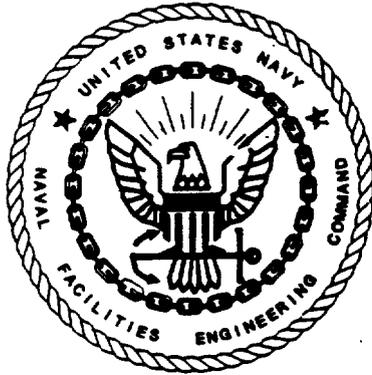


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NAS PENSACOLA
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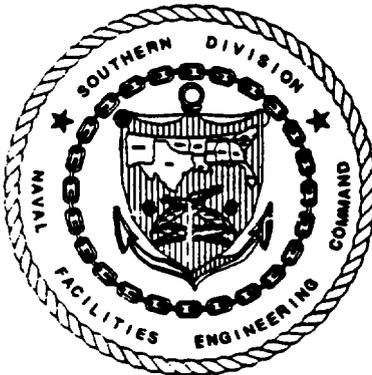
**Comprehensive Long-Term
Environmental Action
Final Sampling and Analysis Plan
for Si 36
Industrial Wastewater Treatment Plant Sewer Line
Naval Air Station
Pensacola, Florida**



SOUTHNAVFACENGCOM
Contract Number:
N62467-89-D-0318
CTO-063

Prepared for:

**Comprehensive Long-Term
Environmental Action Navy (CLEAN)
Naval Support Activity
Naval Air Station
Pensacola, Florida**



Prepared by:

EnSafe/Allen & Hoshall
5720 Summer Trees Drive, Suite 8
Memphis, Tennessee 38134
(901) 383-9115

October 30, 1995

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List of Abbreviations

The following list contains many of the acronyms, initials, abbreviations, and **units** of measure used in this report.

AVGAS	Aviation gasoline
bls	below land surface
BRAC	Base Realignment and Closure Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLEAN	Comprehensive Long-Term Environmental Action Navy
CLP	Contract Laboratory Program
CSAP	Comprehensive Sampling and Analysis Plan
DOD	Department of Defense
DQO	Data Quality Objective
E/A&H	EnSafe/Allen & Hoshall
E&E	yEcology & Environment, Inc.
FDEP	Florida Department of Environmental Protection
FS	Feasibility Study
FSA	Full Scan of Analysis
GPS	Global Positioning System
GS	Grain Size
IDR	Interim Data Report
IDW	Investigation Derived Waste
IWTP	Industrial Wastewater Treatment Plant
MCL	Maximum Contaminant Level
msl	Mean Sea Level
NAS Pensacola	Naval Air Station Pensacola
NFESC	Naval Facilities Engineering Services formerly called the Naval Energy and Environmental Support Activity (NEESA)
OU	Operable Unit
PAHs	polynuclear aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPS	Physical Parameters, Soil
PPW	Physical Parameters, Water
PRGs	Preliminary Remedial Goals
PWC	Public Works Center
QA	Quality Assurance
QC	Quality Control
RBC(s)	Risk-Based Concentration(s)
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation

List of Abbreviations (Continued)

SAP	Sampling and Analysis Plan
SDWA	Safe Drinking Water Act
SOP/QAM	Standard Operating Procedures and Quality Assurance Manual
SOUTHNAVFACENGCOM	Southern Division, U.S. Navy, Naval Facilities Engineering Command
ST	Shelby Tube
svocs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristics Leaching Procedure
TKN	Total Kjeldahl Nitrogen
TRPHs	Total Recoverable Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
vocs	Volatile Organic Compounds

EXECUTIVE SUMMARY

This Sampling and Analysis Plan (**SAP**) is written for the investigation of Site 36, the Industrial Wastewater Treatment Plant (**IWTP**) sewer line. The Site 36 investigation will include the sewer line south of Ecology & Environment (**1992**) location number **TL 045/A**, including the southwest arm to Pump Station **3** and the southeast portion to the lift station between Building **54** and Building **18** (**E&E** location number **TL 073/C**). North of **TL 045/A**, the **IWTP** sewer line was investigated as part of Site 30. South of **TL 073/C**, the **IWTP** sewer line was investigated as part of Site **38**. In addition, the area near Building 3380 has been added to the Site 36 investigation. This **SAP**, in conjunction with the Comprehensive Sampling and Analysis Plan, will provide guidelines for using sampling and analytical techniques and outline proper documentation procedures for the investigation.

The Site **36** investigation will assess the nature of any potential contamination identified during past and proposed field investigations. The results of the previous Phase I investigation are outlined in the *Interim Data Report (IDR), Contamination Assessment/Remedial Investigation, Industrial Waste Sewer (Site 36) (E&E, 1992b)*. Before field activities begin, a contaminant source survey and habitat and biota survey will be conducted. Field activities will be completed through a phased approach, consisting of soil borings, temporary and permanent monitoring wells, soil and groundwater samples, and hydrology and ecology assessments. Samples will be analyzed for target analyte list/target compound list (**TAL/TCL**) using **CLP** protocol. Chemical analyses will be completed by a Naval Facilities Engineering Service Center (**NFESC**)-approved laboratory using **Contract Laboratory Program (CLP)** protocol. Phase I and III field sampling, analytical methods, and reporting will be conducted at **USEPA Level IV** protocol, while Phase II will be conducted at **USEPA Level II** protocol if required. In addition, special analytical services on specific analytes may be performed to achieve lower quantitation limits as needed.

Except for omitting neat cement grout, temporary monitoring wells will be constructed following the procedures for permanent monitoring wells. Therefore, the need to install permanent monitoring wells should be evaluated site by site by the **NAS Pensacola Tier 1** Partnering Team

which consists of representatives from the Navy, the USEPA, and the Florida Department of Environmental Protection (FDEP).

Phase I activities will confirm whether contaminants are present at the site and will characterize any sources. Soil contaminants will be compared to preliminary remedial goals (PRGs). The PRGs include the most recent risk-based concentrations (RBCs) for residential land, developed by EPA Region III (currently 3rd quarter 1994 for non-carcinogens, and 1st quarter 1994 using a hazard index of 1 for carcinogens) and the risk-based cleanup goals for Florida Department of Defense (DOD) sites (developed by FDEP, September 29, 1995). Groundwater contaminants will be compared to the Florida Water Quality Standards and Guidance Concentrations, followed by the Safe Drinking Water Act (SDWA) Maximum Concentration Levels (MCLs).

Further assessment activities will depend on whether detected parameters in soil and groundwater samples exceed the applicable PRGs and whether further contamination delineation is required. The findings of the first phase of the investigation, including PRGs and outlining additional work, will be presented and evaluated by the Tier 1 Partnering Team after analytical data are received and evaluated.

Phase II of the investigation will delineate groundwater or soil contamination (contaminants measured above the PRGs) by installing additional temporary monitoring wells or soil borings. Phase II will also develop site-specific leachability values if the potential exists for soil contaminants to leach to groundwater. A baseline risk assessment may also be completed during Phase II if necessary. The Phase II findings and recommendations for permanent monitoring well locations will be presented and evaluated by the Tier 1 Partnering Team after Phase II data are received and evaluated. Phase III permanent monitoring wells (and soil borings, if required) will replace strategically located temporary monitoring wells to confirm contamination delineation.

When the investigative work and laboratory analyses are complete and a baseline risk assessment is not deemed to be necessary (i.e., detected concentrations are generally below PRGs), the Tier

1 Partnering Team will decide if appropriate sections of the IWTP sewer line should be upgraded to RI **status**. Only those agreed upon sections of the IWTP sewer line will **be** expanded to fulfill RI requirements, including additional field work if required **and** the preparation of **a** baseline ~~risk~~ assessment. A feasibility study report will also be completed subsequent to the RI report for those upgraded sections. The investigation of the remaining portions of the line will be documented in a Preliminary Site Characterization report.

1.0 INTRODUCTION

As part of the U.S. Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) Program, EnSafe/Allen & Hoshall (E/A&H) will complete a Preliminary **Site** Characterization at Site 36 — the Industrial Wastewater Treatment Plant (IWTP) sewer line near Chevalier Field, located at the Naval Air Station (NAS) Pensacola, Pensacola, Florida. E/A&H developed this Sampling and Analysis Plan (**SAP**) for this investigation, as **tasked by** the Southern Division, U.S. Navy, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under Contract No. N62467-89-D-0318/0063. This **SAP**, in conjunction with the CSAP, will provide guidelines for sampling and analytical techniques to be **used** during the Preliminary Site Characterization and outline proper documentation procedures for the investigation.

Primary references for this **SAP** include the *Comprehensive Sampling and Analysis Plan for Naval Air Station Pensacola* (CSAP) (E/A&H, 1993), the United States Environmental Protection Agency (USEPA) Region IV *Standard Operating Procedures and Quality Assurance Manual* (SOP/QAM [USEPA, 1991]), and the *Contamination Assessment/Remedial Activities Investigation WorkPlan — Group N* completed by Ecology & Environment, Inc. (E&E, 1992a). The investigation of Site 36 will be completed to fulfill requirements set forth in the E&E site work plan (1992a) and this site-specific **SAP**. This investigation also will adhere to SOP/QAM and CSAP procedures.

Because of Base Realignment and Closure Act (BRAC) activities, a portion of the sewer line in the Chevalier Field area has already been investigated. The scope and results of this investigation are summarized in this report. The Site 36 investigation will include the sewer line south of Ecology & Environment (1992) location number TL 045/A, including the southwest arm to Pump Station 3 and the southeast portion to the lift station between Building 54 and Building 18 (E&E location number TL 073/C). **North** of TL 045/A, the IWTP sewer line was investigated as part of Site 30. South of TL 073/C, the IWTP sewer line was investigated as

part of Site 38. In addition, the area near Building 3380 has been added to the Site 36 investigation.

The remaining Site 36 investigation will assess the nature of any potential contamination identified during past and proposed field investigations. The results of the previous Phase I investigation are outlined in the *Interim Data Report (IDR), Contamination Assessment/Remedial Investigation, Industrial Waste Sewer (Site 36) (E&E, 1992b)*. Before field activities begin, a contaminant source survey and habitat and biota survey will be conducted. Field activities will be completed through a phased approach, consisting of soil borings, temporary and permanent monitoring wells, soil and groundwater samples, and groundwater hydrology and ecology assessments. Samples will be analyzed for target analyte list/target compound list (TAL/TCL) using CLP protocol. Chemical analyses will be completed by a Naval Facilities Engineering Service Center (NFESC)-approved laboratory using Contract Laboratory Program (CLP) protocol. Field sampling, analytical methods, and reporting will be conducted at USEPA Level IV protocol, while Phase II will be conducted at USEPA Level II protocol if required. In addition, special analytical services on specific analytes may be performed to achieve lower quantitation limits as needed.

Except for omitting neat cement grout, temporary monitoring wells will be constructed following the procedures for permanent monitoring wells. Therefore, the need to install permanent monitoring wells should be evaluated site by site by the NAS Pensacola Tier 1 Partnering Team which consists of representatives from the Navy, the USEPA, and the Florida Department of Environmental Protection (FDEP).

Phase I activities will confirm whether contaminants are present at the site and will characterize any sources. Soil contaminants will be compared to preliminary remedial goals (PRGs). The PRGs include the most recent risk-based concentrations (RBCs) for residential land, developed by EPA Region III (currently 3rd quarter 1994 for non-carcinogens, and 1st quarter 1994 using

a hazard index of 1 for carcinogens) and the **risk-based** cleanup goals for Florida Department of Defense (**DOD**) sites (developed by **FDEP**, September 29, 1995). Groundwater contaminants **will be** compared to the **Florida Water Quality Standards** and Guidance Concentrations, followed by the Safe Drinking Water **Act** (SDWA) Maximum Concentration Levels (**MCLs**).

Further assessment activities will depend on whether detected parameters in **soil** and groundwater samples exceed the applicable **PRGs** and whether further contamination delineation is **required**. The findings of the first phase of the investigation, including **PRGs** and outlining additional work, **will be** presented and evaluated by the **Tier 1 Partnering Team** after analytical data are received and evaluated.

Phase **II** of the investigation will delineate groundwater or **soil** contamination (contaminants **measured** above the **PRGs**) by installing additional temporary monitoring wells or **soil** borings. Phase **II** **will** also develop site-specific leachability values if the potential exists for **soil** contaminants to leach to groundwater. The Phase **II** findings and recommendations for permanent monitoring well locations will **be** presented and evaluated by the **Tier 1 Partnering Team** after Phase **II** data are received and evaluated. Phase **III** permanent monitoring wells (and **soil** borings, if **required**) will replace strategically located temporary monitoring wells to confirm contamination delineation.

When the investigative work and laboratory analyses are complete and a baseline **risk** assessment is not deemed to **be** necessary (i.e., detected concentrations are generally **below** **PRGs**), the **Tier 1 Partnering Team** **will** decide if appropriate sections of the **IWTP** sewer line should **be** upgraded to **RI** status. **Only** those agreed upon sections of the **IWTP** sewer line will **be** expanded to **fulfill** **RI** requirements including additional field work if **required** and the preparation of a baseline **risk** assessment. A feasibility study **report** will also **be** completed subsequent to the **RI** **report** for **those** upgraded sections. The investigation of the remaining portions of the line will be documented in a **Preliminary Site Characterization report**.

2.0 BACKGROUND INFORMATION

2.1 Site Description

The land surface elevation at Site **36** is approximately 5 feet above **mean** sea level (msl). The terrain is relatively flat, and the surficial soil is predominantly fine-grained sand. The **IWTP** sewer line consists of both force mains and gravity mains **and is buried** 3 to 15 feet beneath the ground surface. The majority of the sewer system is **beneath** asphalt or concrete aprons. The line flows toward the **IWTP**. Figure **2-1** shows the **IWTP** sewer line at Site **36**.

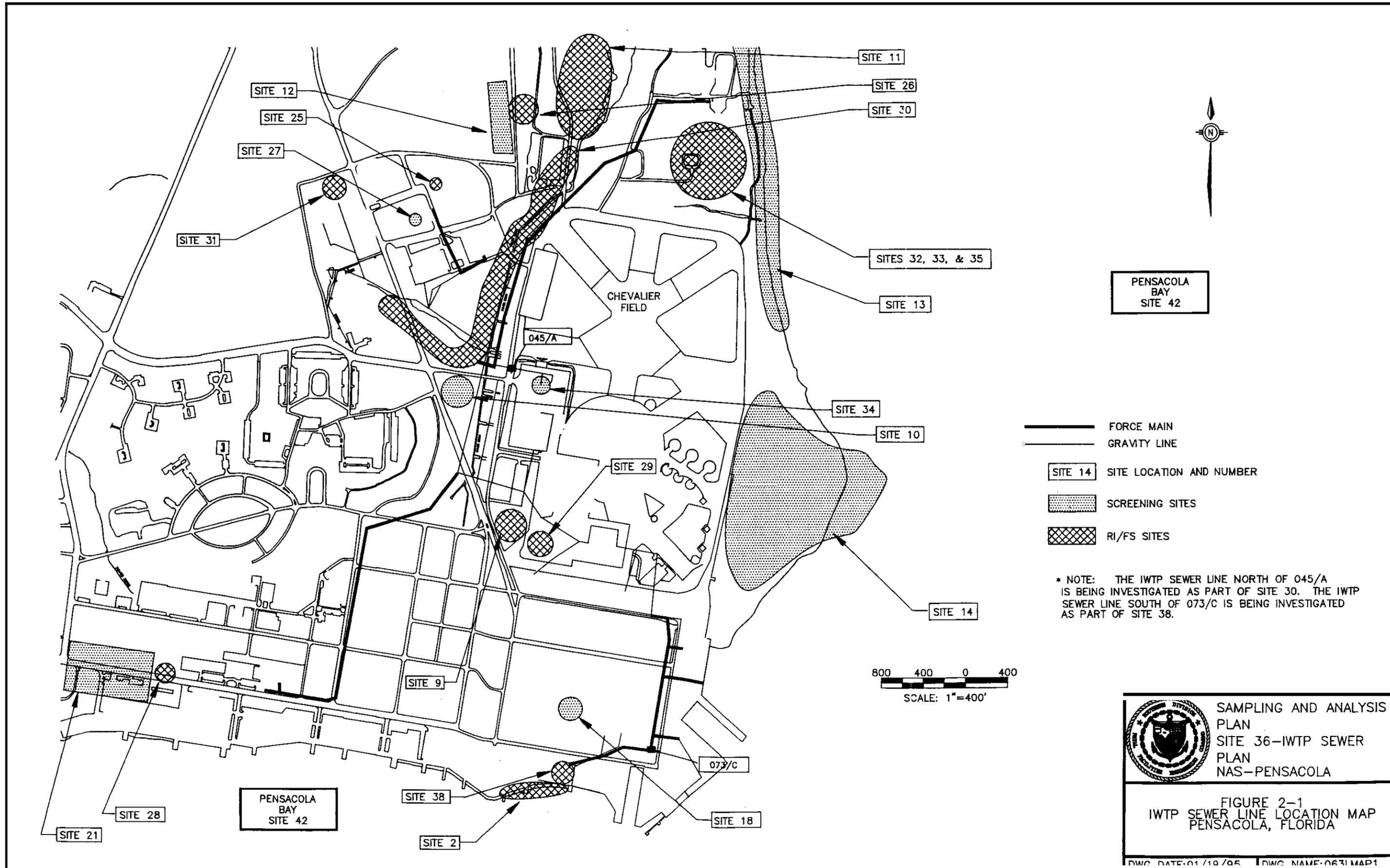
2.2 Site History

The **IWTP** and associated piping system (Site **36**) originally served a sewage treatment plant built in **1948**. In **1971**, the sewage treatment plant and piping system were upgraded **to** the present **IWTP**. Beginning in **1973**, the Naval Air Rework Facility Pensacola operations discharged to the sewer instead of Pensacola Bay. The **IWTP** sewer consists of vitreous clay and cast-iron piping installed both before and after **1971**.

Most facilities discharging to the **IWTP** sewer do **so** without any pretreatment or waste segregation (NEESA, **1983**). The waste stream **has** included paint strippers, **heavy** metals, pesticides, radioactive wastes, fuels, cyanide wastes, solvents, and waste oils.

In the spring of **1981**, several workers reportedly received chemical **burns** while working in an excavation south of Building **3460**. A slimy black substance in the excavation **soil** reportedly caused the burns. Additionally, **NAS** Pensacola personnel reported a noticeable odor of "paint stripper" in the excavation (**NEESA, 1983**).

E&E performed a Phase I investigation of Site **36** to identify areas of potential contamination. The investigation results are detailed in the E&E **IDR** (1992b). **Soil** and groundwater samples were collected during the investigation and submitted for laboratory analysis. Metals, total



PENSACOLA BAY
SITE 42

- FORCE MAIN
- GRAVITY LINE
- [SITE 14] SITE LOCATION AND NUMBER
- [Dotted Pattern] SCREENING SITES
- [Cross-hatched Pattern] RI/FS SITES

* NOTE: THE IWTP SEWER LINE NORTH OF 045/A IS BEING INVESTIGATED AS PART OF SITE 30. THE IWTP SEWER LINE SOUTH OF 073/C IS BEING INVESTIGATED AS PART OF SITE 38.

800 400 0 400
SCALE: 1"=400'

 SAMPLING AND ANALYSIS PLAN
SITE 36-IWTP SEWER PLAN
NAS-PENSACOLA

FIGURE 2-1
IWTP SEWER LINE LOCATION MAP
PENSACOLA, FLORIDA

DWG DATE: 01/10/05 DWG NAME: 0631.MAP1

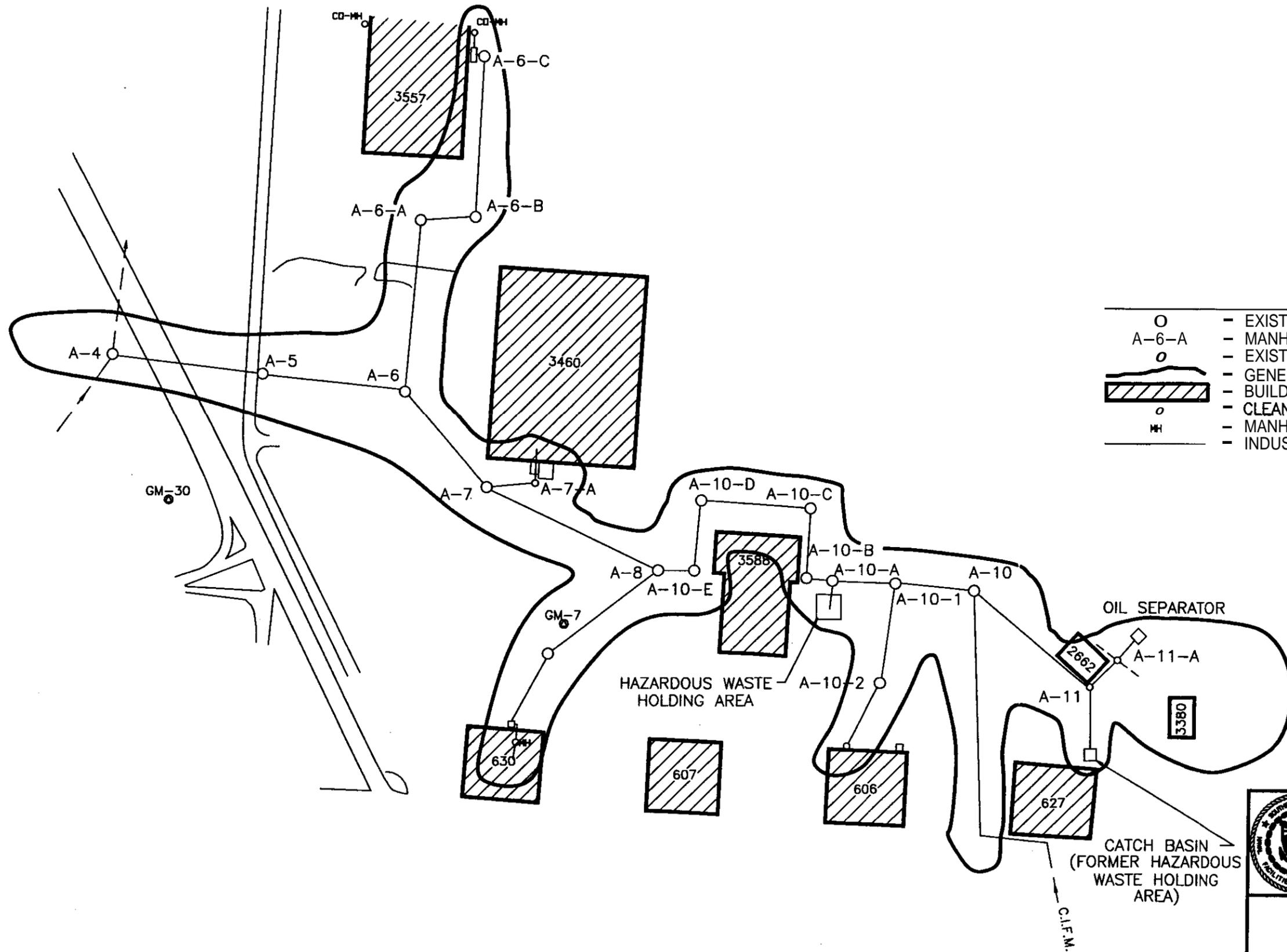
recoverable petroleum hydrocarbons (TRPHs), volatile organic compounds (VOCs), and polynuclear aromatic hydrocarbons (PAHs) were detected onsite, but it was not determined if their source was the IWTP sewer line. The E&E data were collected at Data **Quality** Objective Level II and **are** therefore suitable for **screening** only. The data have been conservatively used to identify possible structural deficiencies in the IWTP Sewer line for further investigation.

Investigations have been performed on Sites 9, 29, and 34, which **are** in Site 36's vicinity. Results of these investigations of the nearby sites **will be** incorporated in the Site 36 investigation **report**.

23 Investigation History of Site 36

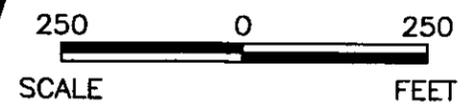
Due to the BRAC activities, a Phase I investigation of the portion of the sewer line in the Chevalier Field area has already been performed. The investigation included the IWTP sewer piping system at the southwest corner of Building 627 and extended to manhole A-4 (approximately 900 feet west of Building 3460). The investigation also included the main sewer line, manholes, and sewer lines extending from the IWTP gravity line to Buildings 606, 627, 630, 2662, 3450, 3577, and 3588. Because Building 3380 was close to the sewer line, **an area** (near the building) thought to possibly contain solvents was also included in this investigation. Figure 2-2 shows the sections of the site already investigated and the manhole locations and identification numbers.

Analytical results **from** the investigation of Site 36 were compared to applicable regulatory standards and human **health** risk-based PRGs. Soil sample results were compared to the USEPA Region III RBC tables for residential **soil** (April 5, 1995) and FDEP Cleanup Goals for DOD sites, child resident and aggregate resident scenario (April 5, 1995). Groundwater results were compared to USEPA MCLs and Florida's Water Quality Standards and Guidance Concentrations. NAS Pensacola reference concentrations for **soil** and groundwater, developed during the Site 1 investigation (1994), were also used to evaluate the results. Based on these



LEGEND

○	- EXISTING MANHOLE
A-6-A	- MANHOLE IDENTIFICATION NUMBER
○	- EXISTING SHALLOW MONITORING WELLS
—	- GENERAL SITE 36 BOUNDARY
▨	- BUILDING
○	- CLEANOUT
MH	- MANHOLE
—	- INDUSTRIAL WASTE SEWER LINE




SAMPLING AND ANALYSIS PLAN
SITE 36—ITWP SEWER LINE
NAS PENSACOLA

FIGURE 2-2
SITE MAP
SITE 36

comparisons, conclusions and recommendations for further action are outlined. These **PRGs** and standards have been included in the tables in Appendix A.

