxidation reduction potential	Direct-reading meter, Orion 250A with redox probe	General water quality parameter used to verify that site samples are obtained from the same groundwater system.
Carbon dioxide	HACH™ Carbon Dioxide Test Kit	Elevated CO ₂ could indicate an aerobic mechanism for bacterial degradation of petroleum.
Alkalinity	HACH™ Alkalinity Test Kit	Elevated alkalinity could indicate biodegradation.
Dissolved oxygen	HACH™ DR 850 Colorimeter	The oxygen concentration is a data input to the BIOSCREEN model; concentrations less than 1 mg/l generally indicate an anaerobic pathway.
Ferrous iron	HACH™ DR 850 Colorimeter	Elevated levels of ferrous iron in the source area indicate biodegradation via iron III reduction.
Sulfate	HACH™ DR 850 Colorimeter	Sulfate acts as an electron acceptor in the anaerobic process of sulfanogenesis.
Nitrate	HACH™ DR 850 Colorimeter	Nitrate acts as an electron acceptor if oxygen is depleted.
Methane	Laboratory Method RSK 175	The presence of methane is an indicator of reducing conditions and methanogenesis.

Notes: "HACH™" refers to the HACH™ Company catalog, 1990.

CO₂ = carbon dioxide.
mg/l = milligrams per liter.

**Table 4
Natural Attenuation Monitoring
September 1996 and November 1998**

Monitoring Only Proposal for Natural Attenuation
Jet Engine Test Cell
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Parameters	Monitoring Wells CEF-									
	811-02		811-10		811-27/339-30S		339-28S		339-29S	
	1996	1998	1996	1998	1996	1998	1996	1998	1996	1998
Ferrous iron (mg/ℓ)	0.4	1.18	3.2	NS	2.5	0.89	NS	>3.3	NS	1.95
Sulfate (mg/ℓ)	<50	8	<50	NS	<50	>80	NS	0	NS	>80
Nitrate (mg/ℓ)	<5	0.08	<5	NS	<5	0.08	NS	0.02	NS	0.05
Methane (mg/ℓ)	NM	0.004	NM	NS	NM	0.093	NS	2.2	NS	6.9
Dissolved oxygen ¹ (mg/ℓ)	1.96	5.2	0.66	NS	2.0	0.3	NS	0.7	NS	0.80
Carbon dioxide (mg/ℓ)	60	45	150	NS	160	190	NS	155	NS	230
Alkalinity (mg/ℓ)	102.0	102	13.6	NS	81.6	68	NS	153	NS	510
pH	6.14	6.47	4.89	NS	5.79	5.67	NS	6.29	NS	6.48
Temperature (°C)	26.4	23.0	26.5	NS	25.2	24.0	NS	24.5	NS	24.0
Conductivity (ms/cm)	0.175	0.195	0.053	NS	0.77	0.100	NS	0.345	NS	0.115
Oxidation reduction (mV)	NM	+138.1	NM	NS	NM	+31.9	NS	+77.7	NS	+4.6
Turbidity (NTU)	7	55.3	4	NS	10	2.5	NS	10.14	NS	2.94

¹ Field measurement of dissolved oxygen.

Notes: Iron, chloride, alkalinity, nitrate, sulfate, and carbon dioxide results from HACH[™] field kits.
Temperature, conductivity, pH, and turbidity results from field meters.

mg/ℓ = milligrams per liter.

NS = monitoring well not sampled.

> = greater than.

< = less than.

NM = perimeter not measured.

°C = degrees Celsius.

ms/cm = millisiemens per centimeters.

mV = millivolts.

NTU = nephelometric turbidity units.

ATTACHMENT C
ANALYTICAL RESULTS

NAS CECIL FIELD -- ENGINE TEST CELL
GROUNDWATER -- ANALYTICAL DATA REPORT REQUEST NO. 10874

Lab Sample Number:
Site
Locator
Collect Date:

JR39614
JET ENGINE TEST
CEF-339-02S
04-NOV-98
VALUE QUAL UNITS DL

JR39613
JET ENGINE TEST
CEF-339-28S
04-NOV-98
VALUE QUAL UNITS DL

JR39612
JET ENGINE TEST
CEF-339-29S
04-NOV-98
VALUE QUAL UNITS DL

JR39611
JET ENGINE TEST
CEF-339-30S
04-NOV-98
VALUE QUAL UNITS DL

BETX, MTBE, & DICHLOROBENZENES

	VALUE	QUAL UNITS	DL									
Benzene	1 U	ug/l	1	2.1	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1	30	ug/l	1	1.2	ug/l	1	1 U	ug/l	1
Toluene	1 U	ug/l	1									
Chlorobenzene	1 U	ug/l	1									
Methyl tert-butyl ether	2 U	ug/l	2									
1,2-Dichlorobenzene	1 U	ug/l	1									
1,3-Dichlorobenzene	1 U	ug/l	1									
1,4-Dichlorobenzene	1 U	ug/l	1									
m,p-Xylene	1 U	ug/l	1	28	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
o-Xylene	1 U	ug/l	1	2.6	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

PAHs

	VALUE	QUAL UNITS	DL									
Acenaphthene	10 U	ug/l	10									
Acenaphthylene	10 U	ug/l	10									
Anthracene	10 U	ug/l	10									
Benzo (a) anthracene	10 U	ug/l	10									
Benzo (b) fluoranthene	10 U	ug/l	10									
Benzo (k) fluoranthene	10 U	ug/l	10									
Benzo (a) pyrene	10 U	ug/l	10									
Chrysene	10 U	ug/l	10									
Dibenzo (a,h) anthracene	10 U	ug/l	10									
Fluoranthene	10 U	ug/l	10									
Fluorene	10 U	ug/l	10									
Indeno (1,2,3-cd) pyrene	10 U	ug/l	10									
Benzo (g,h,i) perylene	10 U	ug/l	10	75	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Naphthalene	10 U	ug/l	10									
Phenanthrene	10 U	ug/l	10									
Pyrene	10 U	ug/l	10									
1-Methylnaphthalene	10 U	ug/l	10	36	ug/l	10	10 U	ug/l	10	29	ug/l	10
2-Methylnaphthalene	10 U	ug/l	10	50	ug/l	10	10 U	ug/l	10	45	ug/l	10
Sulfide-DISS	.1 U	mg/l	.1	.1 U	mg/l	.1	.1 U	mg/l	.1	1.6	mg/l	.1

U = NOT DETECTED J = ESTIMATED VALUE
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- JET ENGINE TEST CELL
 GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10874

Lab Sample Number:	JR56922	JR56924	JR56921	JR56923							
Site	UST GREY	UST GREY	UST GREY	UST GREY							
Locator	CEF-811-17	CEF-811-18	CEF-811-21	CEF-811-26							
Collect Date:	02-MAR-99	02-MAR-99	02-MAR-99	02-MAR-99							
VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