2.3.1 Field Work Summary

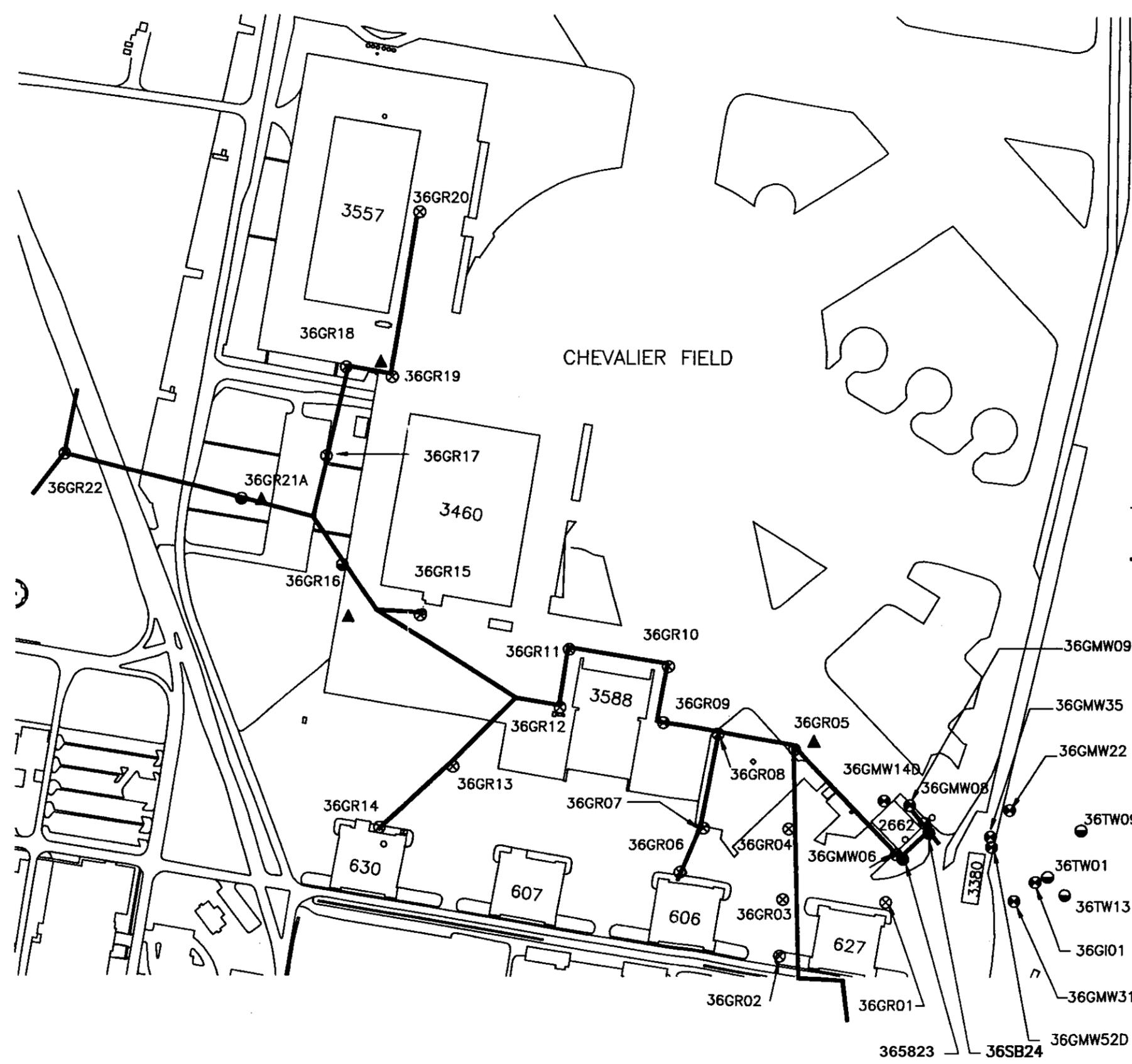
During the Phase I investigation of the Chevalier Field portion of Site **36**, E/A&H advanced **36** soil borings, completing **20** as soil boring/temporary groundwater monitoring wells, and collected soil, groundwater and manhole-sediment samples. Soil samples were not collected from two of the borings, **36GR21A** and **36GR16**, completed as temporary monitoring wells. Boring locations focused on manholes where leaks most likely occur. Manholes previously investigated in other site investigations (A-7 and **A-8**) had no boring or temporary monitoring well advanced. One permanent intermediate well was installed and sampled near Building **3380**. Three other temporary monitoring wells and eight permanent shallow monitoring wells installed previously by **ABB** near Building **3380** were also sampled as part of this investigation. **An** additional **12** soil borings were advanced and sampled with a hand auger near Building **3380**. Figures 2-3 and 2-4 show the soil boring, monitoring well, and manhole-sediment locations.

2.3.2 Analytical Results

The results of the investigation of the Chevalier Field portion of the IWTP sewer line and the area around Building **3380** are summarized below. The concentrations of all detected analytes are presented in tables in Appendix A.

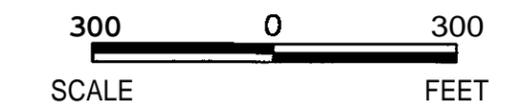
Soil Analyses

Metals and Cyanide: Beryllium, lead, and arsenic were the only metals detected at concentrations exceeding the **PRGs** and are shown in Figure 2-5. Cyanide was not detected in the soil samples. However, metals were widely detected at concentrations exceeding the established reference concentrations for NAS Pensacola.



LEGEND

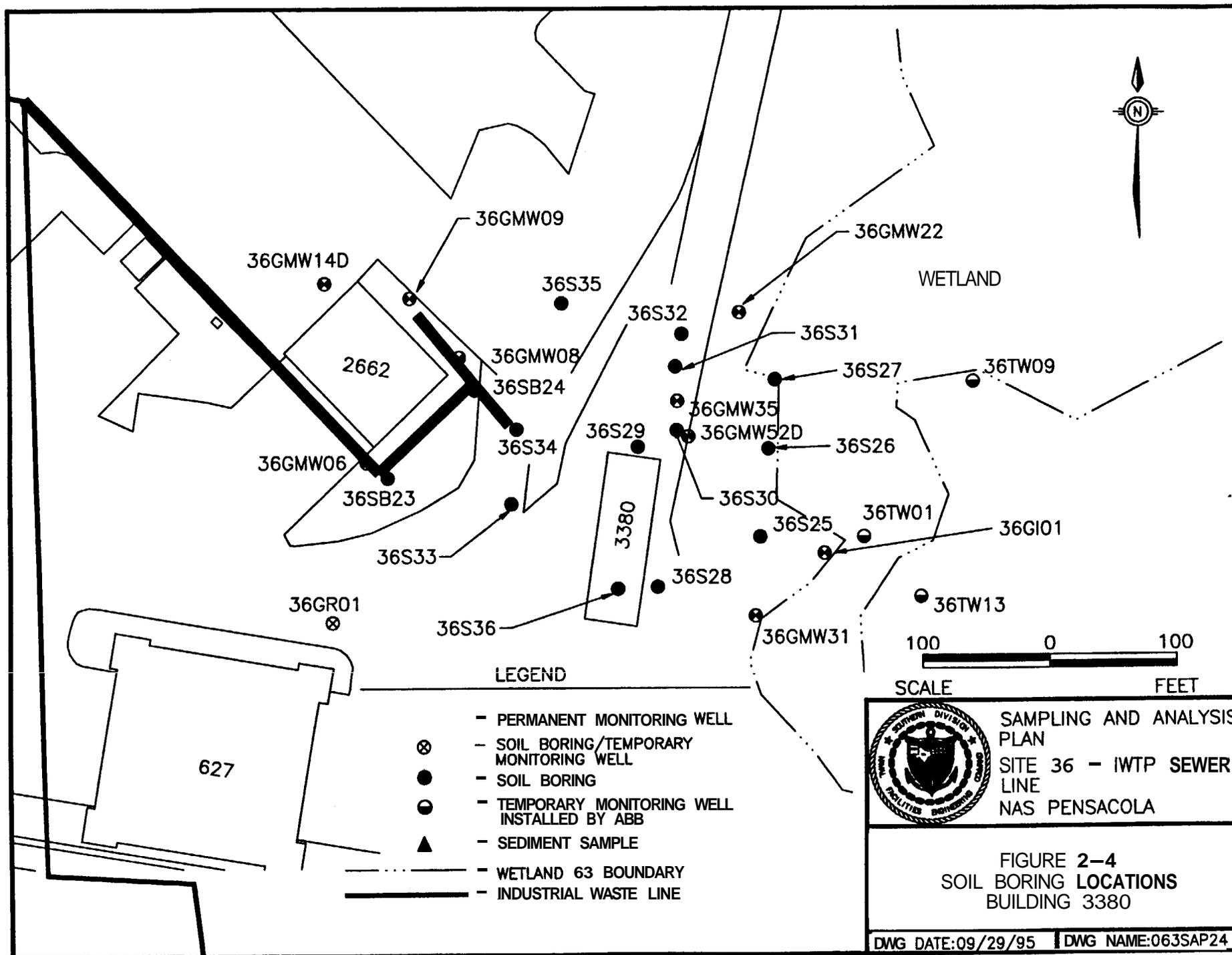
⊕	- PERMANENT MONITORING WELL
—	- INDUSTRIAL WASTE LINE
⊗	- SOIL BORING/TEMPORARY MONITORING WELL
●	- SOIL BORING
⊙	- TEMPORARY MONITORING WELL
A	- SEDIMENT SAMPLE

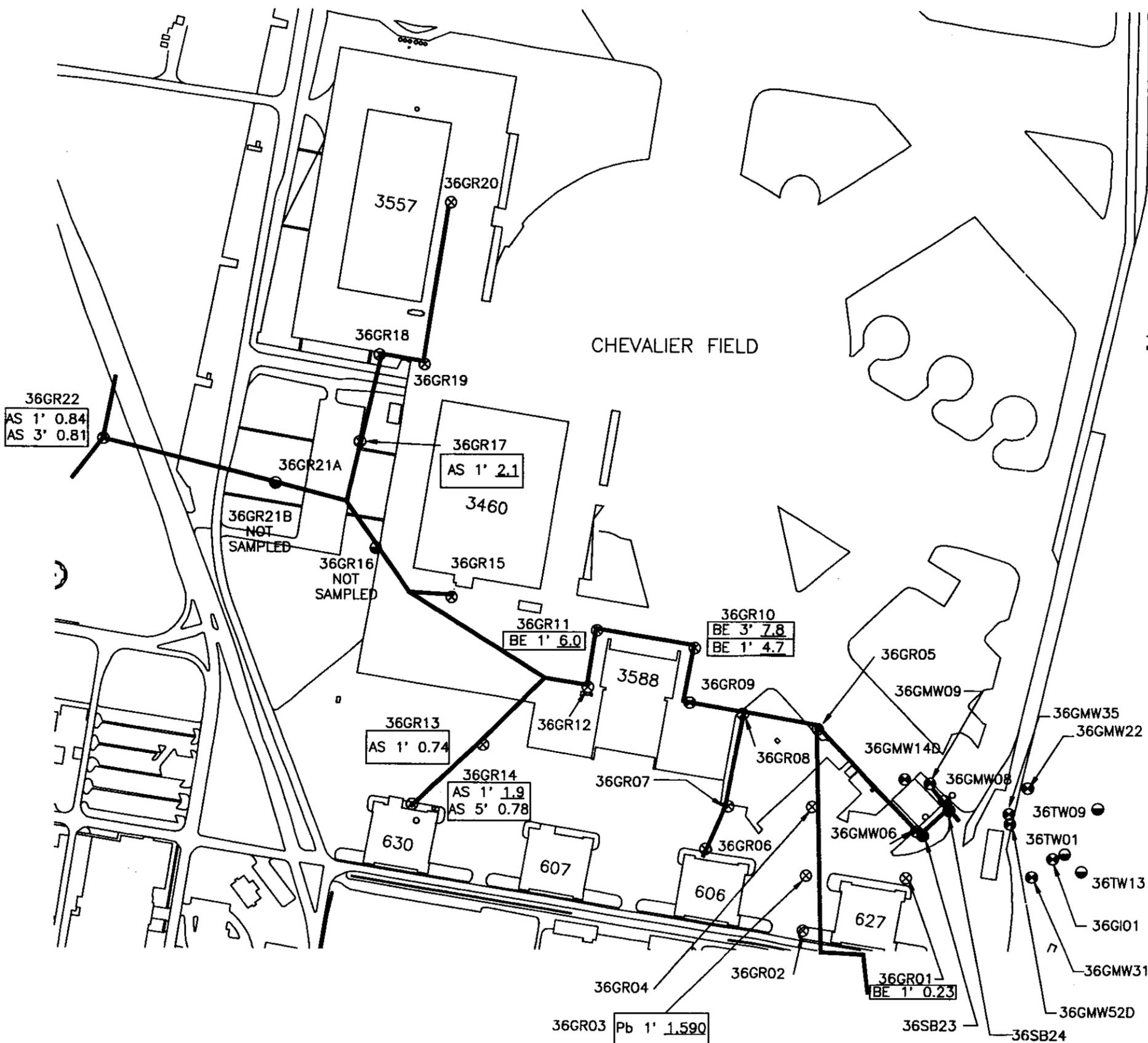



 SAMPLING AND ANALYSIS PLAN
 SITE 36 - IWTP SEWER LINE
 NAS PENSACOLA

FIGURE 2-3
IWTP SEWER LINE AND
SAMPLING LOCATIONS

DWG DATE: 09/29/95 | DWG NAME: 063SAP23

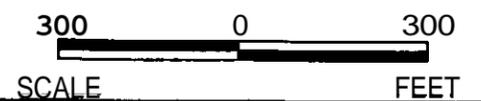




LEGEND

- INDUSTRIAL WASTE LINE
- PERMANENT MONITORING WF
- SOIL BORING/TEMPORARY MONITORING WELL
- 1' 1.9 - SAMPLE DEPTH/DETECTED CONCENTRATION
- AS - ARSENIC
- BE - BERYLLIUM
- PB - LEAD
- SOIL BORING
- TEMPORARY MONITORING WELL
- ND - NOT DETECTED

ALL RESULTS ARE IN MILLIGRAMS PER KILOGRAM OR PARTS PER MILLION (ppm). REFERENCE CONCENTRATION EXCEEDANCES ARE UNDERLINED.



SCALE FEET

SAMPLING AND ANALYSIS PLAN
SITE 36 - IWTP SEWER LINE
NAS PENSACOLA

FIGURE 2-5
INORGANIC
DETECTED CONCENTRATIONS IN SOIL
EXCEEDING PRGS

DWG DATE: 09/26/95 | DWG NAME: 063SAP25

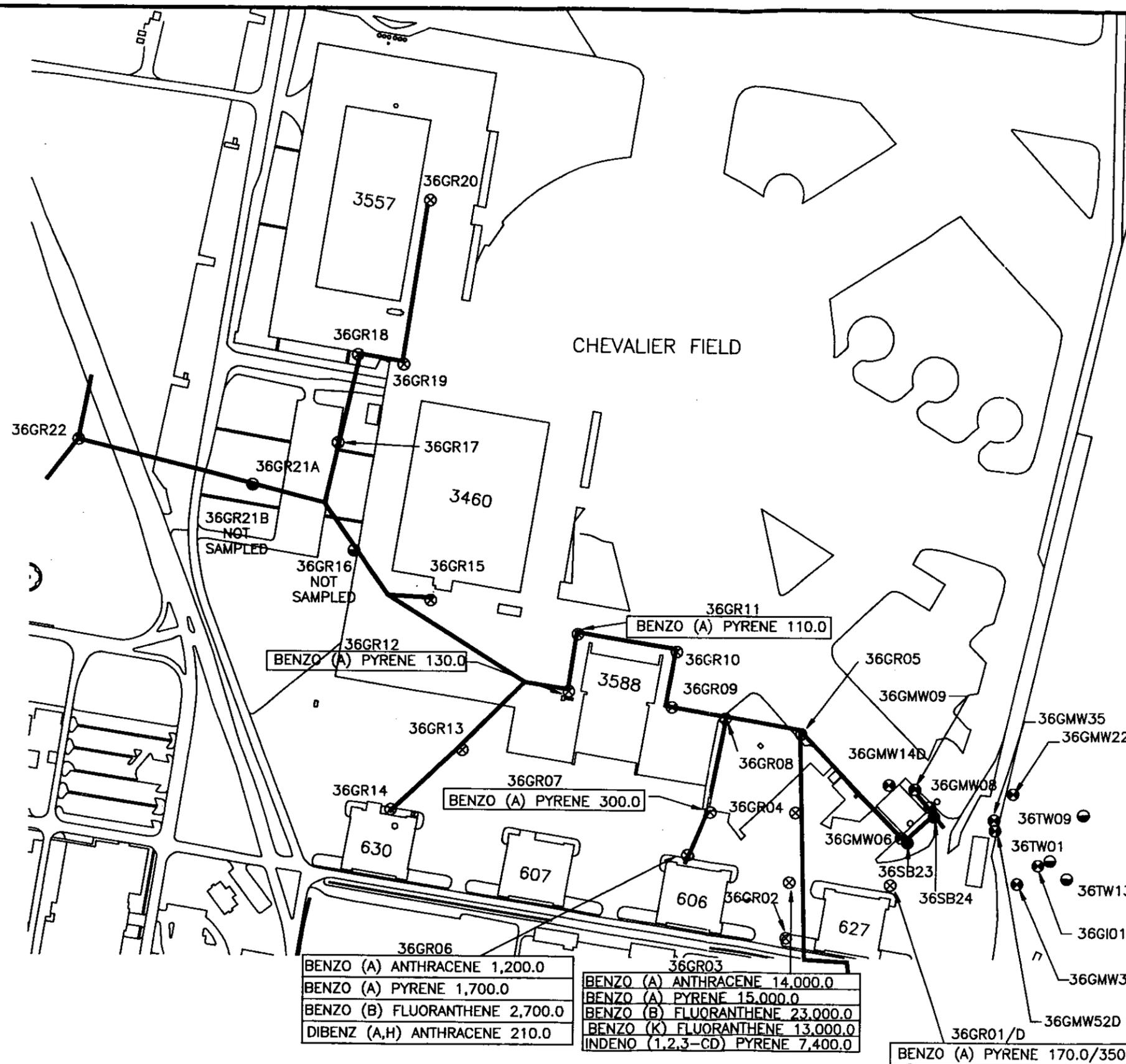
Volatile Organic Compounds: No **VOCs** were present at concentrations exceeding the PRGs. The following VOCs were detected sporadically in soil samples: toluene, benzene, xylene (total), 1,1,1-trichloroethane, tetrachloroethene and trichloroethene.

Semivolatile Organic Compounds: Along the Chevalier Field portion of the IWTP sewer line, the following contaminants were detected above their respective PRGs: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene. Benzo(a)pyrene is the contaminant with the widest distribution exceeding its PRG (Figure 2-6).

In the Building 3380 area, benzo(a)pyrene and dibenz(a,h)anthracene were detected above their respective PRGs (Figure 2-7). Most of the SVOCs are along the IWTP line east of A-10-E in surface soil samples (0 to 1-foot below land surface [bls], or below concrete), with concentrations decreasing with depth.

In addition, the following contaminants were detected below their PRGs: phenanthrene, carbazole, fluoranthene, pyrene, chrysene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene.

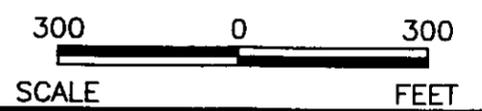
Pesticides and PCBs: The PRGs for pesticides and PCBs were not exceeded in any soil sample. Along the Chevalier Field portion of the IWTP sewer line, the following pesticides and PCBs were detected: aldrin, alpha-chlordane, aroclor 1248, aroclor 1260, delta-BHC, 4,4-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, endosulfan 11, endrin, endrin ketone, gamma-BHC, gamma-chlordane, heptachlor epoxide, and heptachlor. Aroclor 1260 and 4,4'-DDT were detected in the Building 3380 area soil samples at concentrations below the PRGs.



LEGEND

-  - PERMANENT MONITORING WELL
-  - INDUSTRIAL WASTE LINE
-  - SOIL BORING/TEMPORARY MONITORING WELL
-  - SOIL BORING
-  36TW13 - TEMPORARY MONITORING WELL

ALL RESULTS ARE IN MICROGRAMS PER KILOGRAM OR PARTS PER BILLION (ppb)



SAMPLING AND ANALYSIS PLAN
 SITE 36 - IWTP SEWER LINE
 NAS PENSACOLA

FIGURE 2-6
 SEMIVOLATILES
 DETECTED CONCENTRATIONS IN SOIL
 EXCEEDING PRGS

DWG DATE:09/29/95 DWG NAME:063SAP26

36GR06
 BENZO (A) ANTHRACENE 1,200.0
 BENZO (A) PYRENE 1,700.0
 BENZO (B) FLUORANTHENE 2,700.0
 DIBENZ (A,H) ANTHRACENE 210.0

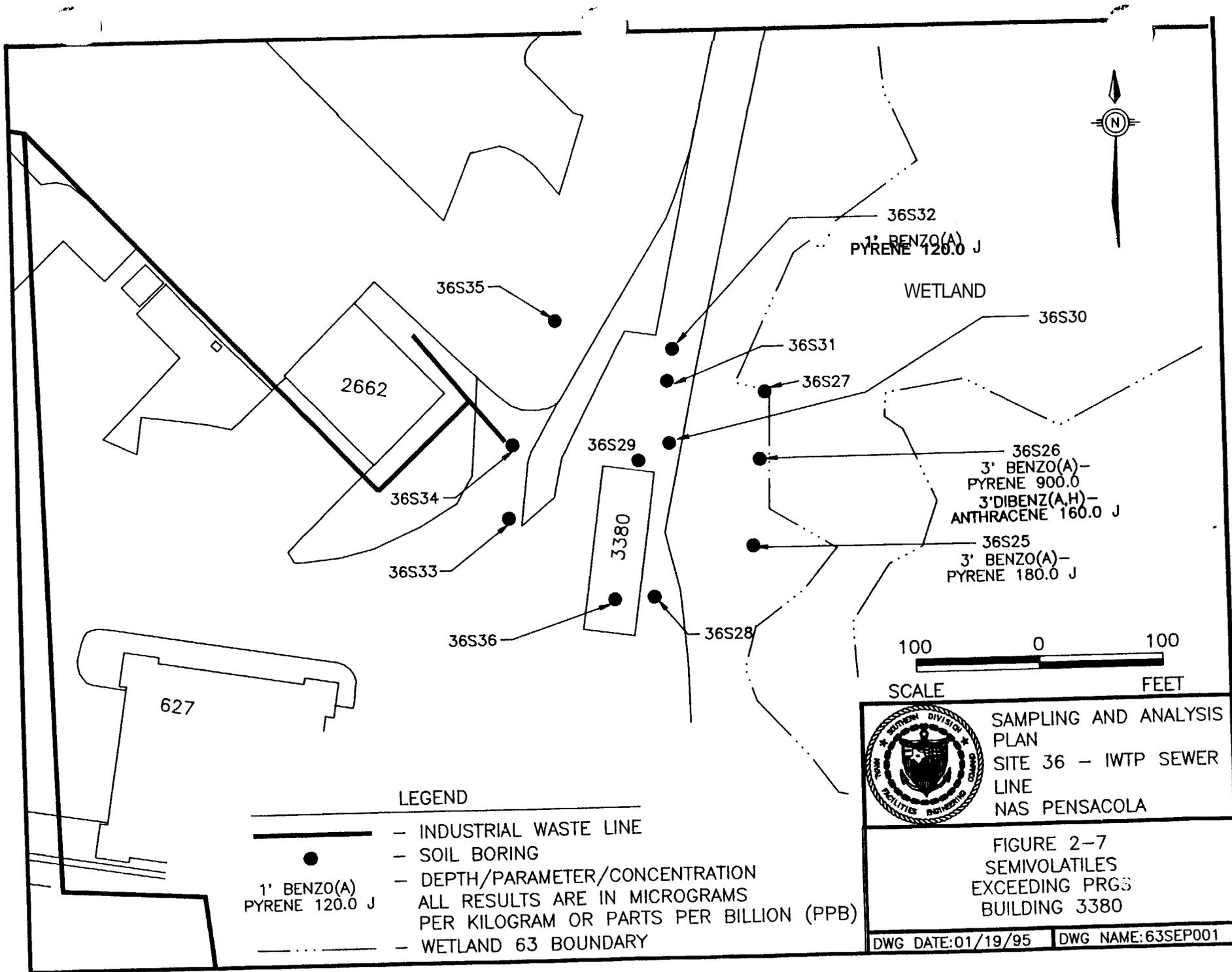
36GR03
 BENZO (A) ANTHRACENE 14,000.0
 BENZO (A) PYRENE 15,000.0
 BENZO (B) FLUORANTHENE 23,000.0
 BENZO (K) FLUORANTHENE 13,000.0
 INDENO (1,2,3-CD) PYRENE 7,400.0

36GR01/D
 BENZO (A) PYRENE 170.0/350.0

36GR12
 BENZO (A) PYRENE 130.0

36GR11
 BENZO (A) PYRENE 110.0

36GR07
 BENZO (A) PYRENE 300.0



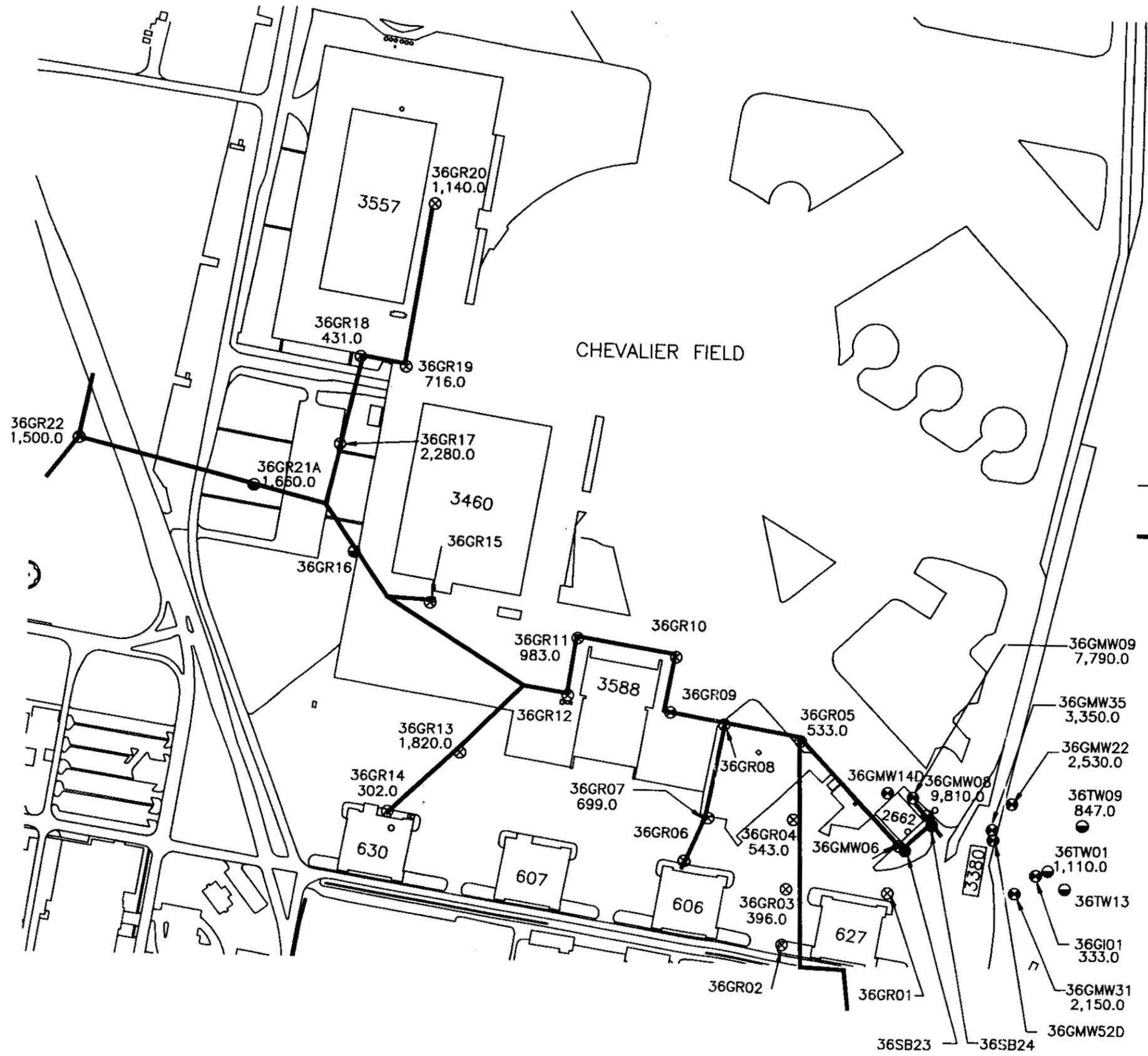
Groundwater Analyses

Groundwater samples were collected from the temporary monitoring wells using the quiescent sampling technique. Purging of groundwater is conducted at a slow controlled flow rate using a peristaltic pump and Teflon tubing. Groundwater is purged until field parameters stabilize and turbidity readings are approximately 10 NTUs or less if possible.

Metals and Cyanide: Metals were detected in many wells at or above their standards. Aluminum, iron, lead, manganese, and thallium exceeded their respective standards in at least one monitoring well. Figures 2-8, **2-9**, 2-10, and 2-11 show the concentrations of aluminum, iron, lead, and manganese, respectively, which exceed standards. None of the other detected metals exceeded their standards.

Volatile Organic Compounds: The following **VOCs** exceeded their respective standards in at least one monitoring well: 1,1-dichloroethene, xylenes, and benzene. Figure 2-12 shows the distribution of **VOCs** in groundwater which exceeds standards in the study area. Other **VOCs** at concentrations below standards in one or more wells include: toluene, ethylbenzene, 1,1 dichloroethane, 1,1,1-trichloroethane, chlorobenzene, chloroethane, 1,2-dichloroethane, methylene chloride, and 4-methyl-2-pentanone.

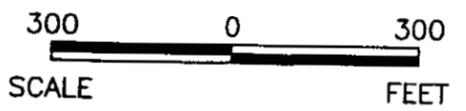
Semivolatile Organic Compounds: The following **SVOCs** above their standards were in at least one monitoring well: 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,4-dichlorophenol, and naphthalene. Figure 2-12 shows the distribution of **SVOCs** exceeding standards in groundwater. In addition, the following **SVOCs** were detected below their standards in at least one monitoring well: phenol, 1,2-dichlorobenzene, **2-methylnaphthalene**, acenaphthene, 2,4-dimethylphenol, and methylphenol. Except for one isolated occurrence of phenol in the northern part of the site, all observed groundwater contamination is near Building **3380**.



LEGEND

	PERMANENT MONITORING WELL
	INDUSTRIAL WASTE LINE
	SOIL BORING/TEMPORARY MONITORING WELL
	SOIL BORING
	TEMPORARY MONITORING WELL

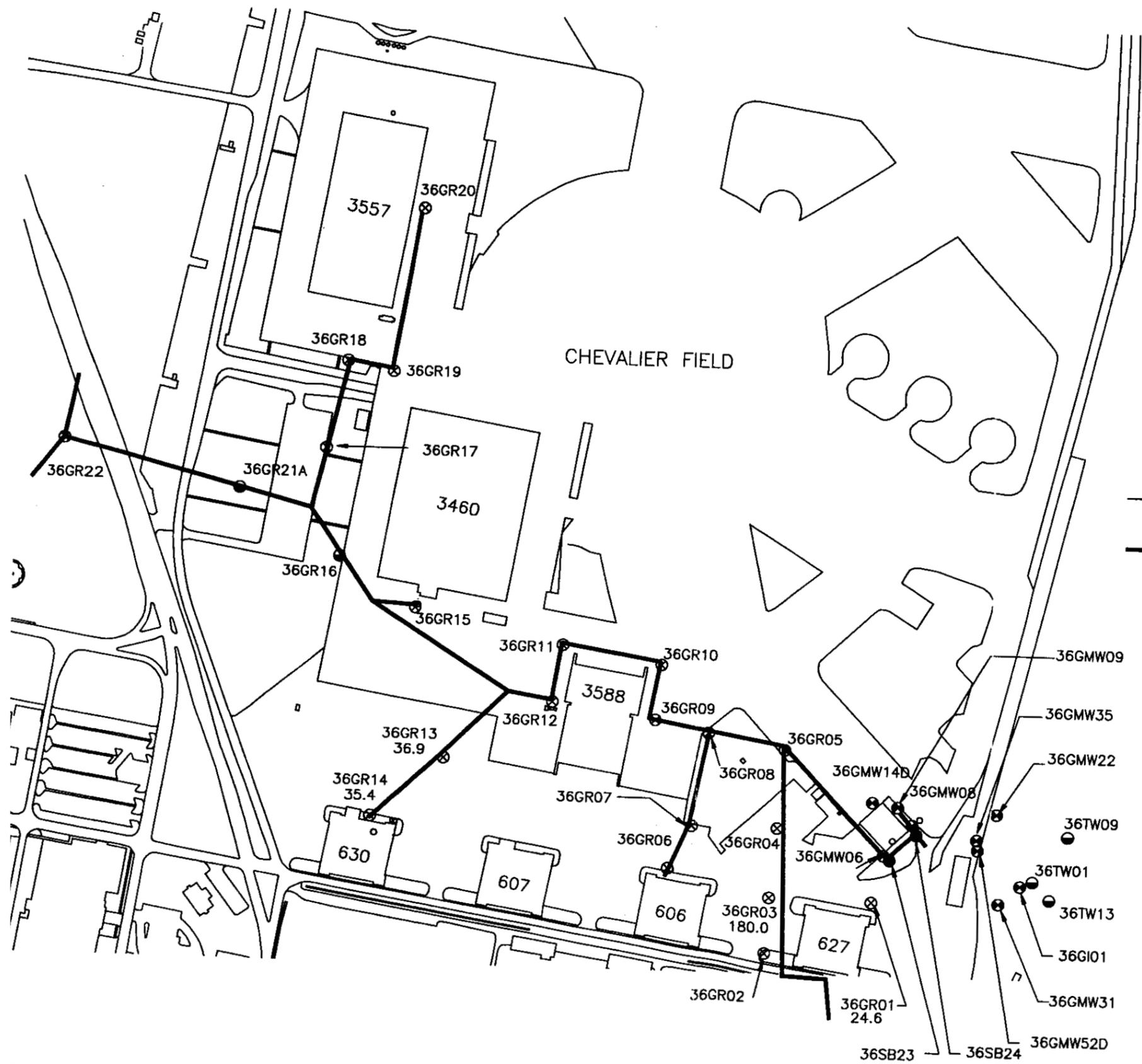
ALL RESULTS ARE IN MICROGRAMS PER LITER OR PARTS PER BILLION (ppb)



SAMPLING AND ANALYSIS PLAN
 SITE 36 - IWTP SEWER LINE
 NAS PENSACOLA

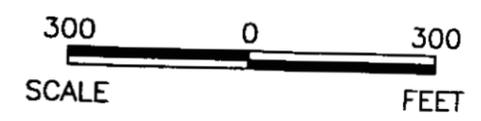
FIGURE 2-9
 IRON DETECTED
 CONCENTRATIONS IN GROUNDWATER
 EXCEEDING MCLS

DWG DATE: 08/08/05



- LEGEND
- - PERMANENT MONITORING WELL
 - - INDUSTRIAL WASTE LINE
 - ⊗ - SOIL BORING/TEMPORARY MONITORING WELL
 - - SOIL BORING
 - ⊙ - 36TW13 - TEMPORARY MONITORING WELL

ALL RESULTS ARE IN MICROGRAMS PER LITER OR PARTS PER BILLION (ppb)

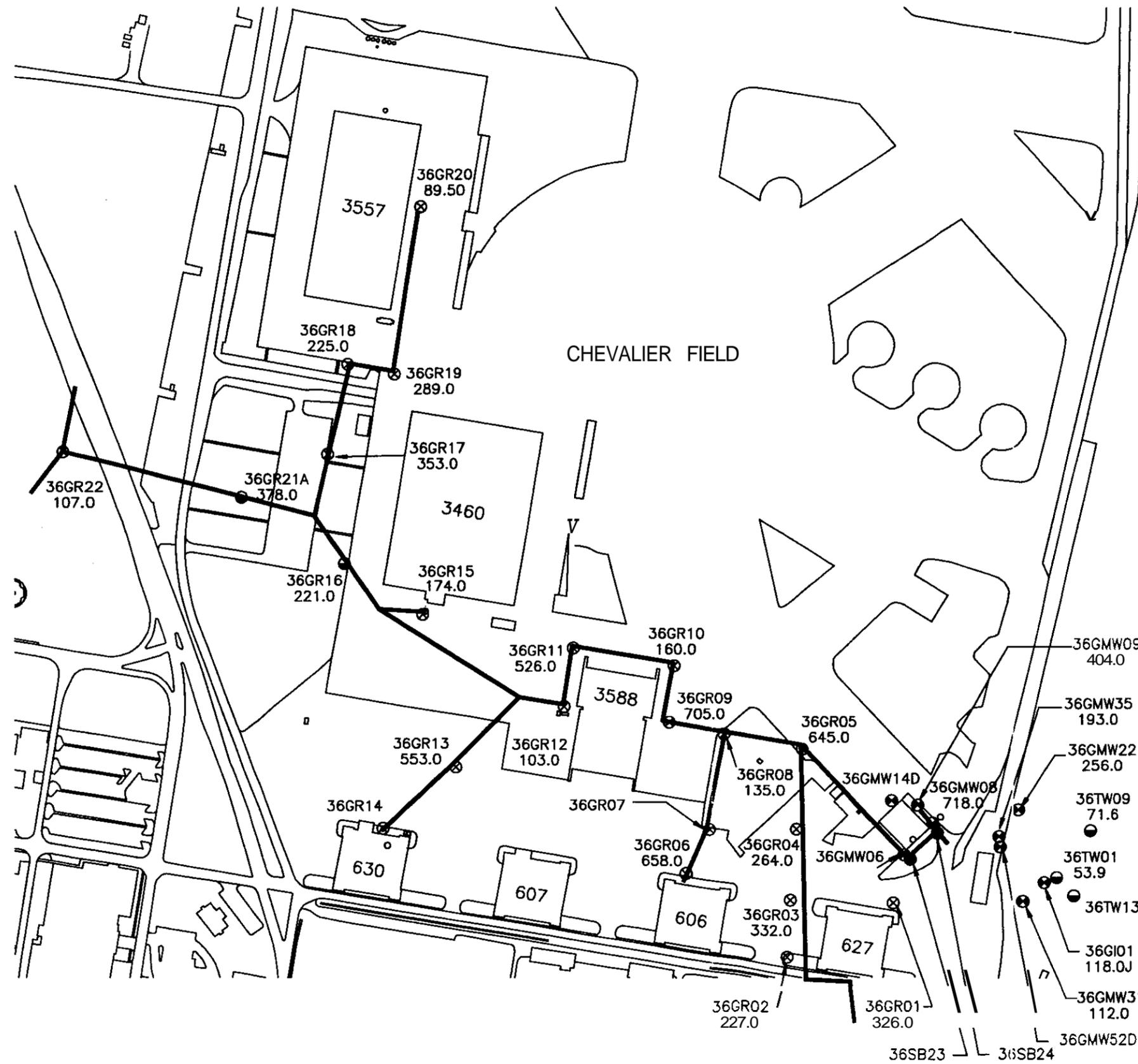




SAMPLING AND ANALYSIS PLAN
SITE 36 - IWTP SEWER LINE
NAS PENSACOLA

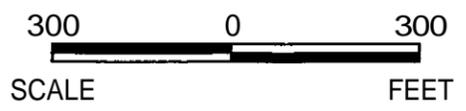
FIGURE 2-10
LEAD DETECTED
CONCENTRATIONS IN GROUNDWATER

DWG. DATE: 06/26/05



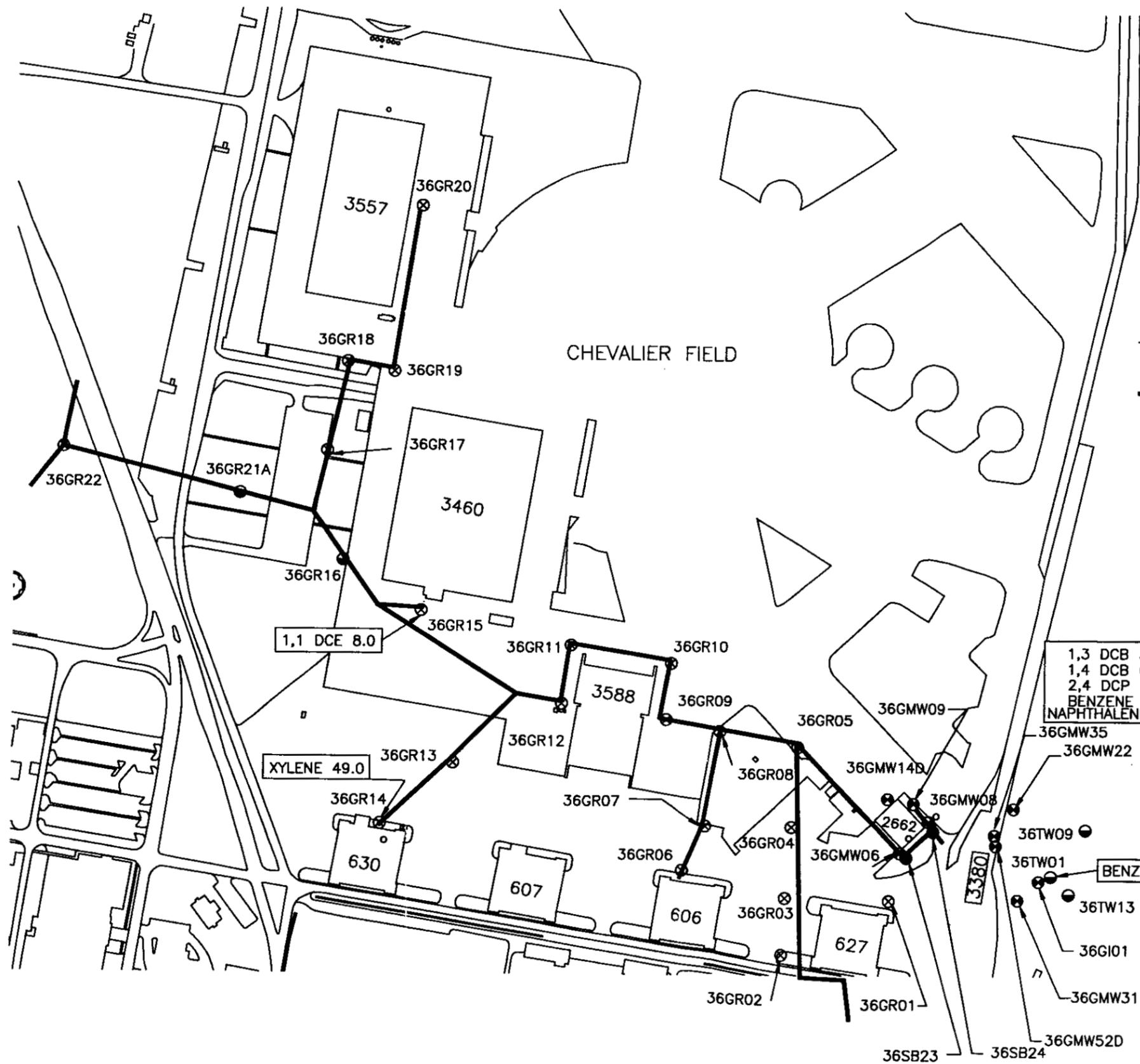
- LEGEND
- ⊗ - PERMANENT MONITORING WELL
 - - INDUSTRIAL WASTE LINE
 - ⊗ - SOIL BORING/TEMPORARY MONITORING WELL
 - - SOIL BORING
 - 36TW13 - TEMPORARY MONITORING WELL

ALL RESULTS ARE IN MICROGRAMS PER LITER OR PARTS PER BILLION (ppb)



 SAMPLING AND ANALYSIS PLAN
SITE 36 - IWP SEWER LINE
NAS PENSACOLA

FIGURE 2-11
MANGANESE DETECTED
CONCENTRATIONS IN GROUNDWATER

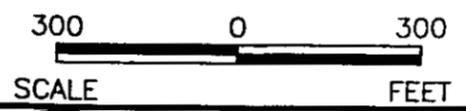


LEGEND

- - PERMANENT MONITORING WELL
- - INDUSTRIAL WASTE LINE
- ⊗ - SOIL BORING/TEMPORARY MONITORING WELL
- - SOIL BORING
- 36 TW - TEMPORARY MONITORING WELL
- 1,3-DB 1,3-DICHLOROBENZENE
- 1,4-DB 1,4-DICHLOROBENZENE
- 1,1-DE 1,1-DICHLOROETHENE
- 2,4-DP 2,4-DICHLOROPHENOL

1,3 DCB 380.0
 1,4 DCB 690.0
 2,4 DCP 4.0
 BENZENE 31.0
 NAPHTHALENE 100.0

ALL RESULTS ARE IN MICROGRAMS PER LITER OR PARTS PER BILLION (ppb)



SAMPLING AND ANALYSIS PLAN
 SITE 36 - IWTP SEWER PLAN
 NAS PENSACOLA

FIGURE 2-12
 VOCs AND SVOCs
 IN GROUNDWATER
 EXCEEDING MCLs

DWG DATE: 09/26/95 DWG NAME: 063SAP12

Pesticides and PCBs: Gamma-chlordane, heptachlor epoxide, and beta-BHC were detected at concentrations below respective standards. No **PCBs** were detected in groundwater samples.

2.3.3 Resampling Temporary Monitoring wells

Due to **MCL** exceedances in select temporary monitoring wells, the wells were resampled for confirmation on December 8, 1994. Wells 36GR01, 36GR03, 36GR12, and 36GR13 were resampled for metals. 36GR14 was resampled for volatiles and metals, and 36GR15 was resampled for volatiles. Second-sampling-round detected concentrations are compared to initial concentrations in Tables 10 and 11 in Appendix A.

Metals

Aluminum (36GR01, 36GR03), iron (36GR01, 36GR03, 36GR14), lead (36GR01, 36GR03), manganese (36GR12) remained above their respective **MCLs**. The iron concentrations in 36GR01 and 36GR14 were below its reference concentration.

VOCS

Xylene in 36GR14 was the only parameter to exceed its **FDEP secondary** standard of 20 ppb. However, the detected concentration did not exceed its **USEPA** and **FDEP primary** standard of 10,000 ppb.

2.4 IWTP Sewer Line Closure, AVGAS Line Removal, and Chevalier Field Removal Actions

The **IWTP** Sewer Line is scheduled for closure in late 1995, and an aviation gasoline (AVGAS) line was removed in the vicinity of Site 36. The following **information has** been compiled from the following documents:

- Technical Memorandum (NAS Pensacola Tier 1 Partnering Team, August 26, 1994)
- AVGAS Removal Technical Memorandum (E/A&H, January 16, 1995)

- Work Plan for Flushing and Grouting **IWTP** Sewer Lines (E/A&H 1995)
- Action Memorandum Chevalier Field Removal Actions (E/A&H 1995)

2.4.1 RCRA Closure of the IWTP Sewer Line

Resource Conservation and Recovery Act (RCRA) clean closure of the IWTP sewer line is preferable to RCRA/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) risk-based closure. Closure activities will meet the applicable portions of *Hazardous Waste Generator Closure Guidance* (FDEP, November 1993). To obtain clean closure and to prevent conflicts with BRAC-related construction activities on Chevalier Field, the Tier 1 Partnering Team decided that the **IWTP** sewer line should be cleaned and closed before construction dewatering (NAS Pensacola Tier 1 Partnering Team, *written communication*, August 26, 1994). Closure activities are documented in the Draft Work Plan for Flushing and Grouting **IWTP** Sewer Lines (E/A&H, 1995). If clean closure cannot be achieved, the IWTP sewer line will undergo risk-based closure.

2.4.2 AVGAS Line Removal

As outlined in a draft E/A&H Technical Memorandum dated January 16, 1995, an aviation gasoline (AVGAS) line removal will be performed at Chevalier Field. Portions of this line cross Site 36. The removal of this line will cross six former temporary monitoring well locations shown on Figure 2-3: **36GR14, 36GR06, 36GR03, 36GR01, 36GR07, and 36GR05**. As agreed by the Tier 1 Partnering Team, no soil will be removed from the excavation during the AVGAS line removal. If any soil is removed, it may be returned to the excavation.

2.4.3 Chevalier Field Removal Actions

Soil in BRAC-related construction areas which is identified as exceeding PRGs at Site 36 will be removed by the construction contractor. E/A&H will collect samples at the extent of the

excavation to verify conditions remaining in the excavation. Removals performed by the BRAC contractor in these areas are documented in an Action Memorandum (E/A&H July 11, 1995).

2.5 Physical Setting

Climatology, biological resources, physiography, and hydrogeology for Site 36 and NAS Pensacola are detailed in Sections 4 through 7 of the E&E site work plan (1992a).

3.0 PHYSICAL SURVEYS

Various physical surveys have been conducted at Site 36 as part of E&E's Phase I activities. These include aerial photograph analysis, site reconnaissance, surface/particulate air emissions surveys, and a radiation survey. Results of the physical surveys are presented in Section 3 of the IDR (E&E, 1992b). Relevant information has been considered while planning this investigation and will not be duplicated. Two additional surveys are necessary before field activities begin: a contaminant source survey and a habitat and biota survey. E/A&H has completed the contaminant source survey.

3.1 Contaminant Source Survey

A contaminant source survey has been conducted to locate any potential sources and to identify any present or past waste streams at the site. The survey included a review of previous investigative reports, interviews with present and former NAS Pensacola personnel, aerial photograph analysis, and a utility survey.

The contaminant source survey included the following:

- Locations of previous and current underground and overhead piping and utilities.
- Formerly and presently used chemicals.
- Locations of any known surface spills.
- Locations of any known historical outfalls.
- Locations and contents of any known present or former underground storage tanks.

Of particular interest was a review of a previous telespection report of the **IWTP** Sewer Line and a review of the NAS Pensacola Public Works Center (PWC) maintenance records. In **1987**, a telespection of the IWTP sewer line was **performed** by the PWC. No major deficiencies were noted at Site **36**. The report recommended minor maintenance to the IWTP including resealing joints at several locations between the manholes and the sewer line **to** prevent infiltration of storm water and sediment. PWC maintenance records indicated two repairs to the IWTP sewer line in the subject areas have been conducted since **1987**. A third location was identified by Ron Joyner (Ron Joyner, oral **communication, 1995**). A boring and temporary monitoring well has been proposed along the IWTP at each of these locations. The telespection report and a summary of IWTP sewer line maintenance are in Appendix **B**.

3.2 Habitat and Biota Survey

A Phase I habitat and biota survey will adhere to Section 8 of the **CSAP**. Data obtained during the Site **36** investigation also will be used to assess ecological risk to any onsite or surrounding terrestrial **and** aquatic habitats potentially affected by contaminant migration. If ecological impacts are suspected at Site **36** after the Phase I survey, Phase II sampling will be implemented as outlined in Section **8** of the CSAP.

4.0 FIELD SAMPLING PLAN

The field sampling plan describes the sampling and field measurement procedures to be **used** during the investigation. The field investigation includes a phased approach **initially** consisting of advancing and sampling soil borings **and** installing and sampling temporary and possibly permanent monitoring wells. Groundwater hydrology and ecology also will **be** assessed for Site **36**.

4.1 Sampling Objectives

Phase I Objectives

- e To identify and characterize potential **sources** of contamination
- e To assess the nature of identified **contaminants**
- e To establish PRGs for the identified **contaminants**

Phase II Objectives

- e To delineate the extent and magnitude of soil **and** groundwater contamination
- e To delineate migration pathways of the **contaminants**
- e To identify potential receptors of the **contaminants**

Phase III Objectives

- To establish permanent monitoring well locations to **confirm** extent delineation and to monitor contaminant migration

4.2 Sampling and Analytical Requirements

The proposed number of soil and groundwater samples **are** listed in Table 4-1. The sampling and analytical requirements summarized in Table 4-1 are discussed below. The USEPA and FDEP will be apprised of any changes in the number of samples collected.

Table 4-1			
Site 36 Phase I Sampling and Analytical Requirements			
Medium	No. of Samples	Analytical Parameter	DQO^a Level
Soil ^b	41	FSA	IV
	18	TCLP	II
Groundwater ^c	18	FSA	IV

Notes:

- a DQO = Data Quality Objective
- b Total number of soil samples has been approximated, actual number of samples obtained dependent on groundwater elevation. FSA = 5 soil borings x 3 samples/boring = 15 samples. 13 soil borings x 2 samples/boring = 26 samples.
- c Total number of groundwater samples = 18 proposed temporary monitoring wells x 1 sample each = 18 samples.
- FSA = Full Scan of Analysis
- TCLP = Toxicity Characteristic Leaching Procedure

Any additional sources or previously undetected contamination will be investigated by collecting supplemental samples from any given media, sampling media not included in this site-specific **SAP**, installing additional monitoring wells to delineate the extent and depth of contaminants, and conducting aquifer response tests to further characterize subsurface hydrologic conditions. The request for additional field activities shall **be** documented and submitted to the Navy for approval with notification to the **USEPA** and FDEP via a field change request form or as recommended following each phase where allowable.

The USEPA CLP TAL/TCL analysis will **be** used to provide a legally defensible full spectrum of contaminant analyses. Soil and groundwater will **be** analyzed for the full TAL/TCL list with additional special analytical services (non-CLP) also being conducted when warranted. Hexavalent chromium analyses will not **be** performed **on** collected samples because it was not previously detected during other investigations at NAS Pensacola (Operable Unit **[OU]** 10, Site 1, and Site 39) and because there is no acceptable **USEPA** method for hexavalent chromium.

Samples for physical parameters and additional grain-size analyses will **be** collected during Phase **II** and III. The number of samples and locations will **be** detailed in the **Phase** I and/or II presentation. Additionally, Toxicity Characteristic Leaching Procedure (TCLP) soil samples will be collected throughout the project on soil investigation-derived waste (**IDW**) for proper disposal documentation.

Analyses proposed in this **SAP** have been organized differently from E&E's site work plan (1992a), which was subdivided into "Suites A through **E**." Proposed analytical parameters now are organized into the six basic groups listed below.

New Analytical Organization

- **Full Scan of Analysis (FSA)** — A full scan consists of analysis for **TCL VOCs**, **TCL semivolatile organic compounds (SVOCs)**, **TCL pesticides**, **TCL polychlorinated biphenyls (PCBs)**, **TAL metals (unfiltered)**, and **TCL cyanide**.
- **Physical Parameters, Soil (PPS)** — The parameters include total phosphorus, ~~nitrate-N~~, total Kjeldahl nitrogen (TKN), heterotrophic plate count, total organic carbon, and cation exchange capacity. Additional sample volume will be collected for the **PPS** samples.
- **Grain Size Analysis (GS)**
- **Physical Parameters, Water (PPW)** — The parameters include five-day biological oxygen demand, chemical oxygen demand, hardness, **total** suspended solids, alkalinity, total phosphorus, nitrate-N, TKN, and heterotrophic plate count. Additional sample volume will be collected for the **PPW** samples.
- **TCLP** — The parameters include **TCLP VOCs**, **TCLP SVOCs**, **TCLP pesticides**, **TCLP PCBs**, **TCLP metals**, and **TCLP cyanide**.
- **ST** — The parameters include bulk density, particle **size**, percent moisture, specific gravity, porosity, and permeability.

The list of remedial/physical characteristic parameters proposed in the E&E site work plan (1992a), also **has** been modified. The proposed analyses were changed to address **CERCLA** rather than **RCRA** requirements (i.e., the omission of Appendix IX analyses) and to acquire additional information regarding the physical characteristics of site soil and groundwater if a feasibility study is required. Therefore, certain parameters have been **omitted** from **this SAP**

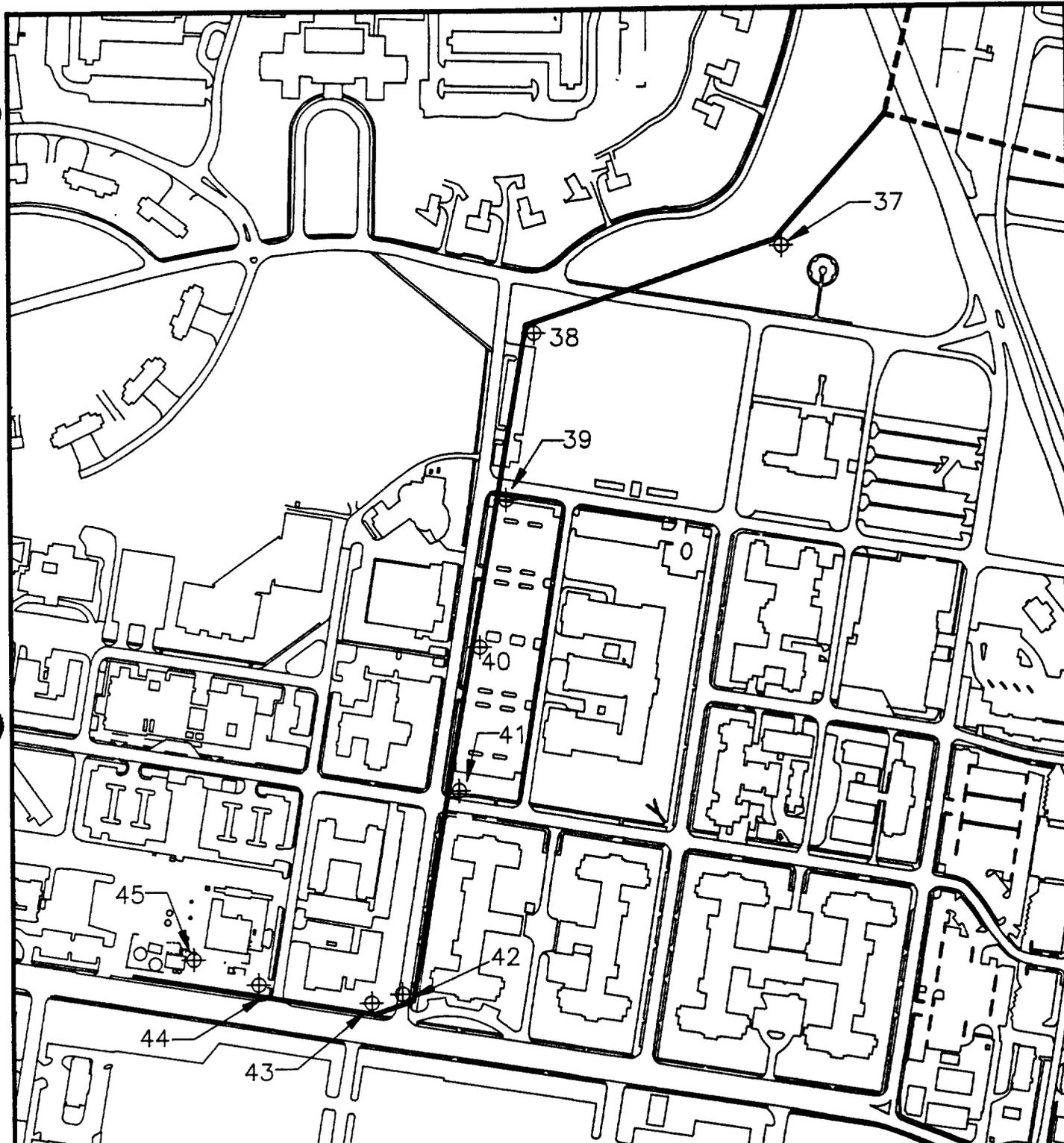
because they are either redundant to the comprehensive TAL/TCL analytical methods, provide information not legally defensible, or have limited use.