BETX, MTBE, & DICHLOROBENZENES

Benzene	1 U	ug/l	1	1 U	ug/l	1	1.1	ug/l	1	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1	2.2	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Toluene	1 U	ug/l	1									
Chlorobenzene	1 U	ug/l	1									
Methyl tert-butyl ether	2 U	ug/l	2									
1,2-Dichlorobenzene	1 U	ug/l	1									
1,3-Dichlorobenzene	1 U	ug/l	1									
1,4-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1.2	ug/l	1
m,p-Xylene	1 U	ug/l	1									
o-Xylene	1 U	ug/l	1									

PAHs

Acenaphthene	10 U	ug/l	10									
Acenaphthylene	10 U	ug/l	10									
Anthracene	10 U	ug/l	10									
Benzo (a) anthracene	10 U	ug/l	10									
Benzo (b) fluoranthene	10 U	ug/l	10									
Benzo (k) fluoranthene	10 U	ug/l	10									
Benzo (a) pyrene	10 U	ug/l	10									
Chrysene	10 U	ug/l	10									
Dibenzo (a,h) anthracene	10 U	ug/l	10									
Fluoranthene	10 U	ug/l	10									
Fluorene	10 U	ug/l	10									
Indeno (1,2,3-cd) pyrene	10 U	ug/l	10									
Benzo (g,h,i) perylene	26	ug/l	10	48	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Naphthalene	10 U	ug/l	10									
Phenanthrene	10 U	ug/l	10									
Pyrene	10 U	ug/l	10									
1-Methylnaphthalene	16	ug/l	10	22	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Methylnaphthalene	25	ug/l	10	36	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Sulfide-DISS	-			-			-			-		

ATTACHMENT D

ENVIRONMENTAL DETACHMENT COMPLETION REPORT



COMPLETION REPORT

**JET ENGINE TEST CELL
CONTAMINATED SOIL REMOVAL
NAS CECIL FIELD
JACKSONVILLE, FLORIDA**



Prepared for:

**DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON SC**



Prepared by:

**Supervisor of Shipbuilding, Conversion and Repair,
USN, (SUPSHIP) Portsmouth Va.,
Environmental Detachment Charleston, S.C.
1899 North Hobson Ave.
North Charleston, SC 29405-2106**

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

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JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

ACRONYM LIST

AST	Aboveground Storage Tank
CFR	Code of Federal Regulations
CGI	Combustible Gas Indicator
CHASP	Comprehensive Health and Safety Plan
CRZ	Contamination Reduction Zone
DET	Charleston Environmental Detachment
EFA	Engineering Field Activity - Chesapeake
EPA	U.S. Environmental Protection Agency
EZ	Exclusion Zone
FID	Flame Ionization Detector
HAZWOPER	Hazardous Waste Operations and Emergency Response
IDLH	Immediately Dangerous to Life and Health
LEL	Lower Explosive Limit
mg/m ³	Milligrams per Cubic Meter
MSDS	Material Safety Data Sheet
NIOSH	National Institute of Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
OVA	Organic Vapor Analyzer
PEL	Permissible Exposure Limit
PID	Photoionization Detector
POTW	Publicly Owned Treatment Works
PPE	Personal Protective Equipment
PPM	Parts Per Million
PVC	Polyvinyl Chloride
SCBA	Self-Contained Breathing Apparatus
SHSO	Site Health and Safety Officer
SSHSP	Site-Specific Health and Safety Plan
SWMU	Solid Waste Management Unit
SZ	Support Zone
TLV	Threshold Limit Values
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

1. INTRODUCTION

1.1 HISTORY (Excerpted from Remedial Action Plan dated November 1996).

The Jet Engine Test Cell area is located near the corner of Jet road and 10th street at NAS Cecil Field, Jacksonville Florida. The buildings in this area (Buildings 339, 334 and former Building 811) were and are being used to test engines. Building 811 has been removed and only the slab remains. The area between Jet Road and the buildings is paved with asphalt or concrete. The remaining area is generally unpaved. Between building 811 and 339 is a fuel tanks yard, approximately 3,200 square feet in area. In the western part of the yard are two 20,000 gallon, asphalt coated steel, underground storage tanks numbered 339-TC1 and 339-TC2 (Site Map 2). These tanks, installed in 1953, contain jet propellant (JP) -5 jet fuel and have corrosion resistant coated metal pipes with cathodic protection.

In October 1989, precision fitness tests were attempted on tanks 339-TC1 and 339-TC2. Due to inadequate seals between the manway covers and the tank walls, leaks occurred, and the tests were terminated. Several spills have also occurred as a result of overfilling. As an outcome of the release detection findings, a contamination assessment (CA) began at the Jet Engine Test Cell site and a Remedial Action Plan formulated. In August of 1997 the DET removed approximately 2400 cubic yards of contaminated soil from the Jet Engine Test Cell site per that Remedial Action Plan. However, the actual excavation was stopped short on the north side of the proposed area of excavation because an existing sanitary sewer line was still in service and could not be removed. The actual excavation stopped approximately six to eight feet from the Building 811 slab.

This updated report is intended to document the further execution of that Remedial Action Plan.

1.2 ACTIONS REQUIRED BY DET. The DET was tasked with exposing and removing the existing steel sanitary sewer line, performing soil excavation to remove the remaining accessible petroleum contaminated soil, replacing the sanitary sewer line and backfilling to grade. The

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

excavation would extend from the west end of the Building 811 slab to just inside of the Air flasks on the east end of the area. It would extend north to the Building 811 slab and south until acceptable OVA readings were acquired (<50ppm).

2. PROJECT EXECUTION

2.1 WORK DESCRIPTION. The DET arrived onsite on 17 August 1998. The site area was setup as an Exclusion Zone to keep unauthorized personnel out.

The excavation was started at the west end of the building 811 slab and extended east towards the air flasks. The total excavation was approximately 20' wide by 100' long by 6' deep. The contaminated soil was removed, #89 pea gravel placed in the bottom of the excavation and clean soil backfilled and compacted back into the excavation. Prior to completing the backfill, the existing 6" steel sanitary sewer piping was replaced with 6" PVC pipe and reconnected to the sewer outlet manway. Headspace analysis using a FID was performed at the outside boundaries of the excavations and the results recorded on Site Map 5. The area was compacted, leveled and seeded after all excavation was completed.

The excavation was backfilled with clean soil from DT services, Jacksonville, Florida. The contaminated soil was disposed of by Southland Environmental Services Inc. at Broadhurst Landfill in Jesup Georgia (634 tons).

3. SAMPLING

3.1 SAMPLING EVOLUTIONS AND RESULTS. Field screening was performed using head space analysis and a MicroFID I/S manufactured by PE Photovac. Site Map 5 shows the location and results of all field analysis of the excavation.