4.3 Sample Locations and Rationale

As previously outlined, the proposed field investigation will consist of a phased approach. Initial sampling locations for the remaining IWTP sewer line, presented in Figures 4-1 and 4-2, will consist of 18 soil borings to be completed as temporary monitoring wells. Table 4-2 presents the sample placement rationale for the remaining IWTP sewer line. In general, the strategy is to place sampling locations where structural deficiencies are most likely to occur (i.e., directional changes in the line, manholes).

Soil and groundwater samples will be collected for FSA to identify the presence of contaminants at the site. Only contaminants which exceed their respective PRGs will be delineated. Phase II will consist of installing additional soil borings or temporary monitoring wells until contaminants exceeding the PRGs are adequately delineated. After data are evaluated, Phase III permanent monitoring wells and soil borings (if required) will be installed at locations selected to confirm the nature and extent of contamination, replacing select temporary monitoring wells. Permanent monitoring wells will be used for possible long-term monitoring and risk assessment; locations will be based on current accessibility, anticipated construction activities, and the contaminant plume's geometry. If contaminants are not detected in the initial temporary monitoring well sampling, they may be replaced with permanent monitoring wells at selected locations and will be resampled for FSA. The sampling program and additional proposed modifications to the E&E site work plan (1992a) are described below.

Soil Samples — An FSA will be conducted on soil samples collected from 18 soil borings. All boring locations will be sampled at the following intervals: 0 to 1 foot bls (or below concrete), 1 to 3 feet bls, 3 to 5 feet bls, etc., from the land surface to the depth of the water table, estimated to be 3 feet bls.



- LEGEND
- — — — — FORCE MAIN
 - - - - - GRAVITY LINE
 - 37⊕ — SOIL BORING/TEMPORARY MONITORING WELL LOCATIONS

350 0 350

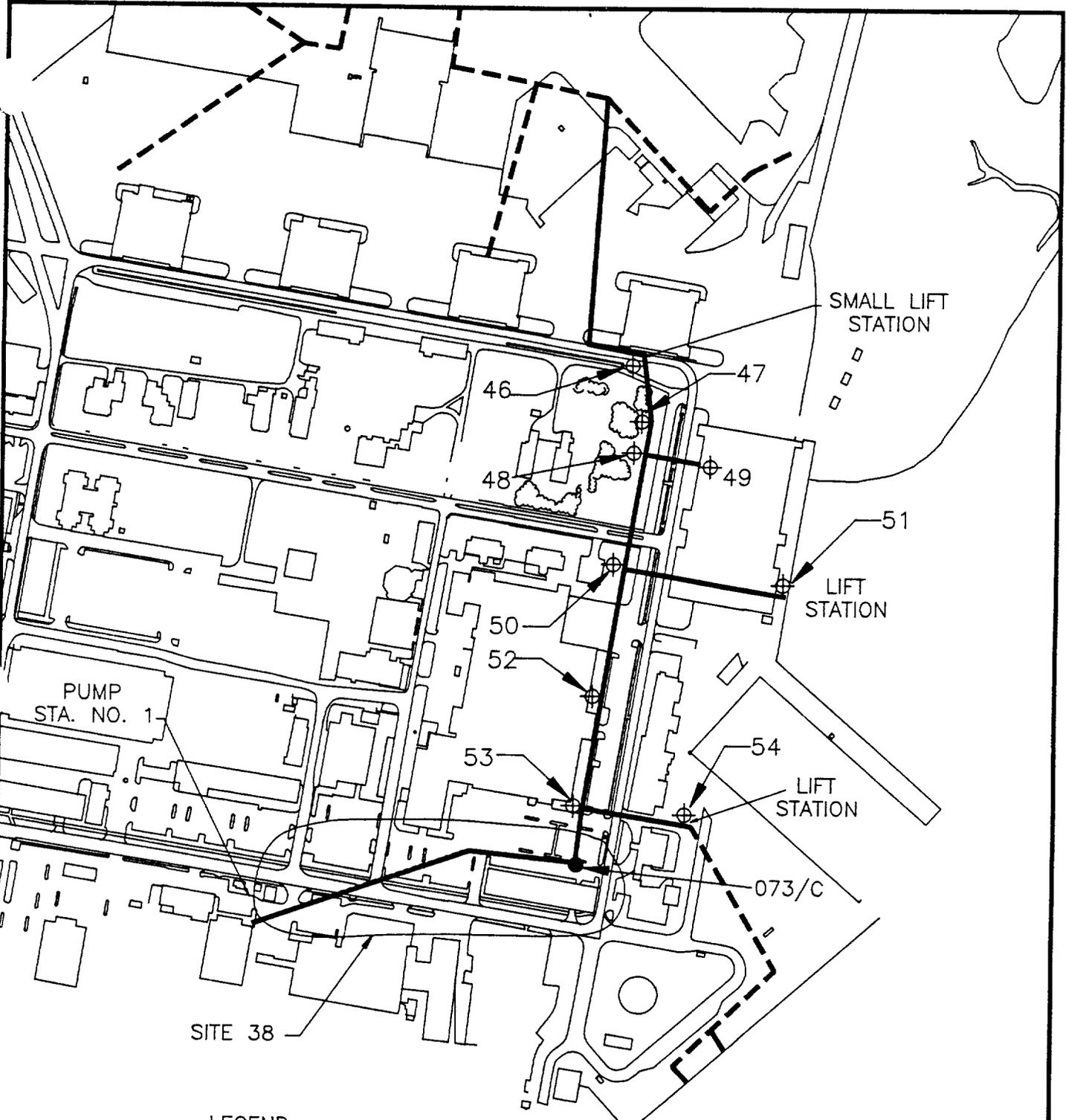
SCALE



SAMPLING AND ANALYSIS PLAN
 SITE 36-IWTW SEWER LINE
 NAS PENSACOLA
 PENSACOLA, FL.

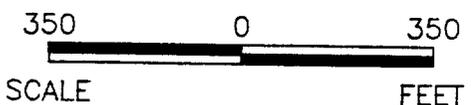
FIGURE 4-1
 PROPOSED SAMPLING LOCATIONS
 SOUTHWEST PORTION OF
 THE IWTW SEWER LINE

DWG DATE 01/19/95 | DWG NAME 63PSL002



LEGEND

-  - FORCE MAIN
-  - GRAVITY LINE
-  46 - SOIL BORING/TEMPORARY MONITORING WELL LOCATIONS
-  - LOCATION WHERE IWTP SEWER LINE FROM THAT LOCATION TO THE END WILL BE INVESTIGATED UNDER SITE 38



SAMPLING AND ANALYSIS
PLAN
SITE 36-IWTP SEWER LINE
NAS PENSACOLA
PENSACOLA, FL.

FIGURE 4-2
PROPOSED SAMPLING LOCATIONS
SOUTHEAST PORTION OF
THE IWTP SEWER LINE

DWG DATE: 01/19/95 DWG NAME: 63PSL001

Table 4-2
Site 36 Southeast and Southwest Portions of IWTP Force Main
Sampling Locations and Rationale

Identification Number	Rationale	Groundwater Sample	Soil Sample
Southwest IWTP Force Main			
37	elbow joint, 200' interval	1	3
38	elbow joint, 200' interval, contaminants identified in E&E's IDR	1	3
39	200' interval, contaminants identified in E&E's IDR; identified excavation and repair of IWTP line	1	3
40	200' interval, contaminants identified in E&E's IDR	1	3
41	200' interval, contaminants identified in E&E's IDR; identified excavation and repair of IWTP line in PWC maintenance records	1	3
42	elbow joint, 200' interval, contaminants identified in E&E's IDR	1	2
43	elbow joint	1	2
44	joint, 200' interval, lift station, contaminants identified in E&E's IDR; identified repair of IWTP discharge line of lift station in PWC maintenance records	1	2
45	building connection, contaminants identified in E&E's IDR	1	2

Table 4-2 (Continued)
 Site 36 Southeast and Southwest Portions of IWTP Force Main
 Sampling Locations and Rationale

Identification Number	Rationale	Groundwater Sample	Soil Sample
Southeast IWTP Force Main			
46	elbow joint, lift station, contaminants identified in E&E's IDR	1	2
47	elbow joint, contaminants identified in E&E's IDR	1	2
48	T-joint, contaminants identified in E&E's IDR	1	2
49	building connection, contaminants identified in E&E's IDR	1	2
50	T-joint, contaminants identified in E&E's IDR	1	2
51	joint, lift station	1	2
52	200' interval, contaminants identified in E&E's IDR	1	2
53	200' interval, contaminants identified in E&E's IDR	1	2
54	elbow joint, contaminants identified in E&E's IDR	1	2
	Total	18	41

Notes:

E&E — Ecology and Environment, Inc.

IDR — Interim Data Report

Sample location includes soil boring and temporary monitoring well. **Total number of samples** is excluding quality assurance/quality control samples.

The locations of the soil borings have been strategically placed at manholes, at locations of PWC repairs to the IWTP sewer line, and where the IWTP sewer line is above the saturated zone. Soil borings will be advanced at manholes to investigate the possibility of overflow at the manhole. Soil borings advanced where the IWTP sewer line is above the saturated zone will assess if there is any contaminated soil near the IWTP sewer line. Where the gravity line runs below the saturated zone, any structural deficiencies in the system would allow groundwater infiltration. For this reason, soil borings will not be advanced at locations where the gravity line is below the approximated groundwater elevation.

Soil samples collected during Phase II, if needed, will not be analyzed for FSA, except for the contaminant groups positively identified above the PRGs in the first sampling phase. Confirmatory Phase III soil samples, if needed, will be analyzed for FSA or for identified contaminants.

PPS analyses needed for the feasibility study will be conducted during Phase II and/or III only if the contaminants exceed the applicable PRGs. PPS samples will be collected for areas representing both reference and contaminated conditions. Grain-size (GS) analysis will also depend on exceedances of the PRGs. Results of the GS analysis will be used to calculate recovery well specifications if a groundwater remediation program is required.

For proper soil IDW disposal, TCLP soil samples will be collected from each boring by collecting a composite sample of the drill cuttings. The TCLP samples will be collected when advancing each boring associated with the IDW drum.

Groundwater Samples — FSA will be conducted on groundwater samples collected from the 18 proposed temporary monitoring wells along the IWTP sewer line. The proposed temporary monitoring wells will be shallow, with a target depth of 10 feet bls, and will be installed at a

depth where the screened interval brackets the IWTP sewer line, if possible. The temporary monitoring well locations are presented on Figure 4-1.

Additional temporary monitoring wells may be installed and/or the existing monitoring wells will be sampled if contaminants are identified in groundwater above their respective PRGs. Groundwater samples collected during Phase II will not be analyzed for FSA, except for contaminant groups positively identified above the PRGs in the first sampling phase. Confirmatory Phase III samples **will** be analyzed for **FSA**.

PPW analyses will be conducted during Phase II and/or III **only** if **contaminants** exceed applicable PRGs for groundwater. Samples collected for **PPW** analyses will represent both reference and contaminated conditions.

4.4 Sampling Procedures

Proposed sampling procedures are presented in Sections 4, 6, and 7 of the CSAP. General sampling requirements will follow Section 2.2 of the CSAP with samples processed in accordance with Section 12. A brief description of sampling **and** any proposed modifications to the **CSAP** or E&E site work plan (1992a) are discussed below.

4.4.1 Soil Sampling

Soil borings will be advanced using hand auger or hollow-stem auger drilling techniques. Soil samples will be collected in accordance with Section **4.6.1** of the CSAP.

4.4.2 Monitoring Well Installation and Development

All permanent groundwater monitoring wells will be installed according to the NEESA 20.2-031A Groundwater Monitoring Guide, the E/A&H Comprehensive and Site Sampling and Analysis Plan, State of Florida Regulations, and the SOUTHNAVFACENGCOM: *Guidelines for Groundwater Monitoring Well Installation*.

Temporary Shallow Monitoring **wells** (Phases I and II)

Temporary shallow monitoring wells will be constructed and installed in a manner similar to that of permanent shallow monitoring wells, except for the following:

- Temporary shallow monitoring well **screens** will be constructed of **5-foot**, 0.010-inch slotted polyvinyl chloride. Stainless steel well **screens** will be **used** if they **are** installed using hand auger techniques. The temporary monitoring wells will have factory slotted screens, while permanent wells will have continuous slot screens.
- e The top of the monitoring well screen will **be** installed to bracket the existing groundwater elevation. At locations where the **IWTP** sewer line is below the water table, the screened interval will bracket the sewer pipe invert elevation, where possible.
- e The temporary shallow monitoring wells will not require grouting or constructing a well pad and casing. Any remaining annular space will be filled with bentonite to the existing ground surface elevation.
- e Upon the closure of the specific project phase investigation **and** at the approval of the Tier 1 Partnering Team, the temporary shallow monitoring wells will be removed and abandoned accordingly. Temporary monitoring wells will be abandoned by filling boreholes with cement grout, free from bentonite or additives.

Development

Permanent monitoring wells will be developed in accordance with Section **5.4** of the **CSAP**. Temporary monitoring wells will not require a developing process — rather purging and sampling will be performed immediately following installation. Permanent monitoring well development will continue at a low flow rate until the withdrawn water is **free** of turbidity, based

on geology of the area and the pH, temperature, and specific conductivity have stabilized. The measurements will be recorded in accordance with Section 10.1 of the CSAP.

4.4.3 Groundwater Sampling

Groundwater will be sampled in accordance with Section 6 of the CSAP and as discussed below. The temporary and permanent monitoring wells will be purged using a peristaltic pump and dedicated, decontaminated Teflon tubing before sampling. Purging is to be performed at a slow, controlled pumping rate (approximately .25 gallons per minute or less) while field parameters and turbidity are monitored. Samples will be collected when field parameters stabilize and turbidity readings of approximately 10 NTUs or less are attained if possible. For developing, purging, and sampling, the downhole tubing will be placed within 1 foot of the groundwater surface elevation.

Immediately following the purging process, samples will be collected by a vacuum-extraction process using the same peristaltic pump and dedicated Teflon tubing. Groundwater will be collected under a low vacuum pressure via an in-line collection/transfer bottle apparatus. This apparatus consists of a two-aperture Teflon cap attached to a sample-specific dedicated 300 series laboratory-certified, 80-ounce glass container. Teflon tubing from the monitoring well will be attached to one aperture while the peristaltic pump is attached to the second. The vacuum created by the pump will lift the groundwater from the monitoring well, filling the collection/transfer bottle at a low controlled flow rate. This technique allows groundwater, with minimal turbidity, to be collected and transferred to the appropriate metals, SVOCs, pesticides, PCBs, and cyanide analyses containers. Sample volumes for VOC analysis will be collected by removing the Teflon tubing from the monitoring well and the transfer cap and allowing the unagitated groundwater volume, retained in the line, to flow backward into 40-milliliter volatile organic analysis vials.

4.5 Hydrologic Assessment

Hydrology will be assessed on the permanent monitoring wells **installed** during Phase III in accordance with Section 9.6 of the **CSAP**. Slug tests and/or specific capacity tests will be performed at selected monitoring wells sufficient for site **characterization**. If groundwater remediation is required, the results of the slug and/or specific capacity **tests** will be used to design the appropriate pumping tests where allowable. The Navy will accept technical responsibility for designing and implementing these tests. The USEPA and FDEP will be kept apprised of the investigation as it progresses **and** will be notified before conducting full-scale pumping tests. Pumping tests will adhere to procedures provided in Section 9.6.2 of the **CSAP**.

4.6 Ecologic Assessment

At least a Phase I habitat and biota survey will be conducted **in** accordance with Section **8.1** of the CSAP.

4.7 Geodetic Locating

All soil borings, monitoring wells, etc. will be located using a global positioning system in accordance with manufacturer's specifications.

4.8 Decontamination

Decontamination procedures will adhere to Section 11 of the **CSAP**.

4.9 Investigation-Derived Wastes

IDW will be handled according to Section **13** of the **CSAP**.

4.10 Field QA/QC

Field QA/QC samples will be collected in accordance with the frequency presented in Table **15-1** of the CSAP. QA/QC procedures will adhere to Section **15.2** of the CSAP.

5.0 QUALITY ASSURANCE PLAN

The Quality Assurance Plan presented in Section 15 of the **CSAP** will be followed during the Site 36 investigation.

6.0 DATA MANAGEMENT PLAN

The Data Management Plan presented in Section 14 of the **CSAP** will be followed during the Site 36 investigation.

7.0 REFERENCES

ABB Environmental Services, Inc (1994). *Contamination Assessment Report: Building 2662. (Summary of analytical data and figures only)*. **ABB** Environmental Services, Inc., Tallahassee, Florida.

Ecology and Environment, Inc. (1992a). *Contamination Assessment/Remedial Activities Investigation Work Plan — Group N, Naval Air Station Pensacola, Pensacola, Florida*. Ecology and Environment, Inc.: Pensacola, Florida.

Ecology and Environment, Inc. (1992b). *Interim Data Report, Contamination Assessment/Remedial Investigation, Industrial Waste Sewer (Site 36), Naval Air Station Pensacola, Pensacola, Florida*. Ecology and Environment, Inc. : Pensacola, Florida.

EnSafe/Allen & Hoshall. (1994). *Comprehensive Sampling and Analysis Plan for Naval Air Station Pensacola, Pensacola, Florida — Final*. EnSafe/Allen & Hoshall: Memphis, Tennessee.

EnSafe/Allen & Hoshall. (1995). *AVGAS Removal Technical Memorandum*. EnSafe/Allen & Hoshall: Memphis, Tennessee.

EnSafe/Allen & Hoshall. (1995). Action Memorandum Chevalier Field Removal Actions.
EnSafe/Allen & Hoshall: Memphis, Tennessee.

EnSafe/Allen & Hoshall. (1995). *Draft Work Plan for Flushing and Grouting TWTP Sewer Lines, Naval Air Station Pensacola, Pensacola Florida — Draft.* EnSafe/Allen & Hoshall: Memphis, Tennessee.

Naval Air Station Pensacola Tier 1 Partnering Team. (1994). *Identification and Resolution of CERCLA, RCRA Regulatory Issues Relevant to BRAC Construction at Chevalier Field.* NAS Pensacola Tier 1 Partnering Team. August 26, 1994.

Naval Energy and Environmental Support Activity (NEESA). (1983). *Initial Assessment Study of Naval Air Station, Pensacola, Florida.* NEESA 13-015.

Naval Energy and Environmental Support Activity (NEESA). (1985). *Groundwater Monitoring Guide.* NEESA 20.2-031A.

Southern Division Naval Facilities Engineering Command. *Guidelines for Groundwater Monitoring Well Installation.* SOUTHNAVFACENGCOM, Charleston, South Carolina.

U. S. Environmental Protection Agency. (1991). *Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual,* U.S. Environmental Protection Agency, Region IV: Athens, Georgia.

8.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of the Final Sampling and Analysis **Plan** for the Site **36 — IWTP Sewer Line** and **seal** it in accordance with Chapter **492** of the **Florida** Statutes. In sealing this document, I certify that the geological information contained in it is true to the best of my knowledge and that the geological methods **and** procedures included in this plan **are** consistent with currently accepted geological practices.

Name: **Brian E. Caldwell**
License Number: **1330**
State: **Florida**
Expiration Date: **July 31, 1996**

BE Caldwell

Brian E. Caldwell

10-25-95

Date

APPENDIX A
ANALYTICAL DATA SUMMARY TABLES

Table 1
 Category VIII -- Site 36
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference						
		(2 X Average Concentration)	36S0101	36S0101D	3630102	36S0201	36S0203	36S0205
Aluminum	75,000 ^b	3,833.36	1,350.0	2,510.0	505.0	1,120.0	1,190.0	1,370.0
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	<u>28.6</u>	<u>40.2</u>	<u>24.5 J</u>	4.3	2.1 J	<u>6.7</u>
Beryllium	0.1 ^b	0.41	ND	<u>0.23</u>	ND	ND	ND	ND
Cadmium	37 ^b	1.0	<u>3.2</u>	<u>5.9</u>	ND	ND	ND	ND
Calcium	NS	912.37	<u>2,290.0 J</u>	<u>6,530.0 J</u>	<u>968.0 J</u>	338.0	248.0 J	<u>1,930.0</u>
Chromium	66,000.0 ^b	6.13	<u>44.5</u>	<u>57.3</u>	1.7 J	6.0	4.1	<u>12.3</u>
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	<u>14.3</u>	<u>24.4</u>	<u>6.4</u>	<u>6.1</u>	3.4 J	ND
Iron	NS	2,745.0	<u>2,650.0 J</u>	<u>3,280.0 J</u>	582.0 J	1,000.0 J	1,100.0 J	998.0 J
Lead	400.0 ^c	7.32	<u>165.0</u>	<u>223.0</u>	<u>81.5</u>	<u>58.7</u>	<u>15.8</u>	<u>70.6</u>
Magnesium	NS	133.33	ND	<u>946.0</u>	77.2 J	67.2	57.1 J	88.5
Manganese	390.0 ^c	21.36	<u>23.8</u>	<u>42.7</u>	6.9	<u>28.6</u>	8.9	14.5
Mercury	23.0 ^{a,b}	0.10	<u>0.12</u>	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	156.0	ND	ND	ND	98.6
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	<u>1.3</u>	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND	ND
Sodium	NS	107.85	35.9	58.4	ND	ND	6.4 J	25.3
Vanadium	480.0 ^b	5.83	4.0	4.3	0.88 J	2.1	2.1 J	2.2
Zinc	23,000.0 ^{a,b}	16.87	<u>256.0 J</u>	<u>318.0 J</u>	<u>57.5</u>	ND	ND	<u>33.7</u>

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36

Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S0301	36S0303	36S0401	36S0403	3690501
Aluminum	75,000 ^b	3,833.36	2,590.0	2,310.0	39.6	41.8	2,410.0
Antimony	26.0 ^c	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	<u>86.1</u>	<u>50.6</u>	2.7	<u>10.3</u>	ND
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	<u>3,210.0 J</u>	<u>1,470.0 J</u>	197.0 J	168.0 J	<u>1,810.0 J</u>
Chromium	66,000.0 ^b	6.13	2.8	3.2	ND	3.3	3.1
Cobalt	4,700.0 ^{a,b}	1.87	1.2	1.7	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	<u>43.2</u>	<u>192.0</u>	1.2	2.0	<u>7.8</u>
Iron	NS	2,745.0	<u>3,500.0 J</u>	<u>3,260.0 J</u>	117.0 J	357.0 J	2,120.0 J
Lead	400.0 ^c	7.32	<u>1,590.0</u>	<u>201.0</u>	<u>25.3</u>	<u>30.8</u>	<u>80.6</u>
Magnesium	NS	133.33	<u>283.0</u>	<u>167.0 J</u>	ND	ND	ND
Manganese	390.0 ^a	21.36	<u>82.0</u>	<u>69.2</u>	4.1	12.9	<u>29.2</u>
Mercury	23.0 ^{a,b}	0.10	<u>0.14 J</u>	<u>0.19 J</u>	ND	ND	<u>0.11 J</u>
Nickel	1,500.0 ^b	6.38	3.6	ND	ND	ND	ND
Potassium	NS	460.67	225.0	141.0	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	24.2	21.1	12.4	6.8	21.7
Vanadium	480.0 ^b	5.83	5.7	4.6	ND	ND	4.6
Zinc	23,000.0 ^{a,b}	16.87	<u>100.0 J</u>	<u>86.7 J</u>	5.6 J	13.9 J	<u>42.6 J</u>

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 Detected Concentration Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S0501D	36S0502	36S0601	36S0603	36S0701	36S0701D	36S0703
Aluminum	75,000 ^b	3,833.36	2,070.0	1,490.0	3,140.0	1,020.0	<u>7,610.0</u>	<u>5,770.0</u>	65.7
Antimony	26.0 ^c	9.49	ND	ND	ND	ND	ND	ND	ND
Arsenic	0.7 ^a	1.56	ND	ND	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	<u>18.4</u>	<u>13.3</u>	<u>4.8</u>	<u>5.0</u>	2.5	2.7	1.7
Beryllium	0.1 ^a	0.41	ND	ND	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	<u>1.1</u>	<u>1.7</u>	<u>2.3</u>
Calcium	NS	912.37	<u>1,090.0 J</u>	<u>3,870.0 J</u>	704.0 J	161.0 J	129.0 J	130.0 J	73.5 J
Chromium	66,000.0 ^b	6.13	3.1	3.6	2.7	2.5	<u>7.4</u>	5.8	2.1
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	<u>7.9</u>	<u>7.2</u>	1.9	1.4	2.5	2.4	0.94
Iron	NS	2,745.0	2,300.0 J	ND	2,430.0 J	995.0 J	<u>5,690.0 J</u>	<u>4,770.0 J</u>	185.0 J
Lead	400.0 ^c	7.32	<u>96.0</u>	<u>82.0</u>	<u>9.5</u>	<u>12.5</u>	<u>9.7</u>	<u>10.7</u>	<u>17.1</u>
Magnesium	NS	133.33	ND	ND	ND	ND	ND	ND	ND
Manganese	390.0 ^a	21.36	<u>30.0</u>	17.7	17.3	ND	ND	ND	ND
Mercury	23.0 ^{a,b}	0.10	<u>0.12 J</u>	ND	ND	ND	<u>0.11</u>	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND	0.74	ND
Sodium	NS	107.85	20.0	36.3	21.0	13.9	26.8	19.4	9.9
Vanadium	480.0 ^a	5.83	<u>5.0 J</u>	<u>3.4</u>	<u>5.3</u>	<u>1.5</u>	<u>13.4</u>	<u>11.0</u>	ND
Zinc	23,000.0 ^{a,b}	16.87	<u>42.2 J</u>	<u>36.4 J</u>	6.0 J	7.4 J	5.1 J	9.4 J	8.2 J

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S0801	36S0803	36S0901	36S0903	36S0905	36S0907
Aluminum	75,000 ^b	3,833.36	2,400.0	1,170.0	1,300.0	783.0	122.0	149.0
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	<u>5.3</u>	<u>5.5</u>	4.6	3.6	0.68	ND
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND	ND
Calcium	NS	912.37	<u>2,690.0 J</u>	430.0 J	<u>6,950.0 J</u>	617.0 J	205.0 J	649.0 J
Chromium	66,000.0 ^b	6.13	3.0	2.3	1.9	2.7	2.1	2.0
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	4.3	4.8	2.0	1.3	0.82	0.86
Iron	NS	2,745.0	1,670.0 J	1,210.0 J	867.0 J	702.0 J	116.0 J	138.0 J
Lead	400.0 ^c	7.32	<u>23.8</u>	<u>45.9</u>	<u>15.6</u>	<u>7.5</u>	2.2	2.6
Magnesium	NS	133.33	ND	ND	ND	ND	ND	ND
Manganese	390.0 ^a	21.36	<u>41.0</u>	21.2	ND	ND	ND	ND
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND	4.5
Potassium	NS	460.67	ND	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND	ND
Sodium	NS	107.85	27.7	16.3	59.7	15.9	6.9	9.8
Vanadium	480.0 ^b	5.83	4.3	2.5	2.2	2.1	ND	ND
Zinc	23,000.0 ^{a,b}	16.87	9.6 J	<u>18.6 J</u>	8.9 J	11.0 J	2.3 J	1.6 J

Notes rppar at end of table.