APPENDIX A

SITE MAPS

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

1. INTRODUCTION

1.1 HISTORY (Excerpted from Remedial Action Plan dated November 1996).

The Jet Engine Test Cell area is located near the corner of Jet road and 10th street at NAS Cecil Field, Jacksonville Florida. The buildings in this area (Buildings 339, 334 and former Building 811) were and are being used to test engines. Building 811 has been removed and only the slab remains. The area between Jet Road and the buildings is paved with asphalt or concrete. The remaining area is generally unpaved. Between building 811 and 339 is a fuel tanks yard, approximately 3,200 square feet in area. In the western part of the yard are two 20,000 gallon, asphalt coated steel, underground storage tanks numbered 339-TC1 and 339-TC2 (Site Map 2). These tanks, installed in 1953, contain jet propellant (JP) -5 jet fuel and have corrosion resistant coated metal pipes with cathodic protection.

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JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

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3. SAMPLING

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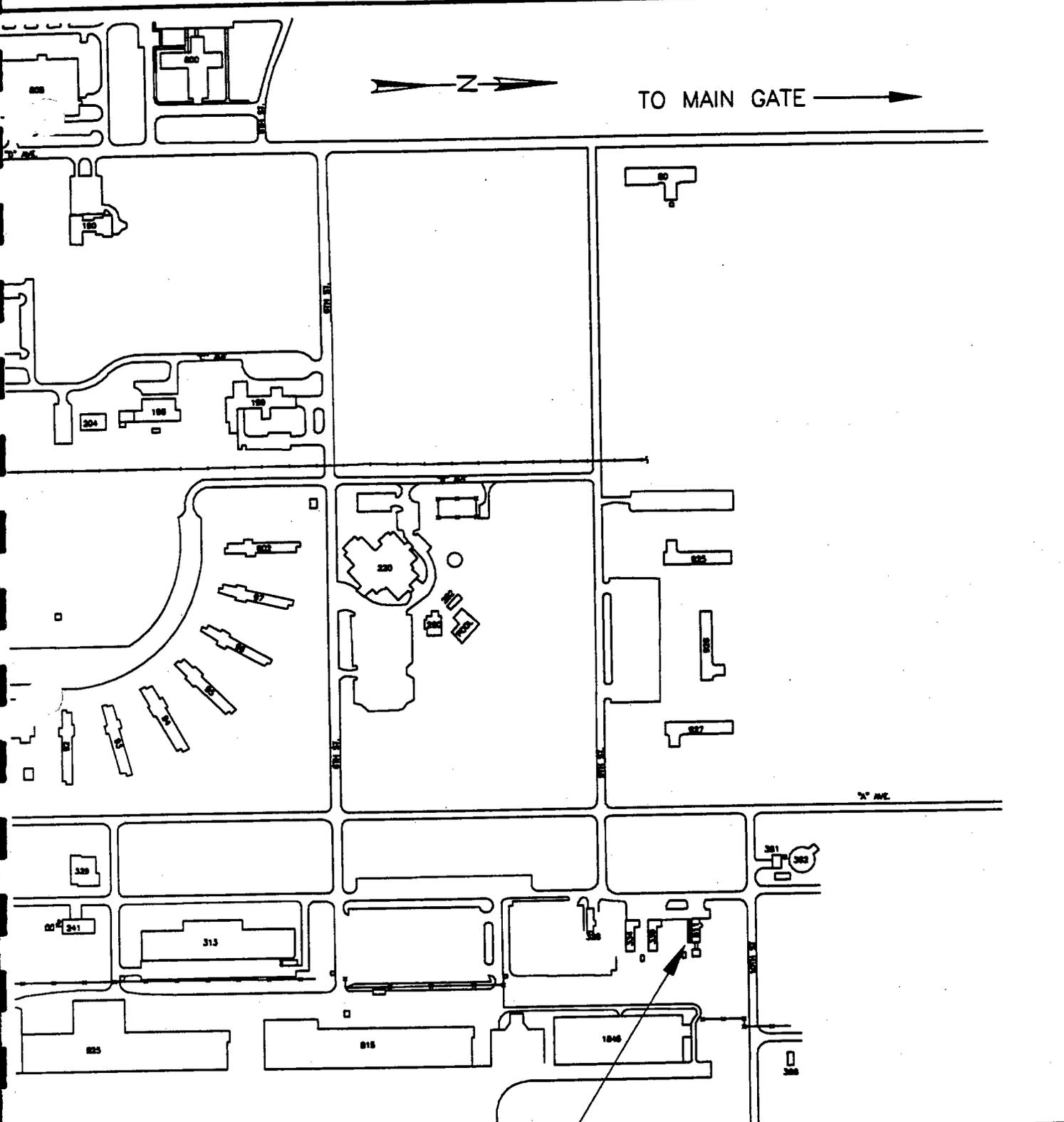
JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

4. WASTE GENERATION

4.1 Excavated Soil. Approximately 450 cubic yards of contaminated soil was removed from the Jet Engine Test Cell site. All contaminated soils down to the ground water were removed, loaded into dump trucks and transported to Broadhurst Landfill in Jesup Georgia.



TO MAIN GATE →



JET ENGINE TEST CELL

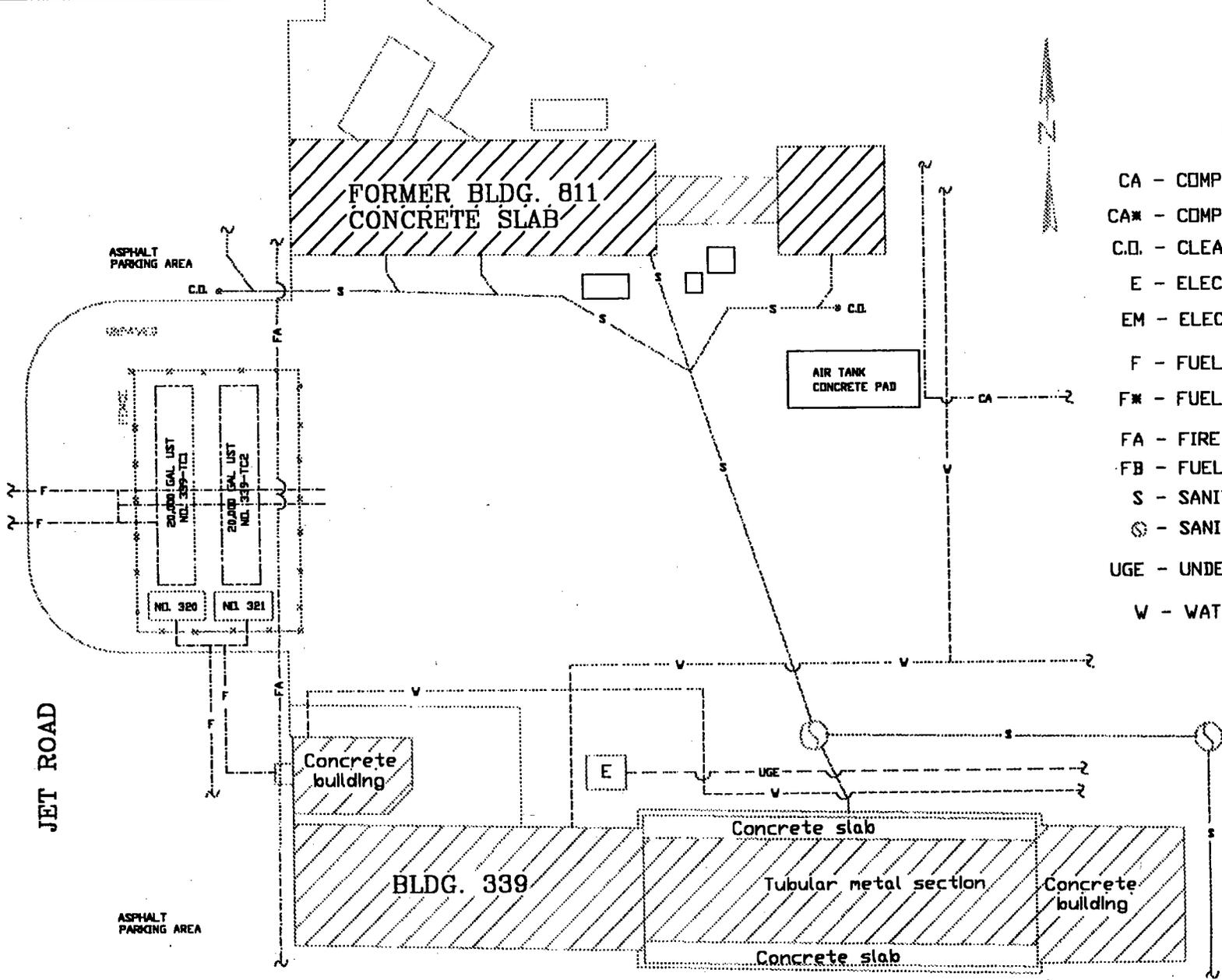
GRAPHIC SCALE



SPORTENVDECHASN
1899 North Hobson Ave.
North Charleston, SC 29405-2106
Ph. (843) 743-6777

Site Map 1
Jet Engine Test Cell
NAS Cecil Field
Jacksonville, FL

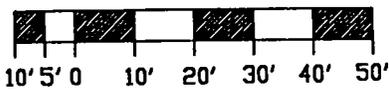
DWG DATE: 7 OCT 98 | DWG NAME: CF-JET_1



KEY

- CA - COMPRESSED AIR
- CA* - COMPRESSED AIR INACTIVE
- C.O. - CLEAN OUT
- E - ELECTRICAL DISTRIBUTION BOX
- EM - ELECTRICAL MANHOLE
- F - FUEL DISTRIBUTION
- F* - FUEL INACTIVE
- FA - FIRE ALARM
- FB - FUEL DISTRIBUTION BOX
- S - SANITARY SEWER LINE
- ⊙ - SANITARY SEWER MANHOLE
- UGE - UNDERGROUND ELECTRICAL
- W - WATER LINE

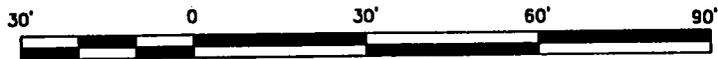
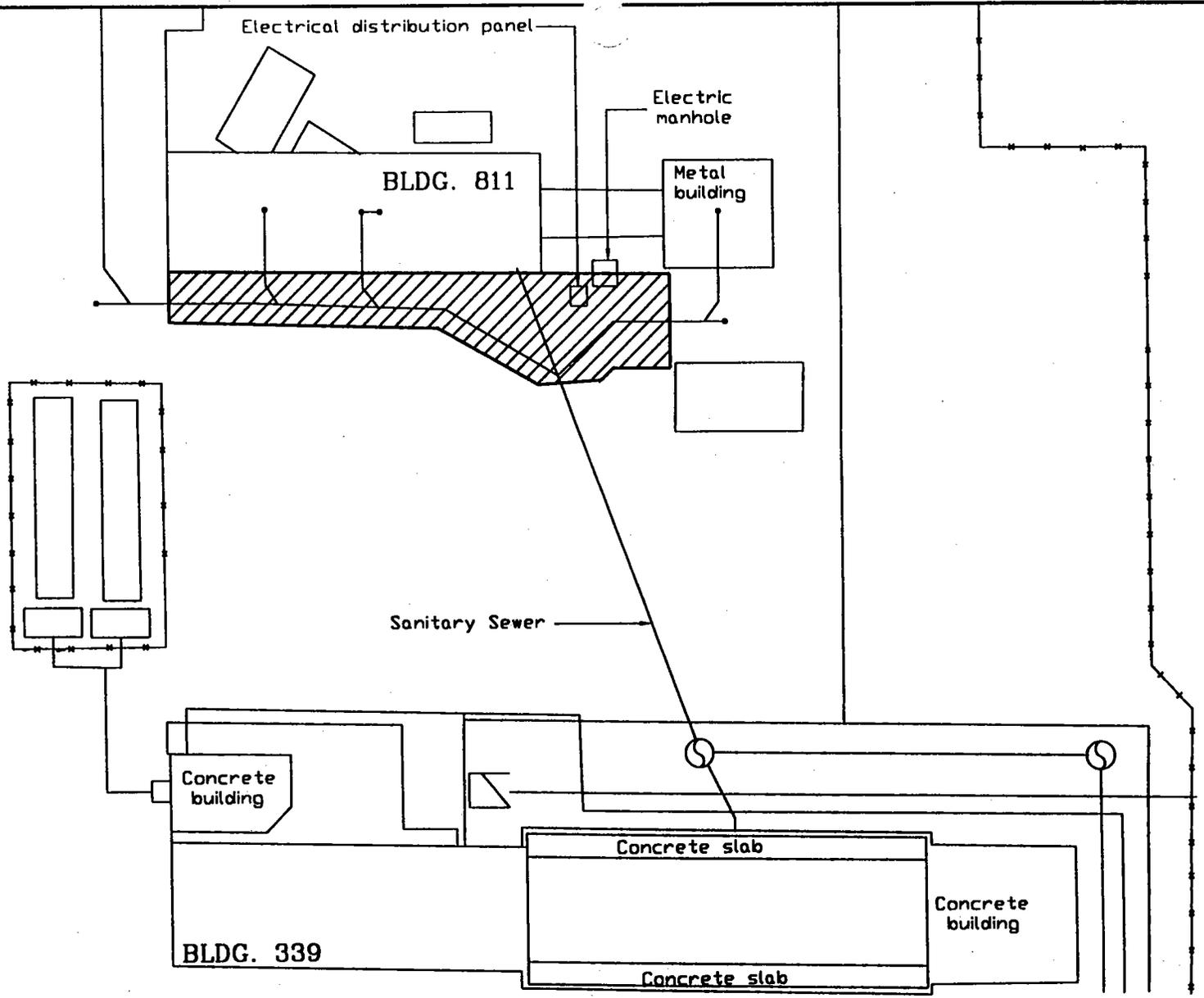
GRAPHIC SCALE



SPORTENVDECHASN
 1899 North Hobson Ave.
 North Charleston, SC
 29405-2108
 (803) 743-8777

Site Map 2
 J. E. T. C. Site Utilities
 Naval Air Station Cecil Field
 Jacksonville, FL