Table 1 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S1001	36S1001D	36S1003	36S1005	36S1101
Aluminum	75,000*	3,833.36	1,210.0	1,130.0	3,810.0	893.0	2,450.0
Antimony	26.0*	9.49	ND	ND	ND	ND	ND
Arsenic	0.7*	1.56	ND	ND	ND	ND	ND
Barium	5,000.0*	4.63	ND	ND	0.77	ND	0.66
Beryllium	0.1*	0.41	ND	4.7	7.8	ND	6.0
Cadmium	37*	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	94,300.0	34,100.0	2,880.0	58,600.0	37,300.0
Chromium	66,000.0*	6.13	2.3	3.0	4.6	4.2	3.2
Cobalt	4,700.0*	1.87	ND	ND	ND	ND	ND
Copper	2,900.0*	5.74	2.1	2.1	2.2	1.7	2.1
Iron	NS	2,745.0	984.0	929.0	2,300.0	887.0	1,490.0
Lead	400.0*	7.32	19.1	16.5	14.0	10.3	18.7
Magnesium	NS	133.33	552.0	268.0	14.0	309.0	387.0
Manganese	390.0*	21.36	145.0	85.4	25.6	101.0	128.0
Mercury	23.0*	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0*	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	124.0	ND	113.0	ND
Selenium	390.0*	0.62	ND	ND	ND	ND	ND
Silver	380.0*	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	547.0	ND	ND	429.0	267.0
Vandium	480.0*	5.83	ND	2.8	5.9	2.2	4.2
Zinc	23,000.0*	16.87	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 1 (Continued)
 Category VIII -- Site 36
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference					
		(2 X Average Concentration)	36S1103	36S1105	36S1107	36S1201	361203
Aluminum	75,000 ^b	3,833.36	686.0	797.0	679.0	929.0	<u>4,780.0</u>
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	0.72
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	1.8	ND	ND	3.7	<u>5.0</u>
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	ND	ND	312.0	369.0	473.0
Chromium	66,000.0 ^b	6.13	3.7	2.9	3.1	1.8	5.4
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	1.4	1.7	1.9	2.0	3.1
Iron	NS	2,745.0	538.0	605.0	543.0	575.0	1,970.0
Lead	400.0 ^c	7.32	ND	ND	<u>12.4</u>	<u>16.6</u>	<u>14.5</u>
Magnesium	NS	133.33	ND	ND	ND	ND	ND
Manganese	390.0 ^a	21.36	ND	ND	<u>32.0</u>	ND	<u>122.0</u>
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	ND	ND	ND	ND	ND
Vanadium	480.0 ^a	5.83	1.6	1.7	1.7	2.1	<u>6.1</u>
Zinc	23,000.0 ^{a,b}	16.87	ND	5.9	4.8	ND	ND

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S1205	3651207	36S1301	3651303	36S1305
Aluminum	75,000 ^b	3,833.36	664.0	811.0	808.0	297.0	320.0
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^a	1.56	ND	ND	0.74	ND	ND
Barium	5,000.0 ^b	4.63	1.5	2.3	3.4	2.2	3.3
Beryllium	0.1 ^a	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	765.0	993.0	820.0	387.0	1,460.0
Chromium	66,000.0 ^b	6.13	3.3	5.2	2.9	1.8	6.1
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	1.7	1.9	3.8	ND	4.6
Iron	NS	2,745.0	450.0	642.0	669.0 J	505.0 J	569.0 J
Lead	400.0 ^c	7.32	ND	12.8	53.3	72.3	30.8
Magnesium	NS	133.33	ND	ND	ND	ND	77.3
Manganese	390.0 ^a	21.36	ND	ND	27.2	33.1	16.2
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	105.0	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	ND	15.6 J	ND	ND	ND
Vanadium	480.0 ^b	5.83	1.4	ND	ND	ND	ND
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	16.3	ND

Notes appear at end of table.

Table 1 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Inorganics in Soil (ppm)

Compound	PRGs	Reference (2 X Average Concentration)	36S1401	36S1403	36S1405	36S1501	36S1501D
Aluminum	75,000 ^b	3,833.36	<u>5,050.0</u>	152.0	978.0	1,220.0	1,310.0
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	<u>1.9</u>	ND	0.78	ND	ND
Barium	5,000.0 ^b	4.63	<u>4.8</u>	1.2	1.6	2.0	2.5
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	303.0	ND	ND	888.0	837.0
Chromium	66,000.0 ^b	6.13	<u>6.9</u>	3.1	3.4	1.8	1.9
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	2.5	1.6	1.5	0.99	1.2
Iron	NS	2,745.0	<u>4,830.0</u>	294.0	749.0	1,000.0	1,110.0
Lead	400.0 ^c	7.32	<u>13.6</u>	<u>23.0</u>	ND	5.1	ND
Magnesium	NS	133.33	ND	ND	ND	ND	ND
Manganese	390.w	21.36	ND	ND	ND	ND	ND
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	ND	ND	ND	ND	ND
Vanadium	480.0 ^b	5.83	<u>12.3</u>	ND	2.2	2.3	3.1
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Soil (ppm)

Compound	PRGs	Reference (2 X Average Concentration)	36S1503	36S1505	36S1701	36S1701D	36S1703
Aluminum	75,000 ^b	3,833.36	407.0	2,120.0	<u>4,920.0</u>	<u>4,890.0</u>	<u>9,710.0</u>
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	0.69	<u>2.1</u>	ND	ND
Barium	5,000.0 ^b	4.63	0.8	<u>4.9</u>	<u>7.1</u>	ND	ND
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	303.0	<u>7,060.0</u>	<u>4,020.0</u>	<u>7,780.0</u>	681.0
Chromium	66,000.0 ^b	6.13	1.7	4.6	<u>59.4</u>	<u>8.8</u>	<u>11.2</u>
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	1.0	1.7	5.2	5.5	3.9
Iron	NS	2,745.0	301.0	1,590.0	<u>6,000.0</u>	<u>3,270.0</u>	<u>4,170.0</u>
Lead	400.0 ^c	7.32	2.6	ND	<u>36.2 J</u>	<u>35.3 J</u>	<u>20.8 J</u>
Magnesium	NS	133.33	27.4	<u>349.0</u>	<u>174.0</u>	<u>191.0</u>	<u>111.0 J</u>
Manganese	390.0 ^a	21.36	5.5	ND	<u>118.0 J</u>	<u>117.0 J</u>	<u>224.0 J</u>
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	ND	ND	ND	72.5	34.9
Vanadium	480.0 ^b	5.83	1.0	ND	<u>13.4</u>	<u>8.2</u>	<u>12.5</u>
Zinc	23,000.0 ^{a,b}	16.87	ND	5.4	ND	t6.0	10.3

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 (Detected Concentrations Summary of Inorganics in Soil (ppm))

Compound	PRGs	Reference	3651705	3651801	3651803	3651805	3651901
		(2 X Average Concentration)					
Aluminum	75,000 ^b	3,833.36	1,220.0	2,050.0	3,330.0	<u>4,460.0</u>	2,550.0
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	ND	ND	ND	ND	ND
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	<u>2,820.0</u>	848.0	814.0	690.0	<u>12,400.0</u>
Chromium	66,000.0 ^b	6.13	2.7	3.2	3.6	4.9	3.4
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	2.0	1.7	1.8	2.3	1.9
Iron	NS	2,745.0	1,140.0	1,560.0	1,850.0	2,530.0	1,720.0
Lead	400.0 ^c	7.32	<u>11.6 J</u>	<u>23.5 J</u>	<u>41.0 J</u>	<u>25.8 J</u>	6.7 J
Magnesium	NS	133.33	ND	ND	<u>268.0</u>	ND	<u>631.0</u>
Manganese	390.0 ^a	21.36	<u>36.7 J</u>	<u>61.3 J</u>	<u>56.3 J</u>	<u>41.0 J</u>	<u>29.6 J</u>
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	<u>1.6</u>	ND	<u>2.0</u>	ND	ND
Silver	380.0 ^a	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	41.0	34.1	32.2	33.7	35.3
Vanadium	480.0 ^a	5.83	1.7	3.1	5.0	<u>6.9</u>	3.3
Zinc	23,000.0 ^{a,b}	16.87	5.1	12.9	8.0	12.0	7.4

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 Detected Concentration Summary of Inorganics in Soil (ppm)

Compound	PRGs	Reference (2X Average Concentration)	36S1903	36S1904	36S2001	36S2001D	36S2003
Aluminum	75,000 ^b	3,833.36	778.0	634.0	3,600.0	<u>3,880.0</u>	<u>12,300.0</u>
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND
Barium	5,000.0 ^b	4.63	ND	ND	ND	ND	ND
Beryllium	0.1 ^b	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	262.0	<u>2,570.0</u>	449.0	298.0	849.0
Chromium	66,000.0 ^b	6.13	2.0	1.4	3.6	3.6	<u>8.5</u>
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	1.3
Copper	2,900.0 ^{a,b}	5.74	0.83	ND	1.2	1.1	3.0
Iron	NS	2,745.0	571.0	540.0	2,180.0	2,350.0	<u>6,170.0</u>
Lead	400.0 ^c	7.32	2.7 J	3.0 J	6.9 J	<u>7.6 J</u>	4.0 J
Magnesium	NS	133.33	ND	116.0	ND	ND	111.0
Manganese	390.0.	21.36	9.2 J	8.0 J	<u>62.4 J</u>	<u>55.8 J</u>	<u>95.1 J</u>
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	21.8	25.9	28.6	25.0	43.6
Vanadium	480.0 ^b	5.83	1.1	ND	4.9	<u>5.9</u>	<u>17.1</u>
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	4.4	5.0

Notes appear at end of table.

Table 1 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Inorganics in Soil (ppm)

Compound	PRGs	Reference					
		(2 X Average Concentration)	36S2005	368007	36S2201	36S2203	369301
Aluminum	75,000 ^b	3,833.36	<u>5,510.0</u>	330.0	1,320.0	826.0	807.0
Antimony	26.0 ^b	9.49	ND	ND	ND	ND	ND
Arsenic	0.7 ^b	1.56	ND	ND	<u>0.84</u>	<u>0.81</u>	ND
Barium	5,000.0 ^b	4.63	ND	ND	3.2	3.4	<u>7.3</u>
Beryllium	0.1 ^a	0.41	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND
Calcium	NS	912.37	<u>1,500.0</u>	303.0	ND	<u>1,140.0</u>	<u>37,200.0</u>
Chromium	66,000.0 ^b	6.13	5.3	ND	<u>9.2</u>	<u>8.4</u>	5.7
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	0.8	ND	3.6	<u>7.7</u>	ND
Iron	NS	2,745.0	<u>2,950.0</u>	293.0	2,000.0	<u>11,500.0</u>	724.0 J
Lead	400.0 ^c	7.32	5.8 J	0.68 J	<u>22.4</u>	<u>336.0</u>	<u>14.6</u>
Magnesium	NS	133.33	ND	ND	<u>312.0</u>	<u>145.0</u>	<u>239.0</u>
Manganese	390.4	21.36	<u>55.1 J</u>	7.3 J	<u>29.2</u>	<u>41.6</u>	<u>31.1</u>
Mercury	23.0 ^{a,b}	0.10	ND	ND	ND	ND	ND
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND
Selenium	390.0 ^{a,b}	0.62	ND	ND	ND	ND	ND
Silver	380.0 ^b	2.07	ND	ND	ND	ND	ND
Sodium	NS	107.85	29.8	21.1	ND	1.9	<u>271.0 J</u>
Vanadium	480.0 ^b	5.83	<u>7.8</u>	ND	3.0	ND	2.0
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 1 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Soil (ppm)

Compound	PRGs	Reference			
		(2 X Average Concentration)	368303	36S2401	368403
Aluminum	75,000^b	3,833.36	1,350.0	169.0	770.0
Antimony	26.0 ^c	9.49	ND	ND	ND
Arsenic	0.7 ^c	1.56	ND	ND	ND
Barium	5,000.0 ^b	4.63	7.8	48.4	30.1
Beryllium	0.1^b	0.41	ND	ND	ND
Cadmium	37^b	1.0	ND	ND	ND
Calcium	NS	912.37	5,070.0	1,500.0	1,780.0
Chromium	66,000.0^b	6.13	24.9	1.3	9.5
Cobalt	4,700.0^{a,b}	1.87	ND	ND	ND
Copper	2,900.0^{a,b}	5.74	ND	8.7	6.0
Iron	NS	2,745.0	1,710.0 J	506.0 J	2,290.0 J
Lead	400.0^c	7.32	17.4	156.0	88.2
Magnesium	NS	133.33	64.7	ND	223.0
Manganese	390.0^c	21.36	17.7	66.4	47.6
Mercury	23.0^{a,b}	0.10	ND	0.27 J	ND
Nickel	1,500.0^b	6.38	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND
Selenium	390.02 ^c	0.62	ND	ND	ND
Silver	380.0^b	2.07	ND	ND	ND
Sodium	NS	107.85	ND	ND	ND
Vanadium	480.0^b	5.83	5.2	ND	3.9
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND

Notes:

PRG — Preliminary remediation goals based on USEPA Risk-Based Concentrations and FDEP Cleanup Goals for MID Sites

a — USEPA Risk-Based Concentrations (7/11/94)

b — FDEP Cleanup Goals for MID Sites (4/5/95)

c — USEPA Screening Level for Lead

ND — Parameter not detected

NS — No PRG established

J — The compound was positively detected; however, the reported concentration is considered an estimated value.

Bold indicates a PRG exceedance.

Underline indicates a reference exceedance

Table 2
Category VIII — Site 36

Detected Concentrations Summary of Pesticides and PCBs in Soil (ppb)

Compound	PRGs	36S0101	36S0101D	36S0102	36S0201	36S0203	36S0205	36S0301	36S0303	36S0401
alpha-Chlordane	490.0 ^a	1.7 J	1.6J	ND						
Aroclor 1248	83 ^c	ND	ND	ND	79.0	ND	ND	ND	ND	ND
Aroclor 1260	83 ^c	110.0 J	ND	ND	30.0 J	ND	ND	ND	ND	ND
delta-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	2,700.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	1,900.0 ^b	5.6 J	4.7	ND						
4,4'-DDT	1,900.0 ^b	12.0 J	7.3 J	ND						
Dieldrin	40.0 ^b	1.5 J	0.84 J	ND						
Endosulfan II	340,000 ^a	3.1 J	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	23,000.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	12.0	ND
Endrin ketone	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	490.0 ^b	0.85 J	0.81 J	ND						
Heptachlor	140.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	70.0 ^c	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 2 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides and PCBs in Soil (ppb)

Compound	PRGs	36S0403	36S0501/D	36S0502	36S0601	36S0603	36S0701/D	36S0703	36S0801
alpha-Chlordane	490.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	83 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	83 ^a	ND	ND	ND	ND	ND	ND	ND	ND
delta-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	2,700.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	1,900.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	40.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	340,000 ^a	ND	ND	ND	Nb	ND	ND	ND	ND
Endrin	23,000.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	0.96 J
Endrin ketone	NS	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	490.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	140.0 ^b	ND	ND	ND	ND	ND	ND	Nb	ND
Heptachlor epoxide	70.6	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 2 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides and PCBs in Soil (ppb)

Compound	PRGs	36S0803	36S0901	36S0903	36S0905	36S0907	36S1001/D	36S1003	36S1005
alpha-Chlordane	490.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	83 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	83 ^a	ND	ND	ND	ND	N b	ND	ND	ND
delta-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	2,700.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	1,900.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	ND	ND	1.5 J	ND	ND	ND	ND	ND
Dieldrin	40.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	340,000 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	23,000.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND
Endrin ketone	NS	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	490.6	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	140.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	70.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of tabk.

Table 2 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides and PCBs in Soil (ppb)

Compound	PRGs	36S1101	36S1103	36S1105	36S1107	36S1201	36S1203	3681205	3681207
alpha-Chlordane	490.0 ^a	ND	0.74 J	ND	ND	1.4 J	ND	ND	1.7 J
Aroclor 1248	83 ^a	ND							
Aroclor 1260	83 ^a	ND							
delta-BHC	NS	ND							
4,4'-DDD	2,700.0 ^b	ND							
4,4'-DDE	1,900.0 ^b	ND							
4,4'-DDT	1,900.0 ^b	ND							
Dieldrin	40.0 ^a	ND							
Endosulfan II	340,000 ^a	ND							
Erkin	23,000.0 ^{a,b}	ND							
Endrin ketone	NS	ND							
gamma-Chlordane	490.0 ^b	1.3 J	3.5	2.2	2.3	3.4	1.1 J	2.0 J	7.2
Heptachlor	140.0 ^b	ND	0.73 J						
Heptachlor epoxide	70.0 ^c	ND	1.2 J	0.98 J	ND	ND	ND	0.77 J	0.92 J

Notes appear at end of table.

Table 2 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides and PCBs in Soil (ppb)

Compound	PRGs	36S1301	36S1303	36S1305	36S1401	36S1403	36S1405	36S1501	36S1501D
alpha-Chlordane	490.0 ^a	ND							
Aroclor 1248	83 ^c	ND							
Aroclor 1260	83 ^a	ND							
delta-BHC	NS	ND							
4,4'-DDD	2,700.0 ^b	ND							
4,4'-DDE	1,900.0 ^b	ND							
4,4'-DDT	1,900.0 ^b	ND							
Dieldrin	40.0 ^b	ND	ND	ND	ND	ND	ND	1.1 J	1.1 J
Endosulfan II	340,000 ^a	ND							
Endrin	23,000.0 ^{a,b}	ND							
Endrin ketone	NS	ND							
gamma-Chlordane	490.0 ^b	ND							
Heptachlor	140.0 ^b	ND							
Heptachlor epoxide	70.0 ^c	ND	ND	ND	ND	ND	ND'	ND	ND

Notes appear at end of table.

Table 2 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Pesticides and PCBs In Soil (ppb)

Compound	PRGs	36S1503	36S1505	36S1701	36S1701D	36S1703	36S1705	3681801	36S1803
alpha-Chlordane	490.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	83'	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	83'	ND	ND	ND	ND	ND	ND	33.0 J	ND
delta-BHC	NS	ND	ND	0.77 J	ND	ND	ND	ND	ND
4,4'-DDD	2,700.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	1,900.0 ^b	ND	ND	1.6 J	3.0 J	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	ND	ND	5.6	8.4	ND	ND	ND	2.7 J
Dieldrin	40.0 ^b	ND	2.9 J	9.2	22.0	ND	2.9 J	13.0	2.4 J
Endosulfan II	340,000 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	23,000.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND
Endrin ketone	NS	ND	ND	ND	0.8 J	ND	ND	ND	ND
gamma-Chlordane	490.0 ^b	ND	ND	ND	ND	ND	ND	0.89 J	ND
Heptachlor	140.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	70.0'	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 2 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides and PCBs in Soil (ppb)

Compound	PRGs	36S1805	36S1901	36S1903	36S1904	36S2001	36S2001D	36S2003	36S2005
alpha-Chlordane	490.0'	ND	ND	ND	ND	3.0 J	1.4 J	ND	ND
Aroclor 1248	83'	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	83'	ND	ND	ND	ND	ND	ND	ND	ND
delta-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	2,700.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	1,900.0 ^b	ND	3.2 J	ND	ND	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	40.0 ^b	22.0	ND	ND	ND	3.4 J	4.2	1.8 J	ND
Endosulfan II	340,000 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	23,000.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND
Endrin ketone	NS	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	490.0 ^b	0.83 J	ND	ND	ND	4.0	3.1	ND	0.96 J
Heptachlor	140.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	70.0'	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 2 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides and PCBs In Soil (ppb)

Compound	PRGs	36S2007	36S2201	36S2203	36S2301	36S2303	36S2401	36S2403
alpha-Chlordane	490.0 ^a	ND						
Aroclor 1248	83 ^a	ND						
Aroclor 1260	83 ^a	ND						
delta-BHC	NS	ND						
4,4'-DDD	2,700.0 ^b	ND	0.65 J	ND	ND	ND	ND	ND
4,4'-DDE	1,900.0 ^a	ND	2.0 J	3.7 J	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	ND	0.87 J	ND	ND	ND	ND	ND
Dieldrin	40.0 ^a	ND	1.1 J	1.7 J	ND	ND	ND	ND
Endosulfan II	340,000 ^a	ND						
Endrin	23,000.0 ^{a,b}	ND						
Endrin ketone	NS	ND						
gamma-Chlordane	490.0 ^a	ND						
Heptachlor	140.0 ^a	ND						
Heptachlor epoxide	70.0 ^a	ND						

Notes:

PROS — Preliminary Remediation Goals Based on USEPA Risk-Based Concentrations and FDEP Cleanup Goals for DOD Sites

a — FDEP Cleanup Goals for DOD Sites (4/5/95)

b — USEPA Risk Based Concentrations (7/11/94)

ND — ND denotes compound was not detected

NS — No PRG established

J — The compound was positively detected; however, the reported concentration is considered an estimated value.

Bold indicates a PRG exceedance.

Table 3
Category VIII - Site 36

Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S0101	36S0101D	36S0101DL'	36S0101DDL'	36S0102	36S0201
Acenaphthene	2,000,000.0 ^a	ND	73.0 J	ND	74.0 J	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	39.0 J	110.0 J	ND	110.0 J	ND	ND
Benzo(a)anthracene	880.0 ^b	250.0 J	74.0 J	190.0 J	440.0 J	ND	54.0 J
Benzo(a)pyrene	88.0 ^b	170.0 J	340.0 J	ND	350.0 J	ND	57.0 J
Benzo(b)fluoranthene	880.0 ^b	300.0 J	720.0	230.0 J	620.0 J	ND	150.0 J
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	140.0 J	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	120.0 J	310.0 J	ND	380.0 J	ND	ND
Carbazole	32,000.0 ^b	ND	110.0 J	ND	120.0 J	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	210.0 J	480.0	200.0 J	440.0 J	ND	66.0 J
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	300.0 J	890.0	290.0 J	930.0	ND	120.0 J
Fluorene	1,900,000.0 ^a	ND	66.0 J	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	120.0 J	ND	140.0 J	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	150.0 J	640.0	ND	670.0 J	ND	57.0 J
Pyrene	2,200,000.0 ^a	570.0	1,300.0	270.0 J	810.0	ND	100.0 J

Notes appear at end of table.

Table 3 (Continued)
 Category VIII -- Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compounds	PRGs	36S0203	36S0205	36S0301	36S0301DL*	36S0303
Acenaphthene	2,000,000.w	ND	ND	970.0	1,100.0 J	ND
Acenaphthylene	320,000*	ND	ND	3,000.0 J	4,100.0	ND
Anthracene	16,000,000.0*	ND	ND	2,800.0	3,200.0 J	ND
Benzo(a)anthracene	880.0*	ND	ND	2,300.0	14,000.0	100.0 J
Benzo(a)pyrene	88.0*	ND	ND	11,000.0 J	15,000.0	140.0 J
Benzo(b)fluoranthene	880.0*	ND	42.0 J	17,000.0 J	23,000.0	210.0 J
Benzo(g,h,i)perylene	14,000.0*	ND	ND	8,900.0 J	5,400.0	140.0 J
Benzo(k)fluoranthene	8,800.0*	ND	ND	7,800.0 J	13,000.0	38.0 J
Carbazole	32,000.0*	ND	ND	1,200.0	1,200.0 J	ND
4-Chloroaniline	190,000.0*	ND	ND	45.0 J	ND	ND
Chrysene	88,000.0*	ND	ND	8,500.0 J	15,000.0	90.0 J
Dibenz(a,h)anthracene	88.0*	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0*	ND	ND	520.0	550.0 J	ND
3,3'-Dichlorobenzidine	1,400.0*	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0*	ND	39.0 J	8,500.0 J	25,000.0	130.0 J
Fluorene	1,900,000.0*	ND	ND	720.0	860.0 J	ND
Indeno(1,2,3-cd)pyrene	880.0*	ND	ND	7,400.0 J	6,000.0	ND
2-methylnaphthalene	700,000*	ND	ND	99.0 J	ND	ND
Naphthalene	840,000.0*	ND	ND	160.0 J	ND	ND
Phenanthrene	1,200,000*	ND	ND	7,000.0 J	11,000.0	78.0 J
Pyrene	2,200,000.0*	ND	36.0 J	18,000.0 J	26,000.0	140.0 J

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S0303RE	36S0401	36S0403	36S0501	36S0501D	36S502
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0^a	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0^b	80.0 J	ND	54.0 J	ND	ND	76.0 J
Benzo(a)pyrene	88.0^b	120.0 J	ND	44.0 J	ND	ND	70.0 J
Benzo(b)fluoranthene	880.0^b	180.0 J	ND	78.0 J	ND	ND	160.0 J
Benzo(g,h,i)perylene	14,000.0^a	160.0 J	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0^b	89.0 J	ND	34.0 J	ND	ND	44.0 J
Carbazole	32,000.0^b	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0^b	94.0 J	ND	53.0 J	ND	ND	70.0 J
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0^a	110.0 J	ND	77.0 J	ND	ND	140.0 J
Fluorene	1,900,000.0^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0^b	50.0 J	ND	ND	ND	ND	ND
2-Methylnaphthrene	700.0 ^w	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000^a	78.0 J	ND	ND	ND	ND	48.0 J
Pyrene	2,200,000.0^a	140.0 J	ND	87.0 J	ND	ND	120.0 J

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S502RE	36S0601	36S0601RE	36S0603	36S0701	36S0701D
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	380.0	400.0	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	200.0 J	220.0 J	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	61.0 J	1,200.0	980.0	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	71.0 J	1,500.0	1,700.0	ND	ND	ND
Benzo(b)fluoranthene	880.0 ^b	160.0 J	2,500.0	2,700.0	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	550.0	600.0	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	44.0 J	1,200.0	1,600.0	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	68.0 J	950.0	1,000.0	ND	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	ND	210.0 J	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	38.0 J	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	130.0 J	860.0	750.0	ND	ND	ND
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	540.0	580.0	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	50.0 J	44.0 J	43.0 J	ND	ND	ND
Pyrene	2,200,000.0 ^a	120.0 J	1,300.0	1,300.0	ND	ND	ND

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S0703	36S0801	36S0803	36S0901	36S0903	36S0903RE
Acenaphthene	2,000,000.0 ^a	93.0 I	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^b	59.0 J	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	390.0	67.0 J	ND	57.0 J	ND	ND
Benzo(a)pyrene	88.0 ^b	300.0 J	70.0 J	ND	57.0 J	ND	32.0 J
Benzo(b)fluoranthene	880.0 ^b	590.0	93.0 J	30.0 J	93.0 J	39.0 J	49.0 J
Benzo(g,h,i)perylene	14,000.0 ^a	100.0 J	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	240.0 J	46.0 J	18.0 J	ND	ND	ND
Carbazole	32,000.0 ^b	230.0 J	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	440.0	62.0 J	ND	59.0 J	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	45.0 J	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	120.0 J	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	1,300.0	120.0 J	ND	91.0 J	ND	ND
Fluorene	1,900,000.0 ^a	46.0 J	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	130.0 J	38.0 J	ND	42.0 J	ND	ND
2-Methylnaphthalene	700,000 ^a	42.0 J	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	57.0 J	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	1,400.0	37.0 J	ND	39.0 J	ND	ND
Pyrene	2,200,000.0 ^a	900.0	98.0 J	ND	87.0 J	36.0 J	39.0 J

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

	PRGs	36S0905	36S0907	36S1001	36S1001D	36S1003	36S1005
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	ND	ND	37.0 J	66.0 J
Benzo(a)pyrene	88.0 ^b	ND	ND	ND	ND	53.0 J	60.0 J
Benzo(b)fluoranthene	880.0 ^b	44.0 J	ND	80.0 J	54.0 J	110.0 J	170.0 J
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	ND	ND	ND	ND	44.0 J	72.0 J
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	ND	ND	48.0 J	ND	61.0 J	130.0 J
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND	46.0 J
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	ND	ND	ND	ND	ND	93.0 J
Pyrene	2,200,000.0 ^a	ND	ND	51.0 J	ND	66.0 J	100.0 J

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1101	36S1103	36S1105	36S1107	36S1201	36S1203
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND	41.0 J
Benzo(a)anthracene	880.0 ^b	91.0 J	49.0 J	ND	ND	ND	140.0 J
Benzo(a)pyrene	88.0 ^b	110.0 J	44.0 J	ND	ND	ND	130.0 J
Benzo(b)fluoranthene	880.0 ^b	250.0 J	100.0 J	48.0 J	ND	59.0 J	280.0 J
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^a	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	110.0 J	50.0 J	ND	ND	ND	150.0 J
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	220.0 J	82.0 J	ND	ND	40.0 J	290.0 J
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	57.0 J	ND	ND	ND	ND	62.0 J
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	120.0 J	49.0 J	ND	ND	ND	230.0 J
Pyrene	2,200,000.0 ^a	200.0 J	84.0 J	36.0 J	ND	43.0 J	260.0 J

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1205	36S1207	36S1301	36S1303	36S1305
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.0 ^b	ND	71.0 J	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	ND	58.0 J	ND	ND	ND
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^a	ND	59.0 J	ND	ND	ND

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary 01 Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1401	36S1403	3581405	36S1501	36S1501D
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.0 ^b	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	N ^b
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND
Chrysene	22,000.0 ^b	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	ND	ND	ND	ND	ND
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^a	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 3 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1503	36S1505	36S1701	36S1701D	36S1703	35S1705
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	44.0 J	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	ND	ND	57.0 J	43.0 J	ND	ND
Benzo(b)fluoranthene	880.0 ^b	47.0 J	ND	124.0 J	104.0 J	62.0 J	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	ND	ND	49.0 J	44.0 J	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^a	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	ND	ND	62.0 J	ND	ND	ND
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	ND	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^a	39.0 J	ND	72.0 J	ND	48.0 J	ND

Notes appear at end of table.