DWG DATE: 5 OCT 98 DWG NAME: C ETC8-98



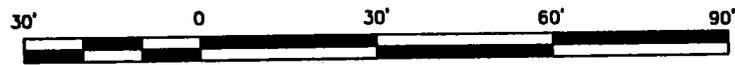
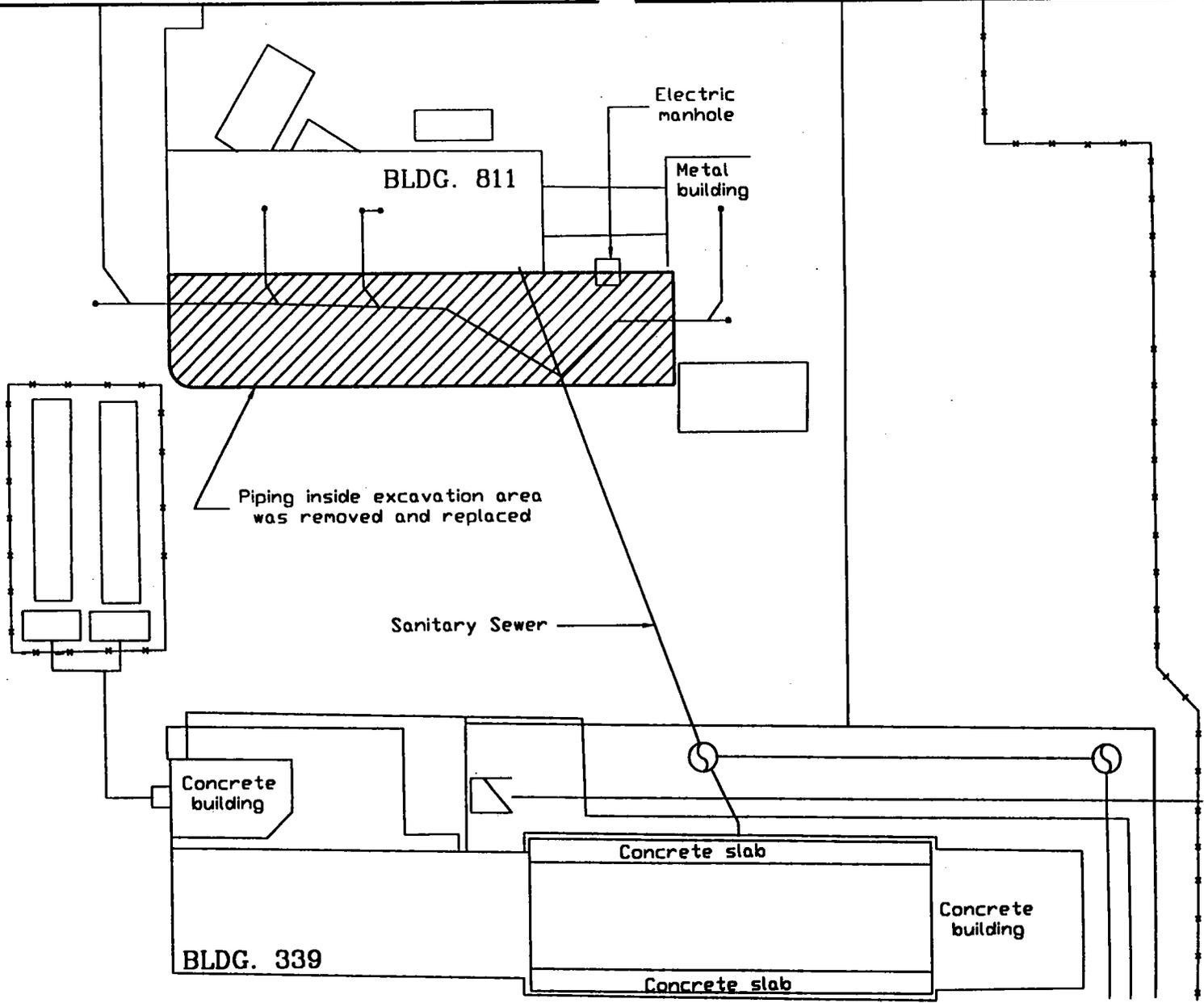
GRAPHIC SCALE

SPORTENVDETHASN
 1899 North Hobson Ave.
 North Charleston, SC
 29405-2108
 Ph. (803) 743-8777

Site Map 3
 JETC Proposed Area of Excavation
 NAS Cecil Field
 Jacksonville, FL.

DWG DATE: 06 OCT 98

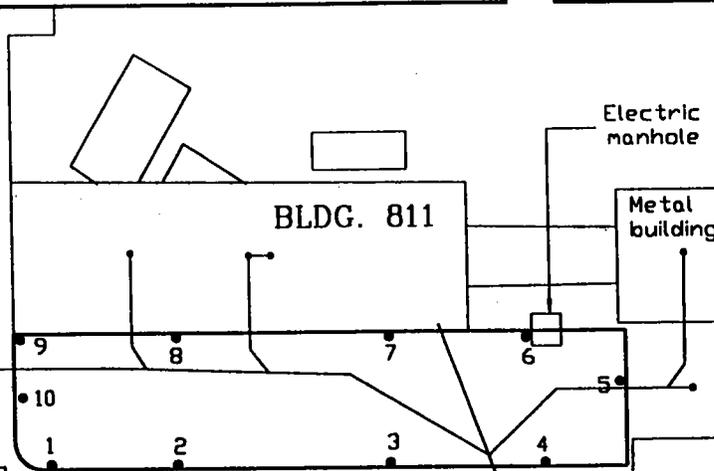
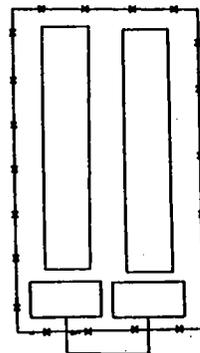
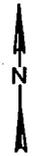
DWG NAME: CECIL_3



GRAPHIC SCALE

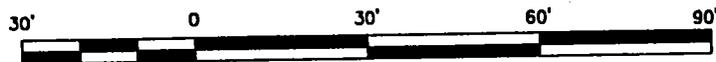
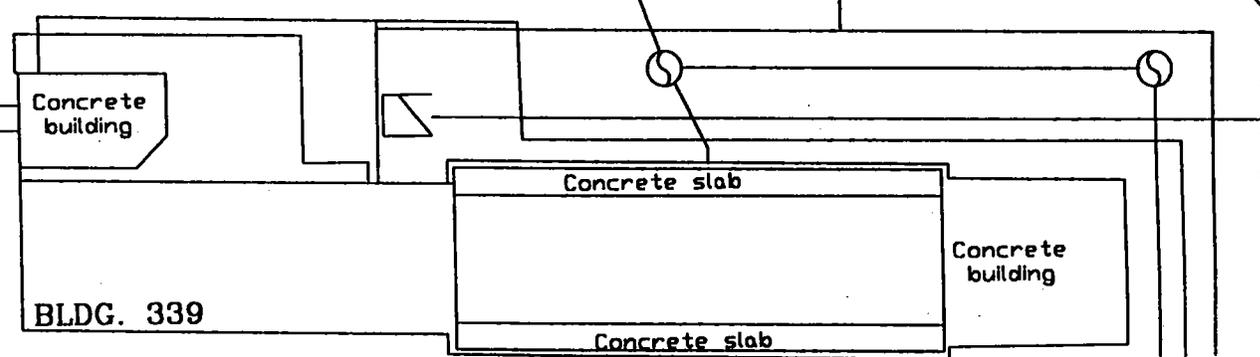
SPORTENVDETHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2108
(803) 743-8777

Site Map 4
JETC Actual Area of Excavation
NAS Cecil Field
Jacksonville, FL.
DWG DATE: 06 OCT 98 DWG NAME: TCIL_4



SAMPLE LOCATION	DEPTH	READING (ppm) UNFILTERED	READING (ppm) FILTERED	READING (ppm) R	ING (ppm) ACTUAL
1	2'	2.3	-		2.3
1	4'	40	-		40
2	2'	1.4	-		1.4
2	5'	148	72		76
3	2'	2.7	-		2.7
3	5'	5.9	-		5.9
4	2'	3.4	-		3.4
4	5'	3.2	-		3.2
5	2'	3.2	-		3.2
5	5'	4.2	-		4.2
6	2'	2.5	-		2.5
6	5'	2.9	-		2.9
7	5'	158	84		74
8	5'	622	509		113
9	5'	3.8	-		3.8
10	2'	3.2	-		3.2
10	5'	204	111.7		83.3

Sanitary Sewer



GRAPHIC SCALE

SPORTENVDETHASN
 1899 North Hobson Ave.
 North Charleston, SC
 29405-2106
 Ph. (803) 743-6777

Site Map 5
 JETC Soil Samples
 NAS Cecil Field
 Jacksonville, FL.

DWG DATE: 06 OCT 98

DWG NAME: CECIL_5

APPENDIX B

PHOTOGRAPHS

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

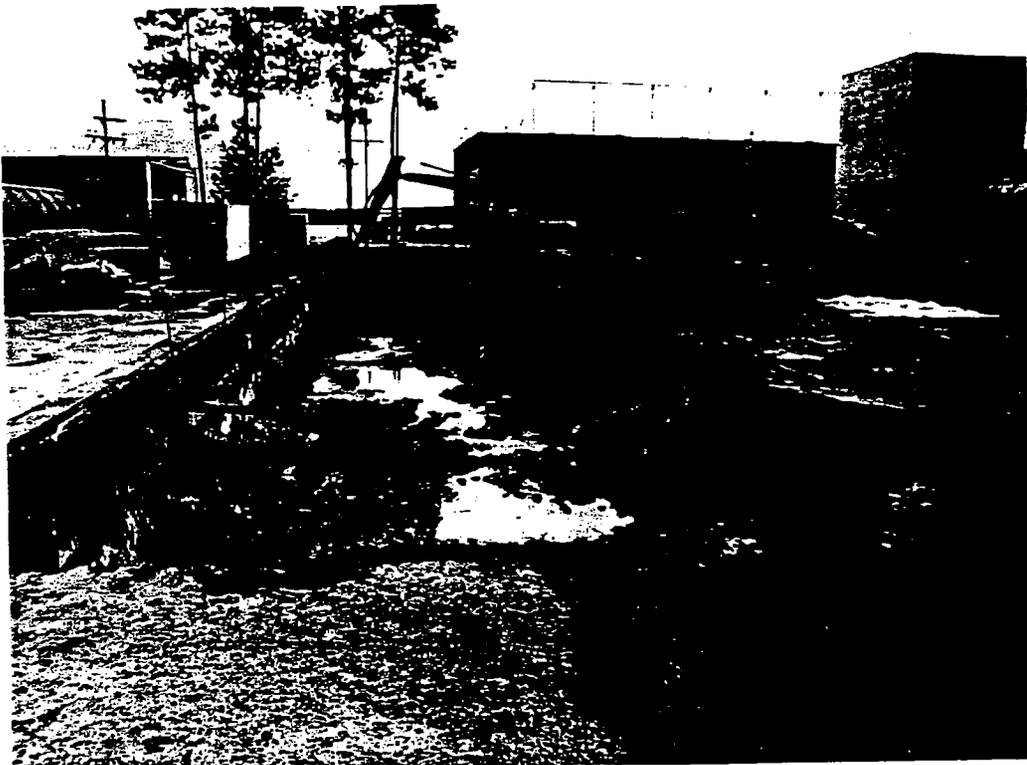


The proposed area of excavation prior to start of work (looking east).



The proposed area of excavation prior to start of work (looking west).

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA

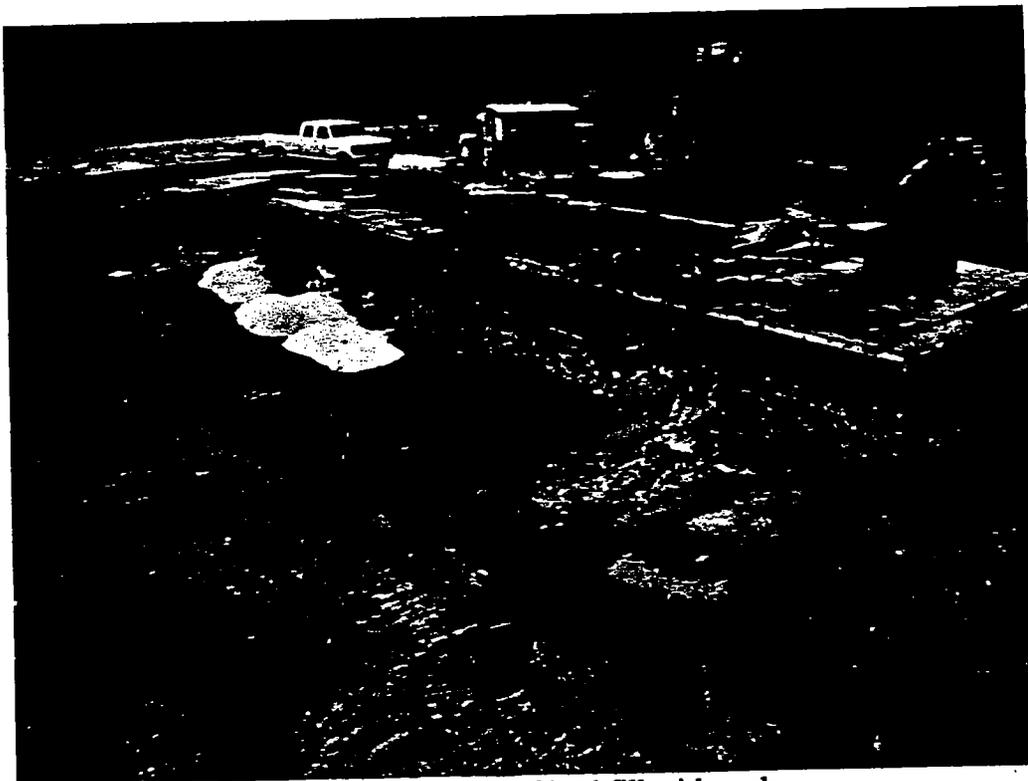


Excavation of contaminated soil (looking east).