Table 3 (Continued)
 Category VIII - Site 36

Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1801	36S1803	36S1805	36S1901	3681903	36S1904
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.0 ^b	44.0 J	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^b	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.0 ^c	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	ND	ND	ND	ND	ND	ND
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	ND	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^a	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 3 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Semivolatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S2001	36S2001D	36S2003	35S2005	36S2007	36S2201
Acenaphthene	2,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Acenaphthylene	320,000 ^a	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^a	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	ND	ND	ND	ND	ND	ND
Fluorene	1,900,000.0 ^a	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	ND	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^a	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 3 (Continued)
 Category VIII - Site 36

Detected Concentrations **Summary of Semivolatile Organic Compounds in Soil (ppb)**

Compound	PRGs	36S2203	36S2301	36S2303	36S2303RE	35S2401	36S2403	36S2403RE
Acenaphthene	2,000,000.0 ^a	110.0 J	ND	ND	ND	ND	ND	ND
Acenaphthylenc	320,000 ^a	ND	ND	ND	ND	ND	ND	ND
Anthracene	16,000,000.0 ^a	140.0 J	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	880.0 ^b	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0 ^b	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.0 ^b	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^b	ND	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^a	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	190,000.0 ^a	ND	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^b	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.0 ^b	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	200,000.0 ^a	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	1,400.0 ^b	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^a	75.0 J	ND	ND	ND	ND	ND	ND
Fluorene	1,900,000.0 ^a	46.0 J	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^b	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	700,000 ^a	ND	ND	ND	ND	ND	ND	ND
Naphthalene	840,000.0 ^a	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^a	120.0 J	ND	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^a	63.0 J	ND	ND	ND	ND	ND	ND

Notes:

PRG — Preliminary Remediation Goals

■ — FDEP Cleanup Goals for DOD Sites (4/5/95)

b — USEPA Risk Based Concentrations (7/11/94)

ND — ND denotes compound was not detected

NS — No PRG established

• — The samples were diluted because a matrix effect caused the internal standard to be low. The area counts were still low in the reanalyzed samples.

J — The compound was positively detected; however, the reported concentration is considered an estimated value.

Bold indicates a PRG exceedance

Table 4
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S0101	36S0101D	36S0102	36S0201	36S0203	36S0205	36S0301	36S0303	36S0303RE
Benzene	800.0 ^b	ND	ND	ND	ND	ND	ND	ND	6.0J	3.0J
Tetrachloroethene	9,200.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	270,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	49.0	32.0
1,1,1-Trichloroethane	320,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3,400.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	6,400,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	18.0	12.0

Notes appear at end of table.

Table 4 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S0401	36S0403	36S0501/D	36S0502	36S0601	36S0603	36S0701/D	36S0703	36S0801
Benzene	800.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	9,200.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	270,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3,400.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylem (Total)	6,400,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 4 (Continued)
 Category VIII -- Site 36

Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S0803	36S0803DL	36S0901	36S0903	36S0903RE	36S0905	36S0907	36S1001	36S1001D
Benzene	800.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	9,200.0 ^b	ND	ND	ND	9.0J	10.0J	ND	ND	ND	ND
Toluene	270,000.0 ^b	ND	ND	ND	ND	ND	N b	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3,400.0 ^b	ND	ND	ND	5.0J	6.0J	ND	ND	ND	ND
Xylene (Total)	6,400,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 4 (Continued)
 Category VIII – Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1003	3681005	3681101	36S1103	36S1105	36S1107	3681201	36S1203
Benzene	800.0 ^b	ND							
Tetrachloroethene	9,200.0 ^b	ND							
Toluene	270,000.0 ^b	N b	ND	N b	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND							
Trichloroethene	3,400.0 ^b	ND							
Xylem (Total)	6,400,000.0 ^b	ND							

Notes appear at end of table.

Table 4 (Continued)
 Category VIII -- Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1205	36S1207	36S1301	36S1303	36S1305	36S1401	36S1403
Benzene	800.0 ^b	ND						
Tetrachloroethene	9,200.0 ^b	ND						
Toluene	270,000.0 ^b	ND	ND	Nb	ND	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND						
Trichloroethene	3,400.0 ^b	ND						
Xylene (Total)	6,400,000.0 ^b	ND						

Notes appear at end of table.

Table 4 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1405	36S1501	36S1501D	36S1503	36S1505	36S1701	36S1701D
Benzene	800.0 ^c	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	9,200.0 ^b	ND	ND	ND	ND	ND	ND	ND
Toluene	270,000.0 ^b	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND	ND	ND	ND	2.0 J	ND	ND
Trichloroethene	3,400.0 ^b	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	6,400,000.0 ^b	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 4 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1701RE	36S1703DL	36S1705	36S1705DL	36S1801	36S1803	36S1803RE	36S1805
Benzene	800.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	9,200.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	270,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3,400.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Xylen (Total)	6,400,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 4 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S1901	3681903	36S1904	36S2001	36S2001D	36S2003	36S2005	36S2007
Benzene	800.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	9,200.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	270,000.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^a	ND	ND	ND	ND	ND	2.0 J	ND	ND
Trichloroethene	3,400.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	6,400,000.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 4 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Soil (ppb)

Compound	PRGs	36S2201	36S2203	36S2203RE	36S2301	36S2303	36S2401	36S2403	36S2403RE
Benzene	800.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	9,200.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	270,000.0 ^b	ND	ND	3.0 J	ND	2.0 J	ND	ND	ND
1,1,1-Trichloroethane	320,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3,400.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	6,400,000.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

- PRGs — Preliminary Remediation Goals based on USEPA Risk-Based Concentrations and FDEP Cleanup Goals for DOD Sites
- RE** — During the initial mn. the surrogate Toluene **D8** failed recovery. Therefore, the analyses were rerun to verify **matrix** effects.
- a** — USEPA Risk **Based** Concentrations (7/11/94)
- b** — FDEP Cleanup Goals for DOD Sites (4/5/95)
- ND** — **ND** denotes **compound** was **not** detected
- NS** — **No** PRG established
- J** — **The compound** was positively detected; however, the reported concentration is considered an estimated value.

Table 5
 Category VIII - Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GR01/D	36GR02	36GR03	36GR04	36GR05	36GR06	36GR07	36GR08
Aluminum	200.0 ^{a,b}	3,882.76	211.0/---	110.0	245.0	282.0	259.0	407.0	995.0	364.0
Arsenic	50.0^{a,b}	2.8	ND	ND	ND	ND	ND	ND	ND	ND
Barium	2,000.0^{a,b}	13.22	<u>273.01</u> 274.0	95.5	<u>93.6</u>	<u>79.3</u>	150.0	87.2	<u>84.2</u>	<u>45.1</u>
Calcium	NS	17,560	<u>54,200.0/</u> <u>53,700.0</u>	<u>45,300.0</u>	<u>43,800.0</u>	<u>44,100.0</u>	<u>77,300.0</u>	<u>49,400.0</u>	11,600.0	<u>47,200.0</u>
Chromium	100.0^{a,b}	34.98	ND	ND	ND	4.2	ND	ND	6.1	ND
Cobalt	NS	4.1	ND	ND	5.8	5.8	7.9	ND	ND	ND
Copper	1,000.0^a	16.2	ND	4.2	24.8	ND	3.8	ND	9.0	3.7
Iron	300.v	1,707.8	ND	91.8	396.0	543.0	533.0	220.0	699.0	258.0
Lead	15.0^a	1.6	<u>24.6/</u> 24.6	9.5	180.0	ND	9.7	3.0	9.0	2.3
Magnesium	NS	2,872.5	ND	<u>2,950.0</u>	2,030.0	1,890.0	<u>5,210.0</u>	ND	1,290.0	1,650.0
Manganese	50.0^a	21.92	<u>326.0/</u> 316.0	227.0	332.0	264.0	645.0	658.0	39.0	135.0
Mercury	2.0 ^{a,b}	0.2	ND	<u>0.22</u>	ND	ND	ND	0.32	ND	ND
Nickel	100.0^{a,b}	39.9	ND	ND	ND	ND	17.2	ND	ND	ND
Potassium	NS	12,167.6	2,430.0 J/ 2,690.0 J	2,400.0	1,430.0 J	1,470.0 J	1,500.0	2,770.0	ND	1,350.0
Sodium	160,000.0^a	18,345	4,140.0J/ 4,150.0J	7,440.0	2,750.0 J	3,010.0	5,390.0	5,090.0	1,690.0	5,960.0
Thallium	2.0 ^{a,b}	3.6	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	49.0^a	9.58	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	5,000.0^a	153.2	99.21 94.0	34.1	101.0	47.9	82.6	47.1	112.0	22.2

Notes appear at end of table.

Table 5 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GR09	36GR10	36GR11/D	36GR12	36GR13	36GR14	36GR15
Aluminum	200.0 ^{a,b}	3,882.76	ND	52.1	52.71 37.5	441.0	3,390.0	753.0	402.0
Arsenic	50.0 ^{a,b}	2.8	ND	ND	ND	5.2	4.2	7.0	ND
Barium	2,000.0 ^{a,b}	13.22	ND		77.2/ 76.4	43.2	101.0	26.4	
Calcium	NS	17,560	67,500.0	65,700.0	47,100.01 46,400.0	59,900.0	22,400.0	17,200.0	49,400.0
Chromium	100.0 ^{a,b}	34.98	ND	ND	ND	ND	7.2	ND	4.0
Cobalt	NS	4.1	ND	ND	ND	ND	5.9	ND	ND
Copper	1,000.0 ^a	16.2	ND	ND	ND	ND	54.7	4.7	ND
Iron	300.0 ^a	1,707.8	ND	ND	983.0/ 963.0	ND	1,820.0	302.0	158.0
Lead	15.0 ^a	1.6	ND	ND	3.3/4.0	ND	36.9	35.4	ND
Magnesium	NS	2,872.5	ND	2,230.0	1,360.01 1,330.0	2,000.0	1,830.0	627.0	2,080.0
Manganese	50.0 ^a	21.92	705.0	160.0	526.0/ 521.0	103.0	553.0	26.1	174.0
Mercury	2.0 ^{a,b}	0.2	ND	ND	ND	ND	0.79	ND	ND
Nickel	100.0 ^{a,b}	39.9	ND	ND	ND	ND	ND	ND	ND
Potassium	NS	12,167.6	ND	1,640.0	1,040.0/ 884.0	3,850.0	1,510.0	2,000.0	21,100.0
Sodium	160,000.0 ^a	18,345	7,710.0	5,160.0	5,640.0/ 5,640.0	18,600.0	3,840.0 J	3,040.0 J	14,500.0
Thallium	2.0 ^{a,b}	3.6	ND	ND	ND	6.0	ND	ND	ND
Vanadium	49.0 ^a	9.58	ND	ND	ND	13.2	ND	9.1	8.4
Zinc	5,000.0 ^a	153.20	25.1	ND	37.8/37.8	ND	255.0	73.9	ND

Notes appear at end of table.

Table 5 (Continued)
 Category VIII - Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GR16	36GR17	36GR18	36GR19	36GR20	36GR21/D	36GR22
Aluminum	200.0 ^{a,b}	3,882.76	254.0	1,060.0	263.0	413.0	241.0	119.0/143.0	220.0
Arsenic	50.0 ^{a,b}	2.8	9.7	<u>6.1</u>	<u>6.7</u>	<u>4.1</u>	<u>5.1</u>	<u>—/4.0</u>	ND
Barium	2,000.0 ^{a,b}	13.22		<u>29.1 J</u>	<u>33.1</u>	<u>44.5</u>	<u>18.4</u>	<u>26.3/26.4</u>	<u>17.8</u>
Calcium	NS	17,560	<u>25,300.0</u>	<u>45,000.0</u>	<u>54,800.0</u>	<u>65,100.0</u>	<u>66,300.0</u>	<u>27,600.0/</u> <u>27,500.0</u>	<u>36,800.0</u>
Chromium	100.0 ^{a,b}	34.98	ND	ND	ND	ND	ND	ND	ND
Cobalt	NS	4.1	ND	ND	ND	ND	ND	ND	ND
Copper	1,000.0 ^a	16.2	ND	ND	ND	ND	ND	ND	ND
Iron	300.0	1,707.8	217.0	<u>2,280.0</u>	431.0	716.0	<u>1,140.0</u>	1,660.0/ 1,670.0	1,800.0
Lead	15.0 ^a	1.6	ND	ND	ND	ND	ND	ND	ND
Magnesium	NS	2,872.5	1,170.0	<u>7,960.0</u>	2,790.0	<u>5,890.0</u>	<u>4,530.0</u>	2,230.0/ 2,210.0	<u>3,870.0</u>
Manganese	50.0 ^a	21.92	<u>221.0</u>	<u>353.0</u>	<u>225.0</u>	<u>289.0</u>	<u>89.5</u>	<u>378.0/375.0</u>	<u>107.0</u>
Mercury	2.0 ^{a,b}	0.2	ND	ND	ND	ND	ND	ND	ND
Nickel	100.0 ^{a,b}	39.9	ND	ND	ND	ND	ND	ND	ND
Potassium	NS	12,167.6	5,230.0	3,000.0	3,910.0	9,230.0	1,020.0	822.0/ 1,050.0	2,700.0
Sodium	160,000.0 ^a	18,345	<u>6,480.0</u>	<u>12,400.0</u>	<u>5,570.0</u>	<u>17,700.0</u>	<u>4,850.0</u>	4,280.0/ 4,370.0	<u>12,800.0</u>
Thallium	2.0 ^{a,b}	3.6	ND	ND	ND	ND	ND	ND	ND
Vanadium	49.0 ^a	9.58	<u>4.3</u>	ND	ND	ND	ND	ND	ND
Zinc	5,000.0 ^a	153.2	34.1	27.9 J	ND	30.4	ND	ND	ND

Notes appear at end of table.

Table 5 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	366101	36GMW06	36GMW08	36GMW09	36GMW22	36GMW31
Aluminum	200.0 ^{a,b}	3,882.76	525.0 J	ND	43.3	31.6	86.3	98.7
Arsenic	50.0 ^{ccc}	2.8	ND	4.6	3.1	ND	4.5	4.3
Barium	2,000.0 ^{a,b}	13.22	123.0 J	116.0	188.0	193.0	41.7	31.7
Calcium	NS	17,560	63,800.0 J	41,300.0	77,100.0	64,000.0	55,600.0	39,700.0
Chromium	100.0 ^{a,b}	34.98	ND	4.9	ND	ND	ND	ND
Cobalt	NS	4.1	ND	ND	ND	ND	ND	ND
Copper	1,000.0 ^a	16.2	ND	ND	ND	ND	ND	ND
Iron	300.0 ^a	1,707.8	333.0 J	77.0	9,810.0	7,790.0	2,530.0	2,150.0
Lead	15.0 ^a	1.6	ND	ND	5.2	ND	ND	7.7
Magnesium	NS	2,872.5	9,360.0 J	1,590.0	4,450.0	3,440.0	2,460.0	2,300.0
Manganese	50.0 ^a	21.92	118.0 J	17.7	718.0	404.0	256.0	112.0
Mercury	2.0 ^{a,b}	0.2	ND	ND	ND	ND	ND	ND
Nickel	100.0 ^{a,b}	39.9	ND	ND	ND	ND	ND	ND
Potassium	NS	12,167.6	3,690.0 J	1,070.0	6,050.0	4,640.0	1,300.0	ND
Sodium	160,000.0 ^a	18,345	70,200.0 J	3,070.0	5,600.0	4,810.0	3,030.0	4,850.0
Thallium	2.0 ^{a,b}	3.6	ND	ND	ND	ND	ND	ND
Vanadium	49.0 ^a	9.58	ND	ND	ND	ND	ND	ND
Zinc	5,000.0 ^a	153.2	ND	170.0	ND	ND	ND	ND

Notes appear at end of table.

Table 5 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GMW35/D	36GIMW14	36GIMW52	36GTW01	36GTW09	36GTW13
Aluminum	200.0 ^{a,b}	3,882.76	40.1/—	48.7	49.7	ND	ND	86.9 J
Arsenic	50.0 ^{a,b}	2.8	<u>3.7/5.1</u>	ND	ND	<u>3.8</u>	ND	<u>3.7 J</u>
Barium	2,000.0 ^{a,b}	13.22	<u>146.0/</u> <u>138.0</u>	ND	<u>26.3</u>	<u>52.1</u>	<u>32.6</u>	11.5 J
Calcium	NS	17,560	<u>58,600.0/</u> <u>58,800.0</u>	<u>42,000.0</u>	<u>48,000.0</u>	<u>31,800.0</u>	<u>46,700.0</u>	<u>43,600.0</u>
Chromium	100.0 ^{a,b}	34.98	ND	ND	ND	7.2	ND	19.3
Cobalt	NS	4.1	ND	ND	ND	ND	ND	ND
Copper	1,000.0 ^a	16.2	—/3.0	ND	ND	ND	ND	ND
Iron	300.0 ^a	1,707.8	<u>3,350.0/</u> <u>3,700.0</u>	ND	ND	1,110.0	847.0	269.0
Lead	15.0 ^a	1.6	<u>4.8/</u> <u>4.2</u>	ND	ND	<u>2.2</u>	ND	ND
Magnesium	NS	2,872.5	2,580.0/ 2,570.0	<u>8,720.0</u>	<u>7,420.0</u>	2,260.0	<u>10,500.0</u>	<u>6,520.0</u>
Manganese	50.0 ^a	21.92	<u>193.0/</u> <u>189.0</u>	5.6	21.1	<u>53.9</u>	<u>71.6</u>	16.0
Mercury	2.0 ^{a,b}	0.2	ND	ND	ND	ND	ND	ND
Nickel	100.0 ^{a,b}	39.9	ND	ND	ND	ND	ND	ND
Potassium	NS	12,167.6	3,010.0/ 2,810.0	<u>4,480.0</u>	<u>4,170.0</u>	1,520.0	<u>1,540.0</u>	<u>1,040.0 J</u>
Sodium	160,000.0 ^a	18,345	<u>5,060.0/</u> <u>5,130.0</u>	<u>22,200.0</u>	<u>24,100.0</u>	8,830.0	<u>8,420.0</u>	<u>8,250.0</u>
Thallium	2.0 ^a	3.6	ND	ND	ND	ND	ND	ND
Vanadium	49.0 ^a	9.58	ND	ND	4.8	ND	ND	4.6 J
Zinc	5,000.0 ^a	153.2	ND	ND	ND	ND	ND	6.3 J

Notes:

All values are in micrograms per liter or parts per billion (ppb)

a — Florida Water Quality Standards (7/2/94)

b — USEPA Maximum Contaminant Level (5/94)

Standard exceedances are in bold

Reference concentration exceedance are underlined

NS — No standard established

Table 5 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GMW35/D	36GIMW14	36GIMW52	36GTW01	36GTW09	36GTW13
Aluminum	200.0 ^{a,b}	3,882.76	40.1/—	48.7	49.7	ND	ND	86.9 J
Arsenic	50.0 ^{a,b}	2.8	3.7/5.1	ND	ND	3.8	ND	3.7 J
Barium	2,000.0^{a,b}	13.22	146.0/138.0	ND	26.3	52.1	32.6	11.5 J
Calcium	NS	17,560	58,600.0/58,800.0	42,000.0	48,000.0	31,800.0	46,700.0	43,600.0
Chromium	100.0^{a,b}	34.98	ND	ND	ND	7.2	ND	19.3
Cobalt	NS	4.1	ND	ND	ND	ND	ND	ND
Copper	1,000.0^a	16.2	—/3.0	ND	ND	ND	ND	ND
Iron	300.w	1,707.8	3,350.0/3,700.0	ND	ND	1,110.0	847.0	269.0
Lead	15.0^a	1.6	4.8/4.2	ND	ND	2.2	ND	ND
Magnesium	NS	2,872.5	2,580.0/2,570.0	8,720.0	7,420.0	2,260.0	10,500.0	6,520.0
Manganese	50.0^a	21.92	193.0/189.0	5.6	21.1	53.9	71.6	16.0
Mercury	2.0 ^{a,b}	0.2	ND	ND	ND	ND	ND	ND
Nickel	100.0^{a,b}	39.9	ND	ND	ND	ND	ND	ND
Potassium	NS	12,167.6	3,010.0/2,810.0	4,480.0	4,170.0	1,520.0	1,540.0	1,040.0 J
Sodium	160,000.0^a	18,345	5,060.0/5,130.0	22,200.0	24,100.0	8,830.0	8,420.0	8,250.0
Thallium	2.0 ^a	3.6	ND	ND	ND	ND	ND	ND
Vanadium	49.0^a	9.58	ND	ND	4.8	ND	ND	4.6 J
Zinc	5,000.0^a	153.2	ND	ND	ND	ND	ND	6.3 J

Notes:

All values in micrograms per liter or parts per billion (ppb)

■ — Florida Water Quality Standards (7/2/94)

b — USEPA Maximum Contaminant Level (5/94)

Standard exceedances are in bold

Reference concentration exceedance are underlined

NS — No standard established

Table 6
 Category VIII - Site 36
 Detected Concentrations Summary of Pesticides, PCBs, and Semivolatiles in Groundwater (ppb)

Compound	Standards	36GR01	36GR01D	36GR02	36GR03	36GR04	36GR05	36GR06	36GR07
Pesticides/PCBs (ppb)									
beta-BHC	0.1 ^a	ND	ND	ND	0.02 J	ND	ND	ND	ND
gamma-Chlordane	NS	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.2 ^m	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds (ppb)									
Acenaphthene	20.0 ^v	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	10.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	4.0 ^v	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	400.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NS	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	35.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	6.8 ^r	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	10.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 6 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides, PCBs, and Semivolatiles in Groundwater (ppb)

Compound	Standards	36GR08	36GR09	36GR10	36GR11	36GR11D	36GR12	36GR13
Pesticides/PCBs (ppb)								
beta-BHC	0.1 ^a	ND	ND	ND	ND	ND	ND	ND
gam-Chlordane	NS	ND	ND	ND	ND	ND	0.02 J	ND
Heptachlor Epoxide	0.2 ^{a,b}	ND	ND	ND	ND	ND	0.01 J	ND
Semivolatile Organic Compounds (ppb)								
Acenaphthene	20.0 ^a	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	10.0 ^a	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	4.0 ^a	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	400.0 ^a	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NS	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	35.w	ND	ND	ND	ND	ND	ND	ND
Naphthalene	6.8 ^a	ND	ND	ND	ND	ND	ND	ND
Phenol	10.0 ^a	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 6 (Continued)
 Category VIII – Site 36
 Detected Concentrations Summary of Pesticides, PCBs, and Semivolatiles in Groundwater (ppb)

Compound	Standards	36GR14	36GR15	36GR16	36GR17	36GR18	36GR19	36GR20
beta-BHC	0.1*	ND						
gamma-Chlorane	NS	ND	ND	0.01 J	ND	ND	ND	ND
Heptachlor Epoxide	0.2**	ND						
Acenaphthene	20.0*	ND						
1,2-Dichlorobenzene	600.0**	ND						
1,3-Dichlorobenzene	10.0*	ND						
1,4-Dichlorobenzene	75.0**	ND						
2,4-Dichlorophenol	4.0*	ND						
2,4-Dimethylphenol	400.0*	ND						
4-Methylphenol	NS	ND						
2-Methylnaphthalene	35.0*	ND						
Naphthalene	6.8*	ND						
Phenol	10.0*	ND	ND	ND	ND	10.0 J	ND	ND

Notes appear at end of table.

Table 6 (Continued)
 Category VIII -- Site 36
 Detected Concentrations Summary of Pesticides, PCBs, and Semivolatiles in Groundwater (ppb)

Standards	36GR21	36GR21D	36GR22	36GI01	36GMW06	36GMW08	36GMW09
Pesticides/PCBs (ppb)							
beta-BHC	0.1'	ND	ND	ND	ND	ND	ND
gamma-Chlordane	NS	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.2 ^{a,b}	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds (ppb)							
Acenaphthene	20.0 ^a	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600.0 ^{a,b}	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	10.0 ^a	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75.0 ^{a,b}	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	4.0 ^a	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	400.0 ^a	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NS	ND	ND	ND	ND	ND	ND
4-Methylphenol	35.0.'	ND	ND	ND	ND	8.0 J	4.0J
Naphthalene	6.8 ^a	ND	ND	ND	ND	2.0 J	ND
Phenol	10.0 ^a	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 6 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Pesticides, PCBs, and Semivolatiles in Groundwater (ppb)

	Standards	36GMW35	36GMW35D	36GMW35DL	36GMW35DDL	36GIMW14	36GIMW52	36GTW01	36GTW09
Pesticides/PCBs (ppb)									
beta-BHC	0.1 ^a	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	NS	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.2 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds (ppb)									
Acenaphthene	20.0 ^a	ND	ND	ND	ND	ND	ND	2.0 J	ND
1,2-Dichlorobenzene	600.0 ^{a,b}	310.0 J	310.0 J	320.0	330.0	ND	ND	1.0 J	ND
1,3-Dichlorobenzene	10.4	370.0 J	380.0 J	340.0	360.0	ND	ND	8.0 J	ND
1,4-Dichlorobenzene	75.0 ^{a,b}	460.0 J	450.0 J	670.0	690.0	ND	3.0 I	20.0	ND
2,4-Dichlorophenol	4.0 ^a	4.0 J	4.0 J	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	400.0 ^a	ND	1.0 J	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NS	15.0	15.0	14.0 J	14.0 J	ND	ND	ND	ND
4-Methylphenol	35.4	ND	ND	ND	ND	ND	1.0 J	ND	ND
Naphthalene	6.8 ^a	80.0	80.0	99.0	100.0	ND	3.0 J	ND	N b
Phenol	10.0 ^a	ND	ND	ND	ND	ND	1.0 J	ND	ND

Notes:

All results are in micrograms per liter or parts per billion (ppb)

a — FDEP Water Quality Standards (7/2/94)

b — USEPA Maximum Contaminant Level (5/94)

ND — ND denotes parameter not detected

NS — No standard established

Bold indicates a standard exceedance

Table 7
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Groundwater (ppb)

Compound	Standards	36GR01/D	36GR02	36GR03/DL ^a	36GR04	36GR05	36GR06	36GR07	36GR08	36GR09
Benzene	1.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	140.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	700.Q	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	7.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	30.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5.Q	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	350.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	40.v	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	200.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	20.v	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 7 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Groundwater (ppb)

Compound	Standards	36GR10	36GR11/D	36GR12	36GR13	36GR14	36GR15	36GR16	36GR17	36GR18
Benzene	1.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	140.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	700.0 ^a	ND	ND	ND	ND	ND	9.0 J	ND	ND	ND
1,2-Dichloroethane	3.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	7.0 ^{a,b}	ND	ND	ND	ND	ND	8.0 J	ND	ND	ND
Ethylbenzene	30.0 ^b	ND	ND	ND	ND	6.0 J	ND	ND	ND	ND
Methylene Chloride	5.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	350.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	40.0 ^b	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	200.0 ^{a,b}	ND	ND	ND	ND	ND	79.0	ND	ND	ND
Xylene (Total)	20.0 ^b	ND	ND	ND	ND	49.0	ND	ND	ND	ND

Notes appear at end of table.