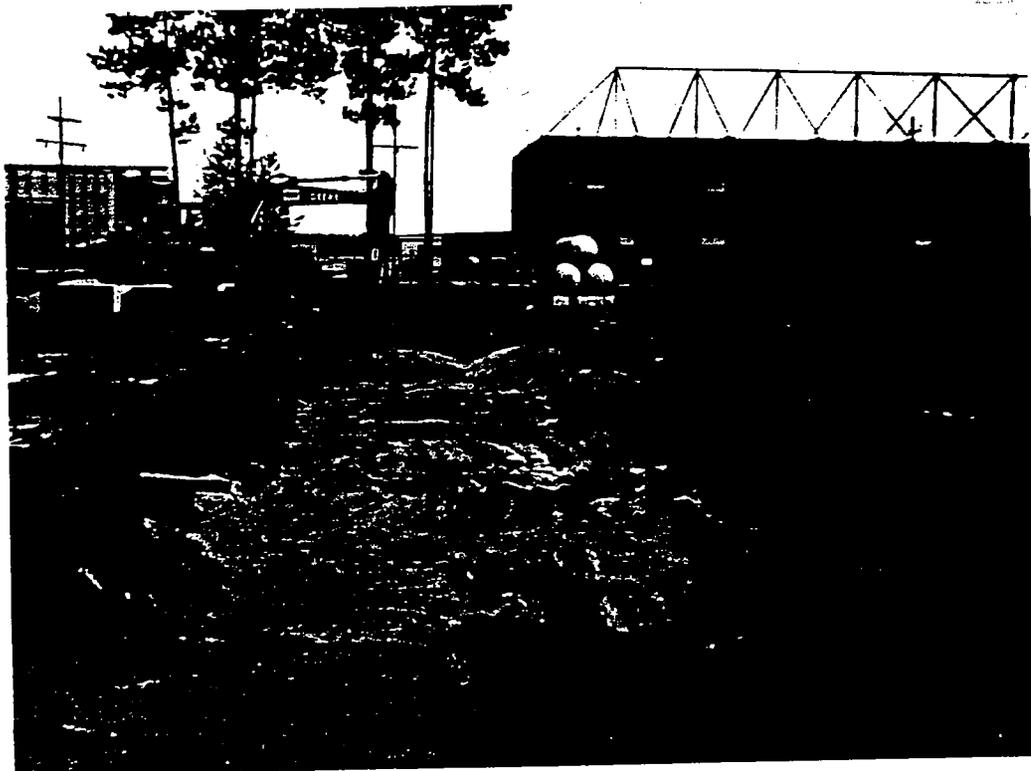


Completion of soil removal and start of backfill with rock.

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA



Aerial view of excavation during start of backfill with rock.



Completion of backfill with rock bed.

JET ENGINE TEST CELL - NAS CECIL FIELD, JACKSONVILLE, FLORIDA



Completion of sanitary sewer re-installation prior to final backfill with clean soil



JETC area after backfill, grooming and seeding (looking west).

APPENDIX C

MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 Soil	27	11017	Tons	Dump Truck
	29.71			

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LEROY A LONG Signature Leroy A Long Date Shipped 8-20-98
 Generator Authorized Agent Name

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: 258346

Address: PO Box 417, Live Oak, Florida Truck Number: L-100

Henry Anderson Signature Henry Anderson Date Delivered
 Name of Authorized Agent

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Signature Earlene Lambeth Date Received 8-20-98
 Name of Authorized Agent

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 Soil	27	11017	Tons	Dump Truck
	31.12			

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long
 Generator Authorized Agent Name

Leroy A Long 8-20-98
 Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.

DOT#: 258346

Address: PO Box 417, Live Oak, Florida

Truck Number: L120

Carl Vredevelde
 Name of Authorized Agent

Carl Vredevelde 8-20-98
 Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc.

Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
 Name of Authorized Agent

Earlene Lambeth 8-20-98
 Signature Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR
 Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
 Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC-JP-5 Soil	26.33 27	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Signature LeRoy A Long Date Shipped 8-20-98
 Generator Authorized Agent Name

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.
 Address: PO Box 417, Live Oak, Florida

X DOT#: 258346

X Truck Number: L-104

X Michael Hamor Sr. Signature Michael Hamor Sr Date Delivered 8/29/98
 Name of Authorized Agent

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
 Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Signature Earlene Lambeth Date Received 8-25-98
 Name of Authorized Agent

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 Soil	23.67 27	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Signature LeRoy a Long Date Shipped 8-20-98
 Generator Authorized Agent Name

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: ICC MC 258346

Address: PO Box 417, Live Oak, Florida Truck Number: L-144

Wayne Engstrom Signature [Signature] Date Delivered 8-20-98
 Name of Authorized Agent

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Signature Earlene Lambeth Date Received 8-20-98
 Name of Authorized Agent

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
 Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-S Soil	22 ⁵⁹ / ₂₇	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long
 Generator Authorized Agent Name

Leroy A Long
 Signature

8-20-98
 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: KE MC 238346
 Address: PO Box 417, Live Oak, Florida Truck Number: L-16
SAM DOWNEN
 Name of Authorized Agent

[Signature]
 Signature

8-20-98
 Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
 Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
 Name of Authorized Agent

Earlene Lambeth
 Signature

8-20-98
 Date Received



Manifest Number: 0017

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
County of Origin: Duval Phone: 904-778-5620 ext. 114

Table with 5 columns: Description of Waste, Total Quantity, Profile Number, Unit of Measure, Container Type. Row 1: JETC-JP-5 soil, 35.70 27, 11017, TONS, DUMP TRUCK

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long Generator Authorized Agent Name Signature Date Shipped 8-19-98

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#:
Address: PO Box 417, Live Oak, Florida Truck Number: 1150
Michael Cramer Name of Authorized Agent Signature Date Delivered 8-20-98

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
Address: 4800 Broadhurst Rd. W., Jesup, GA 31545
I hereby acknowledge receipt of the above described materials.
Earlene Lambeth Name of Authorized Agent Signature Date Received 8-20-98

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 SOL	28.15 27	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long Generator Authorized Agent Name Leroy A Long Signature 8-20-98 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: _____

Address: PO Box 417, Live Oak, Florida Truck Number: L54

Raymond Groves Name of Authorized Agent [Signature] Signature 8-20-98 Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Name of Authorized Agent Earlene Lambeth Signature 8-20-98 Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL 5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 soil	23.88 27	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long Signature: Leroy A Long Date Shipped: 8-19-98
 Generator Authorized Agent Name

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: _____

Address: PO Box 417, Live Oak, Florida Truck Number: 6-158

Chas Howard Signature: Chas Howard Date Delivered: 8-19-98
 Name of Authorized Agent