Table 7 (Continued)
 Category VIII —Site 36
 Detected Concentrations Summary of Volatile Organic **Compounds** in Groundwater (ppb)

Compound	Standards	36GR19	36GR20	36GR21/D	36GR22	36GI01	36GMW06	36GMW08	36GMW09	36GMW22
Benzene	1.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	140.4	ND	ND	ND	ND	N b	ND	ND	ND	ND
1,1-Dichloroethane	700.4	4.0 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	7.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	30 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5.4	ND	ND	ND	ND	2.0 J	ND	ND	ND	ND
4-Methyl-2-Pentanone	350.0 ^a	ND	ND	ND	ND	ND	ND	8.0 J	16.0	ND
Toluene	40.0 ^a	ND	ND	ND	ND	ND	ND	ND	4.0 J	ND
1,1,1-Trichloroethane	200.0 ^{a,b}	ND	2.0 J	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	20.0 ^a	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 7 (Continued)
CATEGORY VIII — Site 36
 Detected Concentrations Summary of Volatile Organic Compounds in Groundwater (ppb)

Compound	Standards	36GMW31	36GMW35/D	36GIMW14	36GIMW52	36GTW01/DL**	36GTW09	36GTW13
Benzene	1.0 ^a	ND	31.014.0 J	ND	ND	62.0/41.0 J	ND	ND
Chlorobenzene	NS	ND	160.0/110.0	ND	6.0 J	400.0 J/1,200.0	ND	4.0 J
Chloroethane	140.0 ^a	ND	ND	ND	2.0 J	ND	ND	ND
1,1-Dichloroethane	700.0^a	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	3.0^a	ND	ND	ND	ND	2.0 J/ND	ND	ND
1,1-Dichloroethene	7.0 ^{a,b}	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	30.0^a	ND	14.014.0 J	ND	ND	ND	ND	ND
Methylene Chloride	5.0 ^a	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	350.0^a	ND	ND/2.0 J	ND	ND	2.0 J/ND	ND	ND
Toluene	40.0^a	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	200.0^{a,b}	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	20.0 ^b	ND	ND	ND	ND	ND	ND	ND

Notes:

All results are in parts per billion (ppb) or micrograms per liter (µg/L)

a — Florida Water Quality Standards - **Primary and Secondary (7/2/94)**

b — USEPA Maximum Contaminant Levels (5/94)

* — Dilution required because acetone exceeded calibration.

** — Dilution required of 36GTW01 because of high chlorobenzene concentration

Bold indicates a standard exceedance

Table 8
 Category VIII — Building 3380
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (X Average Concentration)	36S2501	36S2503	36S2601	3632603	36S2701	36S2801
Aluminum	75,000 ^b	3,833.36	2,000.0 J	1,460.0 J	<u>4,630.0 J</u>	155.0 J	1,710.0 J	1,900.0 J
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	0.57	ND	0.27	ND	0.53	ND
Calcium	NS	912.37	ND	ND	ND	ND	ND	ND
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	ND	ND	ND	ND	ND	ND
Cyanide	1,600.0 ^{a,b}	OS2	0.09	0.12	0.09	ND	0.12	ND
Iron	NS	2,745.0	1,730.0 J	1,660.0 J	<u>4,250.0 J</u>	ND	1,530.0 J	1,170.0 J
Lead	400.0 ^a	7.32	<u>30.3</u>	ND	<u>9.7</u>	ND	<u>70.5</u>	<u>15.7</u>
Magnesium	NS	133.33	27.3	29.1	20.0	11.6	66.0	13.4
Manganese	390.0 ^a	21.36	<u>54.3</u>	9.8	<u>89.0</u>	ND	<u>24.8</u>	<u>66.2</u>
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND	ND
Vanadium	480.0 ^b	5.83	5.2	<u>8.3</u>	<u>13.9</u>	ND	5.3	4.4
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 8 (Continued)
 Category VIII — Building 3380
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S2803	36S2901	36S2903	36S3001	36S3001D	36S3101
Aluminum	75,000 ^b	3,833.36	636.0 J	3,510.0 J	512.0 J	841.0 J	1,210.0 J	2,110.0 J
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND	ND
Calcium	NS	912.37	867.0	<u>6,650.0</u>	ND	ND	ND	ND
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	ND	ND	ND	ND	ND	ND
Cyanide	1,600.0 ^{a,b}	0.52	ND	0.21	0.22	0.06	ND	0.07
Iron	NS	2,745.0	916.0 J	<u>4,690.0 J</u>	1,000.0 J	1,570.0 J	1,950.0 J	1,160.0 J
Lead	400.0 ^c	7.32	<u>15.0</u>	<u>17.6</u>	<u>29.1</u>	<u>16.2</u>	<u>16.4</u>	<u>26.3</u>
Magnesium	NS	133.33	10.6	55.4	9.3	21.6	21.4	8.3
Manganese	390.0 ^a	21.36	9.3	<u>51.5</u>	ND	12.5	9.3	13.1
Nickel	1,500.0 ^b	6.38	ND	1.7	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND	ND
Vanadium	480.0 ^b	5.83	1.9	<u>15.8</u>	2.0	4.4	5.1	4.8
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 8 (Continued)
 Category VIII — Building 3380
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference	36S3201	36S3301	36S3303	36S3401	36S3501	36S3503
		(2 X Average Concentration)						
Aluminum	75,000 ^b	3,833.36	1,360.0 J	218.0 J	ND	1,990.0 J	148.0 J	777.0 J
Arsenic	0.7 ^b	1.56	ND	ND	ND	ND	ND	ND
Cadmium	37 ^b	1.0	ND	ND	ND	ND	ND	ND
Calcium	NS	912.37	<u>4,910.0</u>	ND	ND	<u>10,600.0</u>	ND	<u>4,740.0</u>
Cobalt	4,700.0 ^{a,b}	1.87	ND	ND	ND	ND	ND	ND
Copper	2,900.0 ^{a,b}	5.74	ND	ND	ND	ND	ND	ND
Cyanide	1,600.0 ^{a,b}	0.52	ND	ND	ND	0.28	ND	0.08
Iron	NS	2,745.0	469.0 J	1,140.0 J	ND	<u>8,870.0 J</u>	2,740.0 J	1,240.0 J
Lead	400.0 ^a	7.32	<u>33.6</u>	<u>167.0</u>	ND	<u>38.7</u>	<u>21.6</u>	<u>19.5</u>
Magnesium	NS	133.33	<u>933.3</u>	32.8	ND	<u>187.0</u>	10.8	37.8
Manganese	390.0 ^a	21.36	<u>48.4</u>	10.3	ND	19.8	ND	8.5
Nickel	1,500.0 ^b	6.38	ND	ND	ND	ND	ND	ND
Potassium	NS	460.67	ND	ND	ND	ND	ND	ND
Vanadium	480.0 ^a	5.83	3.0	0.86	ND	7.1	ND	6.3
Zinc	23,000.0 ^{a,b}	16.87	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 8 (Continued)
 Category VIII - Building 3380
 Detected Concentrations Summary of Inorganics in Soil (PPM)

Compound	PRGs	Reference (2 X Average Concentration)	36S3601	36S3603
Aluminum	75,000 ^b	3,833.36	2,370.0	1,510.0
Arsenic	0.7 ^b	1.56	ND	0.49 J
Cadmium	37 ^c	1.0	ND	ND
Calcium	NS	912.37	<u>2,030.0</u>	<u>1,650.0</u>
Cobalt	4,700.0 ^{a,b}	1.87	1.0 J	1.5 J
Copper	2,900.0 ^{a,b}	5.74	1.1 J	2.0 J
Cyanide	1,600.0 ^{a,b}	0.52	ND	ND
Iron	NS	2,745.0	2,490.0	2,160.0
Lead	400.0 ^c	7.32	<u>12.1</u>	<u>34.2</u>
Magnesium	NS	133.33	ND	ND
Manganese	390.0 ^c	21.36	<u>38.6</u>	16.6
Mercury	23.0 ^{a,b}	0.10	ND	<u>0.15</u>
Nickel	1,500.0 ^b	6.38	ND	ND
Potassium	NS	460.67	158.0	ND
Vanadium	480.0 ^b	5.83	ND	ND
Zinc	23,000.0 ^{a,b}	16.87	5.1	11.1

Notes:

PRG — Preliminary Remedial Goal, based on USEPA Risk-Based Concentrations and FDEP Cleanup Goals for DOD Sites

a — USEPA Risk Based Concentrations (7/11/94)

b — FDEP Cleanup Goals for DOD Sites (7/5/94)

c — USEPA Screening Level

NS — No standard established

ND — ND denotes compound was not detected

J — The compound was positively detected; however, the reported concentration is considered an estimated value.

Underline indicates a reference exceedance

Table 9
 Category VIII — Building 3380
 Detected Concentrations Summary of Organic Compounds in Soil (ppb)

Compound	PRGs	36S2501	36S2503/RE	36S2601/RE	36S2603	36S2701	36S2801
Pesticides/PCBs (ppb)							
Aroclor 1260	83'	ND	ND	ND	ND	ND	12.0J
4,4'-DDT	1,900.0 ^b	ND	ND	ND	ND	3.2 J	ND
Volatile Organic Compounds (ppb)							
Tetrachloroethene	9,200 ^b	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds (ppb)							
Benzo(a)anthracene	880.W	230.0 J	ND	ND	810.0	ND	ND
Benzo(a)pyrene	88.W	180.0 J	ND	ND	900.0	ND	ND
Benzo(b)fluoranthene	880.0 ^a	260.0J	ND	ND	800.0	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^b	73.0 J	ND	ND	370.0	ND	ND
Benzo(k)fluoranthene	8,800.W	190.0J	ND	ND	820.0	ND	ND
Carbazole	32,000.0 ^a	ND	ND	ND	84.0 J	ND	ND
Chrysene	88,000.W	290.0 J	ND	ND	1,100.0	ND	ND
Dibenz(a,h)anthracene	88.W	ND	ND	ND	160.0 J	ND	ND
Fluoranthene	2,800,000.0 ^b	400.0	ND	ND	1,100.0	ND	ND
Indeno(1,2,3cd)pyrene	880.0 ^a	76.0 J	ND	ND	380.0	ND	ND
Phenanthrene	1,200,000 ^b	80.0J	ND	ND	320.0 J	ND	ND
Pyrene	2,200,000.0 ^b	590.0	ND	ND	1,400.0	ND	ND

Notes appear at end of table.

Table 9 (Continued)
 Category VIII — Building 3380
 Detected Concentrations Summary of Organic Compounds in Soil (ppb)

Compound	PRGs	36S2803	36S2901/RE	36S2903	36S3001/RE	36S3001D/RE	36S3101/RE
Pesticides/PCBs (ppb)							
Aroclor 1260	83.0 ^a	13.0J	ND	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds (ppb)							
Tetrachloroethene	9,200 ^b	ND	1,100.0	10.0J	ND	ND	ND
Semivolatile Organic Compounds (ppb)							
Benzo(a)anthracene	880.V	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0 ^a	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.V	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^a	ND	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^a	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.4	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^b	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0 ^a	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^b	ND	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^b	ND	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 9 (Continued)
 Category VIII — Building 3380
 Detected Concentrations Summary of Organic Compounds in Soil (ppb)

Compound	PRGs	36S3201	36S3301/RE	36S3303/RE	36S3401/RE	36S3501	36S3503/RE
Pesticides/PCBs (ppb)							
Aroclor 1260	83'	ND	ND	ND	ND	ND	ND
4,4'-DDT	1,900.0 ^b	3.9 J	ND	ND	ND	ND	5.0
Volatile Organic Compounds (ppb)							
Tetrachloroethene	9,200 ^b	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds (ppb)							
Benzo(a)anthracene	880.0'	100.0 J	ND	ND	ND	ND	ND
Benzo(a)pyrene	88.0'	120.0 J	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	880.0'	130.0 J	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^b	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	8,800.0 ^a	170.0 J	ND	ND	ND	ND	ND
Carbazole	32,000.0 ^a	ND	ND	ND	ND	ND	ND
Chrysene	88,000.0 ^a	120.0 J	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	88.0'	ND	ND	ND	ND	ND	ND
Fluoranthene	2,800,000.0 ^b	170.0 J	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	880.0'	ND	ND	ND	ND	ND	ND
Phenanthrene	1,200,000 ^b	ND	ND	ND	ND	ND	ND
Pyrene	2,200,000.0 ^b	190.0 J	ND	ND	ND	ND	ND

Notes appear at end of table.

Table 9 (Continued)
 Category VIII - Building 3380
 Detected Concentrations Summary of Organic Compounds in Soil (ppb)

Compound	PRGs	36S3601	36S3603
Pesticides/PCBs (ppb)			
Aroclor 1260	83 ^a	ND	ND
4,4'-DDT	1,900.0 ^b	ND	ND
Volatile Organic Compounds (ppb)			
Tetrachloroethene	9,200 ^b	ND	ND
Semivolatile Organic Compounds (ppb)			
Benzo(a)anthracene	880.4	ND	ND
Benzo(a)pyrene	88.0 ^a	ND	ND
Benzo(b)fluoranthene	880.4	ND	ND
Benzo(g,h,i)perylene	14,000.0 ^a	ND	ND
Benzo(k)fluoranthene	8,800.0 ^a	ND	ND
Carbazole	32,000.0 ^a	ND	ND
Chrysene	88,000.0 ^a	ND	ND
Dibenz(a,h)anthracene	88.0 ^a	ND	ND
Fluoranthene	2,800,000.0 ^b	54.0 J	ND
Indeno(1,2,3-cd)pyrene	880.0 ^a	ND	ND
Phenanthrene	1,200,000 ^b	ND	ND
Pyrene	2,200,000.0 ^b	45.0 J	ND

Notes:

- PRG — Preliminary Remediation Goals based on USEPA Risk-Based Concentrations and FDEP Cleanup Goals for DOD Sites
 - RE — Semivolatile organic analyses were reanalyzed by the laboratory.
 - a — USEPA Risk Based Concentrations (7/11/94)
 - b — FDEP Cleanup Goals for DOD Sites (7/5/94)
 - ND — ND denotes compound was not detected
 - NS — No standard established
 - J — The compound was positively detected; however, the reported concentration is considered an estimated value.
- Bold** indicates a PRG exceedance.

Table 10
 Category VIII — Site 36
 Comparison of Detected VOC Concentrations in Groundwater (ppb)

Compound	standards	36GR14	GR1402/Dup (12/8/94)	36GR15	GR1502 (12/8/94)
Benzene	1.0 ^a	ND	ND	ND	ND
Chlorobenzene	NS	ND	ND	ND	ND
Chloroethane	140.0^a	ND	ND	ND	ND
1,1-Dichloroethane	700.0 ^a	ND	ND	9.0 J	16
1,2-Dichloroethane	3.0^a	ND	ND	ND	ND
1,1-Dichloroethene	7.0^{a,b}	ND	ND	8.0 J	5
Ethylbenzene	30.0^b	6.0 J	8/8	ND	ND
Methylene Chloride	5.0 ^a	ND	ND	ND	ND
4-Methyl-2-Pentanone	350.0^a	ND	ND	ND	ND
Toluene	40.0 ^b	ND	ND	ND	ND
1,1,1-Trichloroethane	200.0^{a,b}	ND	ND	79.0	54
Xylene (Total)	20.0^{a,c}	49.0	70164	ND	ND

Notes:

All results are in parts per billion (ppb) or micrograms per liter ($\mu\text{g/L}$)

a — Florida Water Quality **Standards (7/2/94)**

b — **USEPA** Maximum Contaminant Levels (5/94)

c — The detected xylene concentrations do not exceed the Florida **Primary** Standard or **USEPA** MCL of **10,000 ppb**.

* — Dilution required because acetone exceeded calibration.

** — Dilution required of 36GTW01 because of high chlorobenzene concentration

Bold indicates a standard exceedance

Table 11
 Category VIII - Site 36
 Comparison of Detected Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GR01/D	GR0102 (12/8/94)	36GR03	GR0302 (12/18/94)
Aluminum	200.0 ^{a,b}	3,882.76	211.0/—	1,380	245.0	3,050
Arsenic	50.0 ^{a,b}	2.8	ND	ND	ND	ND
Barium	2,000.0 ^{a,b}	13.22	273.01 274.0	325	93.6	100
Cadmium	5'	3.4	ND	ND	ND	ND
Calcium	NS	17,560	54,200.0/ 53,700.0	38,100	43,800.0	29,400
Chromium	100.0 ^{a,b}	34.98	ND	3	ND	5
Cobalt	NS	4.1	ND	ND	5.8	ND
Copper	1,000.0 ^a	16.2	ND	5.7	24.8	11.9
Iron	300.0 ^a	1,707.8	ND	629	396.0	1,820
Lead	15.0 ^a	1.6	24.61 24.6	41.7	180.0	31.8
Magnesium	NS	2,872.5	ND	2010	2,030.0	2060
Manganese	50.0 ^a	21.92	326.01 316.0	ND	332.0	ND
Mercury	2.0 ^{a,b}	0.2	ND	ND	ND	ND
Nickel	100.0 ^{a,b}	39.9	ND	ND	ND	ND
Potassium	NS	12,167.6	2,430.0 J/ 2,690.0 J	2,070	1,430.0 J	1,770
Sodium	160,000.0 ^a	18,345	4,140.0 J/ 4,150.0 J	7,490	2,750.0 J	3,120
Thallium	2.0 ^{a,b}	3.6	ND	ND	ND	ND
Vanadium	49.0 ^a	9.58	ND	2	ND	1.3
Zinc	5,000.0 ^a	153.2	99.21 94.0	ND	101.0	ND

Notes appear at end of table.

Table 11 (Continued)
 Category VIII — Site 36
 Detected Concentrations Summary of Inorganics in Groundwater (ppb)

Compound	Standards	2 X Reference Concentration	36GR12	GR1202 (12/8/94)	36GR13	GR1302 (12/8/94)	36GR14	GR1402 (12/8/94)	GR1402 Dup (12/8/94)
Aluminum	200.0 ^{a,b}	3,882.76	441.0	ND	3,390.0	ND	753.0	ND	ND
Arsenic	50.0 ^{a,b}	2.8	<u>5.2</u>	ND	<u>4.2</u>	ND	<u>7.0</u>	ND	<u>4</u>
Barium	2,000.0 ^{a,b}	13.22	<u>43.2</u>	<u>70.3</u>	<u>101.0</u>	<u>48.8</u>	<u>26.4</u>	ND	ND
Cadmium	5 ^a	3.4	ND	ND	ND	0.78	ND	0.95	ND
Calcium	NS	17,560	<u>59,900.0</u>	<u>68,000</u>	<u>22,400.0</u>	<u>28,800</u>	<u>17,200.0</u>	<u>21,700</u>	<u>21,200</u>
Chromium	100.0 ^{a,b}	34.98	ND	ND	7.2	ND	ND	ND	ND
Cobalt	NS	4.1	ND	ND	<u>5.9</u>	ND	ND	ND	ND
Copper	1,000.0 ^a	16.2	ND	1.5	<u>54.7</u>	3.4	4.7	2.6	1.4
Iron	300.0 ^a	1,707.8	ND	ND	<u>1,820.0</u>	ND	<u>302.0</u>	<u>363</u>	ND
Lead	15.0 ^a	1.6	ND	ND	<u>36.9</u>	ND	<u>35.4</u>	ND	ND
Magnesium	NS	2,872.5	2,000.0	2520	1,830.0	1350	627.0	647	631
Manganese	50.0 ^a	21.92	<u>103.0</u>	<u>763</u>	<u>553.0</u>	ND	<u>26.1</u>	ND	ND
Mercury	2.0 ^{a,b}	0.2	ND	ND	<u>0.79</u>	ND	ND	ND	ND
Nickel	100.0 ^{a,b}	39.9	ND	ND	ND	ND	ND	ND	ND
Potassium	NS	12,167.6	3,850.0	2,320	1,510.0	1,880	2,000.0	4,090	4,020
Sodium	160,000.0 ^a	18,345	<u>18,600.0</u>	6,150	3,840.0 J	3,270	3,040.0 J	4,650	4,560
Thallium	2.0 ^{a,b}	3.6	<u>6.0</u>	ND	ND	ND	ND	ND	ND
Vanadium	49.w	9.58	<u>13.2</u>	2.3	ND	2.3	9.1	4.2	3.8
Zinc	5,000.0 ^a	153.20	ND	ND	<u>255.0</u>	ND	73.9	ND	ND

Notes:

All values are in micrograms per liter or parts per billion (ppb)

a — Florida Water Quality Standards (7/2/94)

b — USEPA Maximum Contaminant Level (5/94)

Standard exceedances are in bold

Reference concentration exceedance are underlined

NS — No standard established

**APPENDIX B
TELESPECTION REPORT
PWC MAINTENANCE SUMMARY**

PWC Teleinspection Report
July 30, 1987

30 July, 1987

From: Code 461.3

To: Code 670

Via: Code 460

Subj: TELESPECTIOM OF THE INDUSTRIAL WASTE COLLECTION **SYSTEM**

Encl: (1) Condition Reports

(2) Updated Drawings

1. A telespection of the Industrial Waste Collection System was conducted on all lines eight inch (8') through eighteen (18") which had access to each end and could be cleaned and strung. The inspection consisted of inspecting piping and manholes for cracks, separations, infiltration (ground water and roots) low areas and cleanliness. During the course of inspection there were no major deficiencies noticed, only small amounts of groundwater seepage was detected. One section of line has several cracked areas. Cracks are dripping groundwater. This section is 12' v. c. and is located between manhole C-2 and manhole C-3 (MAVFAC Drawing 15152540 - Sheet 2 of 6). There is only one section that has root infiltration, (very small fiber roots, no groundwater infiltration noticed) NAVFAC Drawing #15152545, sheet 5 of 6. Two areas of the system could not be cleaned or inspected due to soft sand and heavily wooded terrain we could not get the jet wash unit or telespection van to the work site.

These areas are located on NAVFAC Drawings #15152544, 45 and 46. The soft sand areas is 15" V. C. main that runs from lift station 3437 (manhole A-1 to manhole B-5, including 8" V. C. lateral from Building 3819, manhole B-1-A to manhole B-1) and 8" V. C. lateral from manhole B-3 to B-3-2. There are approximate 280 linear feet of 15" V. C. piping in this area. These lines could be cleaned and telespected if the equipment was towed to each work site. There are seven (7) manholes to be cleaned and inspected in this area.

2. The heavily wooded area is located south of Building 649. The lines affected are: 15' V. C. main from manhole B-5 to manhole B-7. NAVFAC Drawing 15152546. There are four (4) manholes to be cleaned and inspected in this area. There are approximate 356 L. F. of 15" V. C. piping in this area. This area has heavy sludge buildup and needs cleaning very badly. It is the main trunk line from Buildings 648, 649, 755 and 2691.

3. The 15" V. C. main running from manhole A-10 N. W. of Building 2662 on Chevalier Field to manhole A-4, south of lift station no. 2, Building 3437 and the 18" V. C. main, running from manhole A-4 to manhole A-1, at lift station no. 2, Building 3437, these lines could not be cleaned with the rental jet wash unit. The jet wash unit could only put out approximately 800 pounds to 1,000 pounds of water pressure. Most of these lines were washed several times. Several barrels of sludge, sand and paint strippings were removed from system. The wash unit could not penetrate some of these lines. There are approximately 2,438 L. F. of 15" V. C. piping and approximately 1,124 L. F. of 18" piping in this section. These lines are located on NAVFAC Drawings 15152543 and 44, sheet 3 of 6 and 4 or 6.

These lines need cleaning very badly. Lines could be cleaned more efficiently with a jet vacuum unit. The process we are using is very slow. Large amounts of debris are entering manholes and clogging the system. This debris has to be hand dipped from top side of manholes (manholes approximately 10 to 12 feet deep) there are fifteen (15) manholes to be cleaned and inspected in this area.

4. During the process of inspection NAVPAC Drawings were up-dated. ~~M~~ manholes and lines were located. There are two (2) open grate manholes in the system which allow large amounts of sand and rainwater to enter. These manholes are: Manhole A-7, located southwest corner of Building 3460, NAVPAC Drawing 5152543, and manhole B-7-D, located northwest of Building 755, NAVPAC Drawing 5152546. At manhole B-7-D, approximately three (3) each) 55 gallon drums of sand were removed from manhole and lines. The overall condition of the areas telespected is good. The entire system is overdue for cleaning.

5. A detailed Inspection Report showing condition of each area and manholes is submitted with this report. Also a set of NAVPAC Drawings (5152541 - 5152546, with corrections is submitted. See daily reports and NAVFAC Drawings for more details.

Reclean and telespect lines (Chevalier Field)

15' V.C. 2,438 L. F.

18' V. C. 1,124 L. F. 3,562 L. F.

Including 15 each manholes

Soft ground area, clean and telespect (possible)

8" V. C. 280 L. F.

15" V. C. 938 L. F.

1,218 L. F.

Including 7 each manholes

Heavily wooded area

15" V. C. 356 L. F.