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Signature: Earlene Lambeth Date Received: 8-19-98
 Name of Authorized Agent

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
 Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 Soil	29.00	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long Generator Authorized Agent Name | Leroy A Long Signature | 8-19-98 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: 258346
 Address: PO Box 417, Live Oak, Florida Truck Number: 1128
Buddy Hurst Name of Authorized Agent | Buddy Hurst Signature | 8-19-98 Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
 Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Name of Authorized Agent | Earlene Lambeth Signature | 8-19-98 Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC-JP-5 soil	24.87 27	11017	TONS	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Signature LeRoy A Long Date Shipped 8-19-98
 Generator Authorized Agent Name

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: 258346

Address: PO Box 417, Live Oak, Florida Truck Number: L-110

DENNIS BONDS Signature [Signature] Date Delivered 8/19
 Name of Authorized Agent

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Signature Earlene Lambeth Date Received 8-19-98
 Name of Authorized Agent

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FLS170022474
 Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 Soil	²⁹⁰³ 27	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long
 Generator Authorized Agent Name

Leroy A Long Signature Date Shipped

TRANSPORTER

 Transporter Name: Beaver Bulk, Inc.

DOT#: _____

 Address: PO Box 417, Live Oak, Florida

 Truck Number: L410

Randall L. Padgett
 Name of Authorized Agent

Randall L. Padgett Signature Date Delivered 8-19-98

DISPOSAL FACILITY

 Site Name: Broadhurst Environmental, Inc.

 Phone Number: 912-530-7050

 Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
 Name of Authorized Agent

Earlene Lambeth Signature Date Received 8-19-98

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 Soil	25.44 27	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long Generator Authorized Agent Name Leroy A Long Signature 8-19-98 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: 258346

Address: PO Box 417, Live Oak, Florida Truck Number: L-156

Robert L. Ridgett, Jr. Name of Authorized Agent Robert L. Ridgett, Jr. Signature 8-19-98 Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Name of Authorized Agent Earlene Lambeth Signature 8-19-98 Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR
 Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
 Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 SOIL	2 ^{26.75}	11017	TONS	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A. Long
 Generator Authorized Agent Name

Leroy A. Long 8-19-98
 Signature Date Shipped

TRANSPORTER

 Transporter Name: Beaver Bulk, Inc.

DOT#: _____

 Address: PO Box 417, Live Oak, Florida

 Truck Number: 1150-002

Michael Cramer
 Name of Authorized Agent

Michael Cramer
 Signature Date Delivered

DISPOSAL FACILITY

 Site Name: Broadhurst Environmental, Inc.

 Phone Number: 912-530-7050

 Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
 Name of Authorized Agent

Earlene Lambeth 8-19-98
 Signature Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC-JP-5 soil	27 ^{30.99}	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Generator Authorized Agent Name
LeRoy A Long Signature 8-19-98 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: _____

Address: PO Box 417, Live Oak, Florida Truck Number: L54-001

Raymond Brown Name of Authorized Agent [Signature] Signature 8/19/98 Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Name of Authorized Agent Earlene Lambeth Signature 8-19-98 Date Received



476

Manifest Number: 0007

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
County of Origin: Duval Phone: 904-778-5620 ext. 114

Table with 5 columns: Description of Waste, Total Quantity, Profile Number, Unit of Measure, Container Type. Row 1: JETC- JP-5 Soil, 27, 11017, Tons, Dump Truck.

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A Long Generator Authorized Agent Name Signature Date Shipped 8-19-98

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#:
Address: PO Box 417, Live Oak, Florida Truck Number: L134
Steve GARTNER Name of Authorized Agent Signature Date Delivered 8-19-98

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
Address: 4800 Broadhurst Rd. W., Jesup, GA 31545
I hereby acknowledge receipt of the above described materials.
Earlene Lambeth Name of Authorized Agent Signature Date Received 8-19-98

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL 5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

#L-158-004

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
ETC - JP-5 SOIL	23.42	11017	TONS	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long LeRoy A Long 8-19-98
 Generator Authorized Agent Name Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: _____

Address: PO Box 417, Live Oak, Florida Truck Number: L-158

Chas Howard [Signature] 8-19-98
 Name of Authorized Agent Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

[Signature] [Signature] 8-19-98
 Name of Authorized Agent Signature Date Received

Earlene Lambeth Earlene Lambeth 8-19-98

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
 Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

L-78-006

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 SOIL	27.56	11017	TONS	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long
Generator Authorized Agent Name

LeRoy A Long 8-19-98
Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.
 Address: PO Box 417, Live Oak, Florida

DOT#: 252346

Robert McQuendon
Name of Authorized Agent

Truck Number: L-78 8-19-98
Robert McQuendon
 Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
 Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
Name of Authorized Agent

Earlene Lambeth 8-19-98
Signature Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474
 Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215
 County of Origin: Duval Phone: 904-778-5620 ext. 114

L-#152-005

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
<u>JETC - JP-5 SOIL</u>	<u>28.40</u>	<u>11017</u>	<u>Tons</u>	<u>Dump Truck</u>

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Leroy A. Long Leroy A Long 8-19-98
 Generator Authorized Agent Name Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: _____
 Address: PO Box 417, Live Oak, Florida Truck Number: L-156
Robert L. Padgett, Jr. Robert L. Padgett Jr. 8-19-98
 Name of Authorized Agent Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050
 Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

~~Robert L. Padgett, Jr.~~ Earlene Lambeth Earlene Lambeth 8-19-98
 Name of Authorized Agent Signature Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

L-140-003

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP-5 SOIL	26.36	11017	Tons	Dump Truck

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Signature LeRoy A Long Date Shipped 8-19-98
 Generator Authorized Agent Name

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: _____

Address: PO Box 417, Live Oak, Florida Truck Number: 1-140

Randall L. Pettit Signature Randall L. Pettit Date Delivered 8-19-98
 Name of Authorized Agent

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Signature Earlene Lambeth Date Received 8-19-98
 Name of Authorized Agent

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

L-110-002

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
<u>JETC - 3.5 SOIL</u>	<u>28.21</u>	<u>11017</u>	<u>TONS</u>	<u>Dump Truck</u>

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Generator Authorized Agent Name LeRoy a Long Signature 8-19-98 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: 258346

Address: PO Box 417, Live Oak, Florida Truck Number: 12-110

DENNIS BONDS Name of Authorized Agent [Signature] Signature 8/19 Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address: 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Name of Authorized Agent Earlene Lambeth Signature 8-19-98 Date Received

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer US EPA ID#: FL5170022474

Billing Address: Environmental Division, PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval Phone: 904-778-5620 ext. 114

#L-128-001

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
JETC - JP5 SOIL	27.33	11017	TONS	DUMP TRUCK

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long Generator Authorized Agent Name LeRoy A Long Signature 8-19-98 Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc. DOT#: 258346

Address: PO Box 417, Live Oak, Florida Truck Number: 2128

Buddy Hurst Name of Authorized Agent Buddy Hurst Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth Name of Authorized Agent Earlene Lambeth Signature 8-19-98 Date Received