Including 4 each manholes

problem getting to work site

OUTAGES MAY BE REQUIRED



GORDON FLIRT

NAVY PUBLIC WORKS CENTER
 BUILDING 3561
 NAVAL AIR STATION
 PENSACOLA, FLORIDA 32508

TELESPECTION REPORT

INDUSTRIAL WASTE

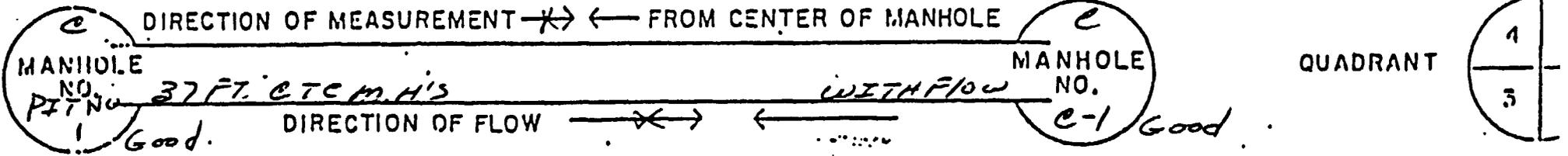
DATE 7/1/87 SET UP 1

AREA S.E. CORNER

STREET B-72

PIPE CONDITION SEE BELOW
 MANHOLE CONDITION Good
 INSPECTOR FIRT
 REMARKS SEE BELOW

PIPE SIZE 8"
 TYPE OF PIPE V-C
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
30 FT.	✓			7/1/87	CRACKED HUB, NO INFILTRATION NOTICED
37 FT.				7/1/87	C.T.C. M.H.'S
<p>NOTE: LINE AND M.H.'S HAD SEVERE BUILD-UP OF PAINT STRIPINGS AND SLUDGE. HAD TO WASH SEVERAL TIMES. REMOVED A 55 GAL. DRUM OF STRIPING AND SLUDGE FROM M.H.'S AND LINE. (SEE PHOTO) LINE IS CLEAN AND IN GOOD CONDITION, EXCEPT FOR 1 CRACKED JOINT. NO INFILTRATION NOTICED.</p>					

NAVY PUBLIC WORKS CENTER
 BUILDING 3561
 NAVAL AIR STATION
 PENSACOLA, FLORIDA 32500

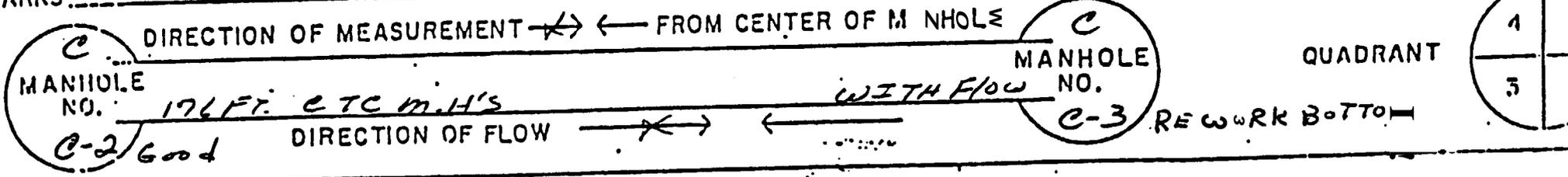
TELESPECTION REPORT

INDUSTRIAL WASTE

DATE 7/1/87 SET UP 3
 AREA S. of B-71
 STREET _____

PIPE CONDITION SEE BELOW
 MANHOLE CONDITION SEE BELOW
 INSPECTOR FLIR
 REMARKS SEE BELOW

PIPE SIZE 12"
 TYPE OF PIPE U.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
67.	✓	✓		7/1/87	CRACKED HUB, GROUND WATER INFILTRATING, DRIPPING
117.	✓	✓			" " " " " "
367.	✓	✓			" " " " " "
417.	✓	✓			" " " " " "
467.	✓	✓			" " " " " "
517.	✓	✓			" " " " " "
557.	✓	✓			" " " " " "
607.	✓	✓			" " " " " "
717.	✓	✓			M.H. NOT SHOWN ON PRINT, COVERED BY CONCRETE
997.	✓	✓			LEAKING JOINT, DRIPPING
1107.	✓	✓			CRACKED JOINT, DRIPPING
1187.	✓	✓			CAMERA HALF UNDER WATER, LINE SEEMS TO BE OK
1767.	✓	✓			CAMERA STILL UNDER WATER
767.	✓	✓		7/1/87	ETC M.H.S NOTE: HAD TO WASH SEVERAL TIMES. LINE HAS SEVERAL CRACKS THAT ARE LEAKING. FOUND COVERED M.H. LINE IS CLEAN. M.H.-C-3, BOTTOM NEEDS RE-WORKED.

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 BUILDING 3561
 NAVAL AIR STATION
 PENSACOLA, FLORIDA 32508

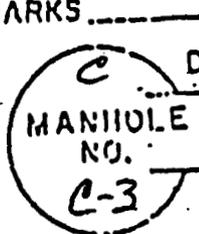
TELESPECTION REPORT

DATE 7/11/87 SET UP
 AREA E-04 71
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION Good
 MANHOLE CONDITION RE-WORK BOTTOMS
 INSPECTOR FIIRT
 REMARKS SEE BELOW

PIPE SIZE 12"
 TYPE OF PIPE V.C.
 TYPE OF JOINT Hub & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
537.	✓			7/7/87	HAIRLINE CRACK, NO INFILTRATION
1647.				7/7/87	CTC M.H.'S
NOTE: LINE HAD TO BE WASHED SEVERAL TIMES. LINE WAS HALF FULL OF SAND AND STRIPINGS. LINE IS CLEAN AND IN GOOD CONDITION, EXCEPT FOR 1 SMALL CRACK. NO PROBLEM AT THIS TIME. M.H.'S NEED BOTTOMS RE-WORKED.					

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 PENSACOLA, FLORIDA 32508

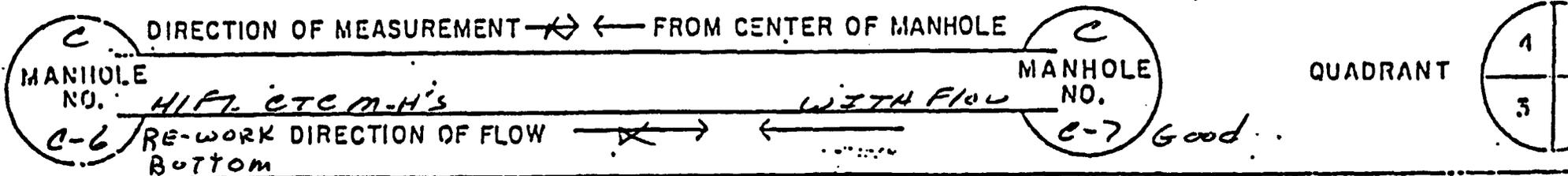
TELESPECTION REPORT

DATE 7/7/87 SET UP 2
 AREA N.E. of B-71
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION SEE BELOW (UNKNOWN)
 MANHOLE CONDITION SEE BELOW
 INSPECTOR FLIRT
 REMARKS SEE BELOW

PIPE SIZE 12"
 TYPE OF PIPE U.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



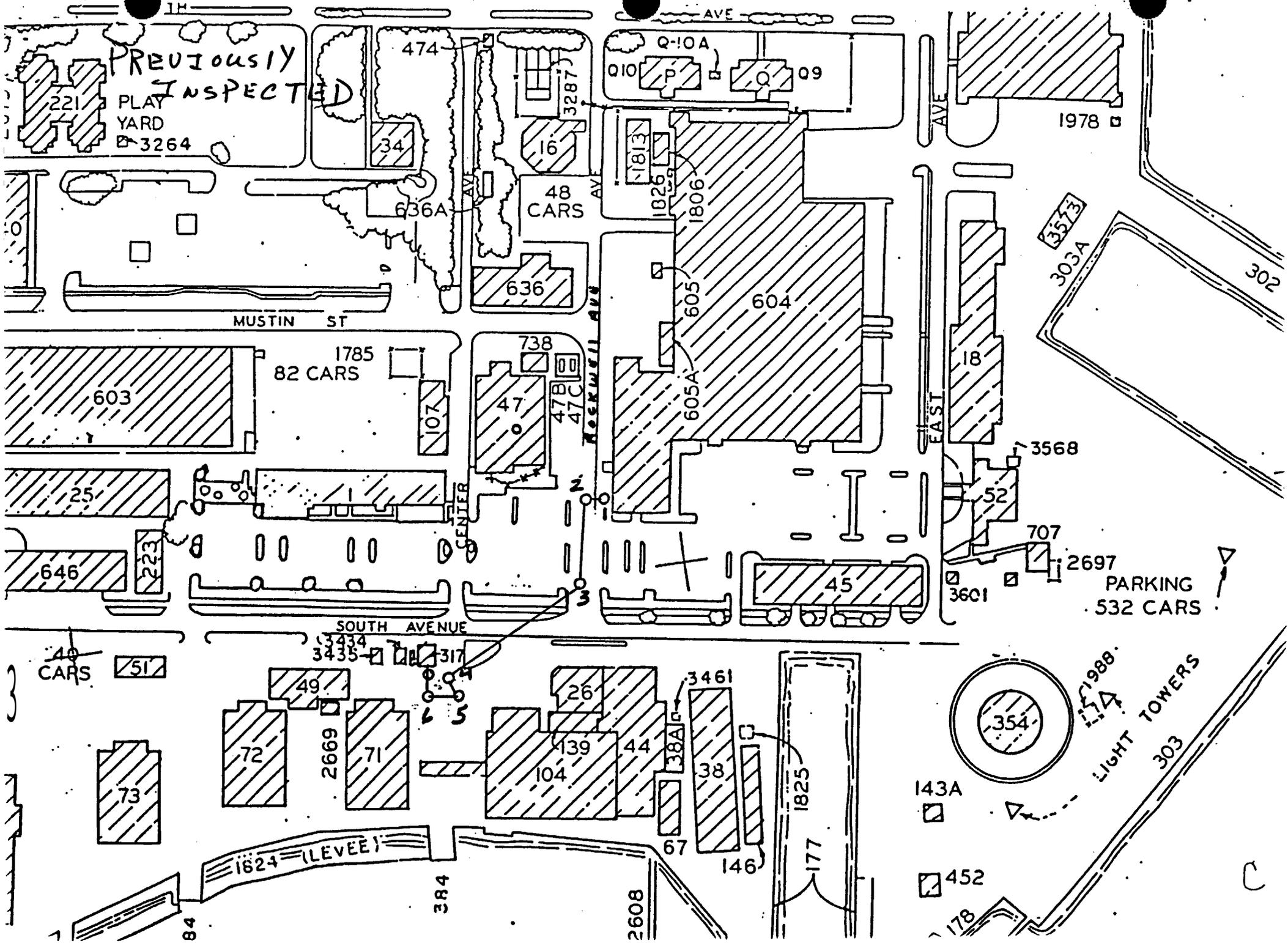
T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
27.	✓			7/7/87	2" TO 3" of WATER IN LINE
127.	✓				3" TO 6" of WATER IN LINE
167.	✓				CAMERA UNDER WATER; CAN NOT SEE.
417.				7/7/87	ETC M-H'S
NOTE: LINE IS CLEAN. HAD TO BE WASHED SEVERAL TIMES. LINE SEEMS TO BE LOW. LINE IS HOLDING WATER. NO FLOW IN LINE. COULD NOT SEE PIPE AFTER 167.					

11-8-86

INDUSTRIAL WASTE TELEVISION

N6 14



LDING \$561

NAVAL AIR STATION

PENSACOLA, FLORIDA 32508

TELESPECTION REPORT

DATE 11-8-86 SET UP 1

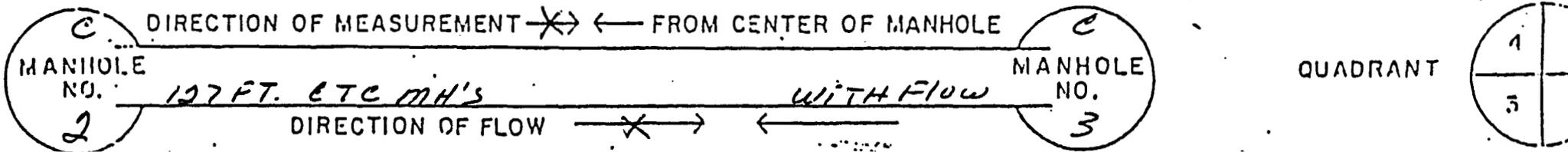
AREA S.W. of 0-604

STREET ROCKWELL AVE.

INDUSTRIAL WASTE

PIPE CONDITION Good
 MANHOLE CONDITION SEE BELOW
 INSPECTOR G. FLIRT.
 REMARKS SEE BELOW

PIPE SIZE 8"
 TYPE OF PIPE U.C.
 TYPE OF JOINT HUB & SPIGOT



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
27 FT.		—	—	11-8-86	ETC MH'S
<p>NOTE: PIPE IS CLEAN AND IN GOOD CONDITION. NO SIGNS OF SAND OR INFILTRATION NOTICED. MH# 2 IS IN GOOD CONDITION. MH# 3 - GROUTED AROUND 2 OR 3/4" PIPES IN WALL OF M.H. RECONNECT DISCHARGE LINE TO SUMP PUMP. (3/4" PVC)</p>					

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TELESPECTION REPORT

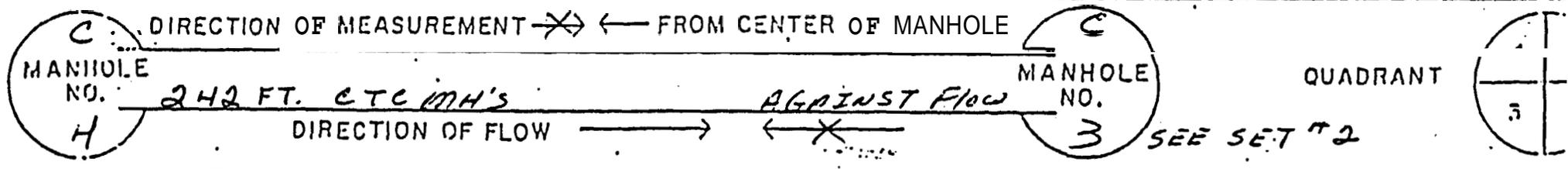
DATE 11-8-86 SET UP 2

INDUSTRIAL WASTE

STREET ROCKWELL AVE.
& SOUTH AVE.

PIPE CONDITION SEE BELOW
MANHOLE CONDITION SEE BELOW
INSPECTOR G. FIIRT
REMARKS SEE BELOW

PIPE SIZE 8"
TYPE OF PIPE V.C.
TYPE OF JOINT HUB & SPIGOT



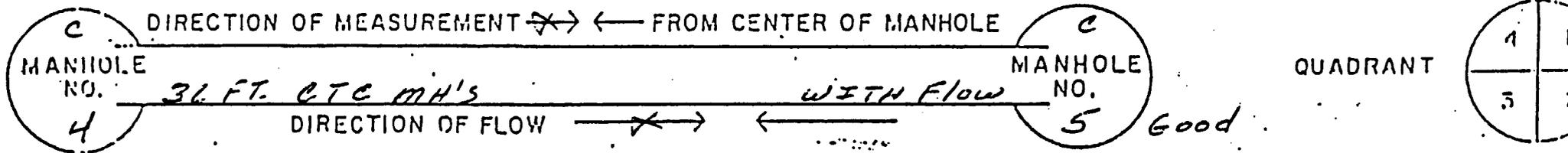
T. V. INSPECTION

DEPTH	QUADRANT	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT	
1 FT.	✓	✓	YES	1	11-8-86	GROUND WATER INFILTRATING AT JOINT.
0 FT.	✓	✓	-	-	"	BELLY STARTS, LINE 1/2 FULL OF WATER.
5 FT.			-	-	"	OUT OF BELLY
42 FT.			-	-	11-8-86	CTC MH'S
<p>NOTE: LINE IS IN GOOD CONDITION, EXCEPT FOR ONE JOINT LEAKING, SMALL BELLY IN LINE CAUSING NO MAJOR PROBLEM AT THIS TIME. LINE HAS SMALL AMOUNTS OF SCALE BUILD-UP. M-H 94 - REPLACE SEA-RUNGS AND REWORK BOTTOM OF MANHOLE. POSSIBLE SAND INFILTRATING AT LEAKING JOINT.</p>						

INDUSTRIAL WASTE

PIPE CONDITION SEE BELOW
 MANHOLE CONDITION SEE SET #3 FOR MH NO. 4
 INSPECTOR G. FLIRT
 MARKS SEE BELOW

PIPE SIZE 8"
 TYPE OF PIPE V.C.
 TYPE OF JOINT HUB & SPIGOT



T. V. INSPECTION

DEPTH	QUADRANT	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
2 FT.	✓	✓	1	11-8-86	SCALE BUILD-UP. LINE APPROX. 1/3 FULL OF WATER. LINE NEEDS CLEANING.
1 FT.	✓	—	—	"	BELLY STARTS, LINE 1/2 FULL OF WATER. SMALL ROCKS ABOUT GOLF BALL SIZE IN BOTTOM OF LINE.
0 FT.	—	—	—	"	OUT OF ROCKS
6 FT.	—	—	—	11-8-86	CTC MH'S OUT OF BELLY
NOTE: LINE NEED CLEANING AND ROCKS REMOVED. SMALL BELLY CAUSING NO MAJOR PROBLEM AT THIS TIME.					

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BUILDING 3561

NAVAL AIR STATION

PENSACOLA, FLORIDA 32503

TELESPECTION REPORT

DATE 11-8-86 SET UP 2

AREA S. of B 217

STREET SOUTH AVE.

INDUSTRIAL WASTE

PIPE CONDITION SEE BELOW

MANHOLE CONDITION Good

INSPECTOR G. FLIRT

REMARKS SEE BELOW

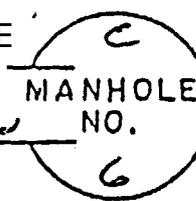
PIPE SIZE 8"

TYPE OF PIPE V.C.

TYPE OF JOINT HUB & SPIGOT

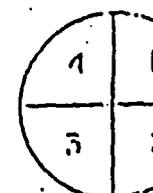


DIRECTION OF MEASUREMENT \leftarrow FROM CENTER OF MANHOLE



MANHOLE NO. 6

QUADRANT



68 FT. CTC MH'S

WITH FLOW

DIRECTION OF FLOW \rightarrow

T. V. INSPECTION

DEPTH	EQUIPMENT	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
3 FT.	✓	YES	1	11-8-86	LARGE AMOUNTS OF SCALE BUILT-UP
4 FT.	✓	-	-	"	BELLY STARTS LINE $\frac{2}{3}$ FULL OF WATER
5 FT.	✓	-	-	"	OUT OF BELLY
6 FT.	✓	-	-	"	SCALE
8 FT.	✓	-	-	11-8-86	CTC MH'S
NOTE: NO SEEPAGE NOTICED AT JOINTS. LINE NEEDS CLEANING. SMALL BELLY IN LINE CAUSING NO MAJOR PROBLEM AT THIS TIME.					

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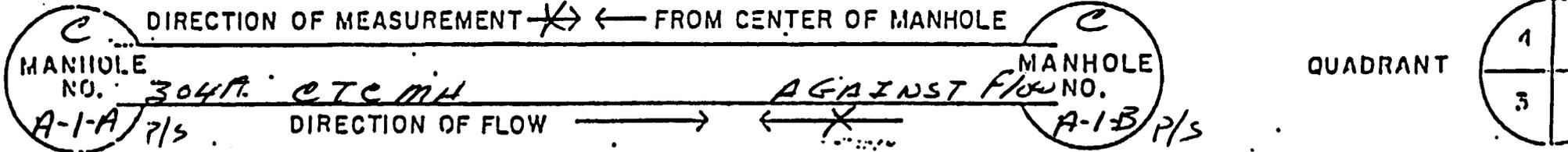
TELESPECTION REPORT

INDUSTRIAL WASTE

DATE 7/22/87 SET UP
 AREA N. OF B-3557
 STREET _____

PIPE CONDITION Good
 MANHOLE CONDITION SEE BELOW
 INSPECTOR FLIRT
 REMARKS SEE BELOW

PIPE SIZE 10"
 TYPE OF PIPE PVC
 TYPE OF JOINT Hub & Spigot
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
<u>245F.</u>	<u>4</u>			<u>7/22/87</u>	<u>INLET 4" 1/2 PIPE FLOW</u>
<u>304A.</u>				<u>7/22/87</u>	<u>CTC M.H'S</u>
<p>NOTE: LINE IS CLEAN AND IN GOOD CONDITION. 4" INLET AT 245F. LINE IS FLOWING 1/2" FULL. M.H'S - PAINT AND STENCIL. M.H. A-1-A - RE-GROUT TOP RING. RE-GROUT INLET AND OUTLET. GROUND WATER SEEPING IN.</p>					

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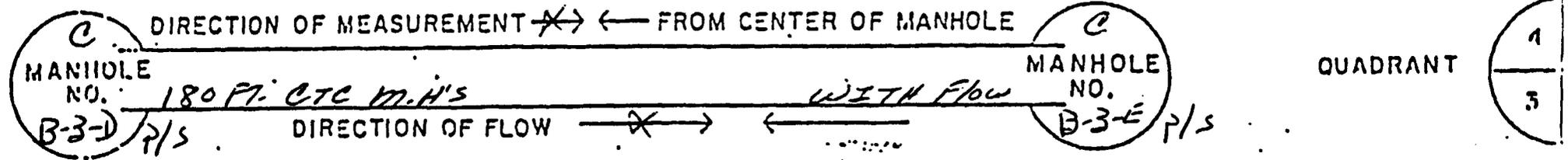
TELESPECTION REPORT

INDUSTRIAL WASTE

DATE 7/23/87 SET UP
 AREA S.E. OF B-3220
 STREET UNDER GROUND FUEL TANKS

PIPE CONDITION Good
 MANHOLE CONDITION SEE BELOW
 INSPECTOR FIJRT
 REMARKS SEE BELOW

PIPE SIZE 8"
 TYPE OF PIPE V.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
118 FT.	✓			7/23/87	SMALL FIBER ROOTS, NO INFILTRATION
123 FT.	✓				" " " " "
138 FT.	✓				" " " " "
164 FT.	✓				" " " " "
180 FT.				7/23/87	CTC M.H.'S
NOTE: LINE IS CLEAN AND IN GOOD CONDITION. LINE HAS 4 JOINTS THAT HAVE VERY SMALL FIBER ROOTS. NO INFILTRATION OF GROUND WATER. M.H.'S GOOD. NEED TO BE PAINTED AND STENCILED. ROOTS ARE CAUSING NO PROBLEM AT THIS TIME.					

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TELESPECTION REPORT

DATE 1/21/92

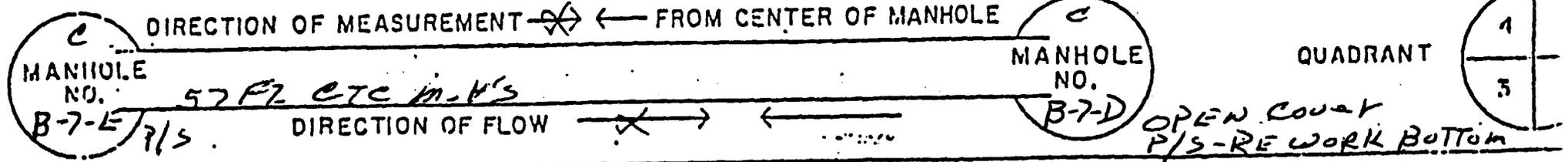
AREA S. of Bldg 3561

INDUSTRIAL WASTE

STREET _____

PIPE CONDITION UNKNOWN
 MANHOLE CONDITION SEE BELOW
 INSPECTOR FIRT.
 REMARKS SEE BELOW

PIPE SIZE 10"
 TYPE OF PIPE V.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
<u>57 FT.</u>				<u>7/29/92</u>	<u>ETC M.H.'S.</u>
					<u>NOTE. T.U.E. LINE, CAMERA UNDER WATER. M.H-B-7-D, HAS BAD BOTTOM, HOLDING WATER, CAUSING WATER TO BACK-UP INTO M.H-B-7-E. RE-WORK BOTTOM OF M.H-B-7-D.</u>
					<u>M.H-B-7-D, HAS GATED COVER, LETTING SAND TO ENTER SYSTEM. LARGE AMOUNTS OF SAND WAS REMOVED FROM M.H AND LINE GOING TO M.H-B-7-E.</u>

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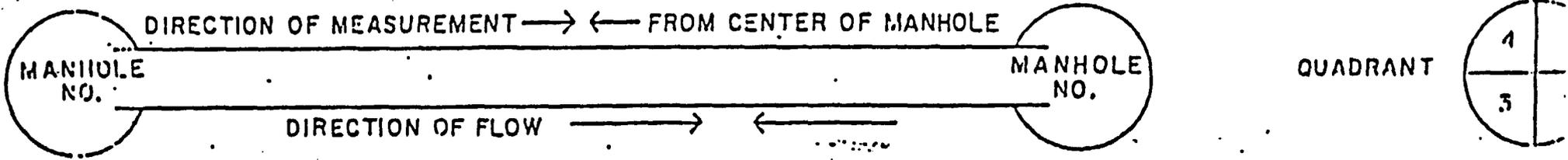
TELESPECTION REPORT

DATE 7/29 SET UP 4
 AREA S. of 649
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION UNKNOWN
 MANHOLE CONDITION UNKNOWN
 INSPECTOR FIAT
 REMARKS SEE BELOW

PIPE SIZE 15"
 TYPE OF PIPE V.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
					LINES BETWEEN MHB7 THRU M.H-B-5
					COULD NOT BE CLEANED OR TELESPECTED,
					DUE TO LOW TERRAIN AND HEAVY
					WOODED AREA. COULD NOT GET
					EQUIPMENT TO JOB SITE.
					LINES BETWEEN M.H-B-7-C, B-7-B, B-7-A
					AND B-7 COULD NOT BE CLEANED OR TUE
					INACCESSIBLE LINES.

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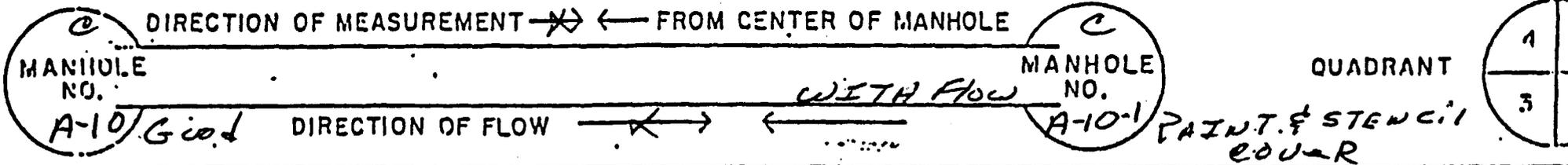
TELESPECTION REPORT

DATE 7/11/80 SET UP
 AREA W. 0 + B-2622
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION _____
 MANHOLE CONDITION Good
 INSPECTOR FLIRT
 REMARKS SEE BELOW

PIPE SIZE 15"
 TYPE OF PIPE V.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
					could NOT GET CAMERA THRU LINE WASHED SEVERAL TIMES. LARGE AMOUNTS of STRIPPING BUILD-UP IN LINE. SEE PHOTOS
					M.H-A-10-1 NEW CONST. FINISHED
					RE-CLEAN

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TELESPECTION REPORT

INDUSTRIAL WASTE

DATE 7/11/80 SET UP 4

AREA N.E. CORNER

STREET of B-35188

PIPE CONDITION UNKNOWN

PIPE SIZE 15"

MANHOLE CONDITION Good

TYPE OF PIPE U.C.

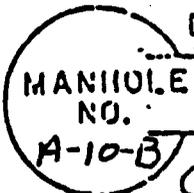
INSPECTOR FLIRT

TYPE OF JOINT Hub & Spigot

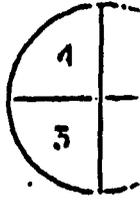
REMARKS SEE BELOW

JOB FOREMAN _____

DIRECTION OF MEASUREMENT → ← FROM CENTER OF MANHOLE



QUADRANT



DIRECTION OF FLOW → ←

T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
					WASHED SEVERAL TIMES, COULD NOT GET WASH UNIT THRU LINE. LARGE AMOUNTS OF STRIPING AND SLUDGE IN LINE.
					RE-CLEAN

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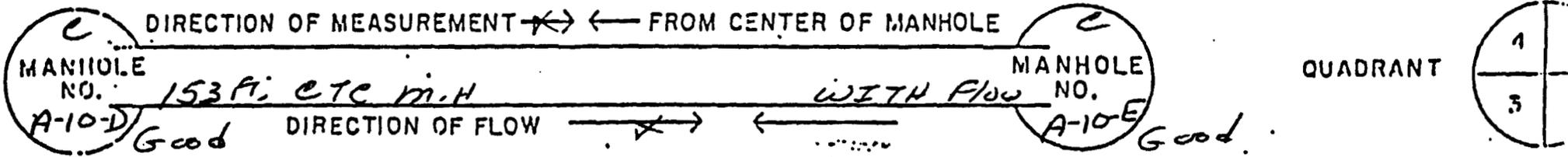
TELESPECTION REPORT

DATE 7/12/87 SET UP
 AREA N.W. CORNER
 STREET of B-3588

INDUSTRIAL WASTE

PIPE CONDITION Good (SEE BELOW)
 MANHOLE CONDITION Good
 INSPECTOR FLIRT
 REMARKS SEE BELOW

PIPE SIZE 15"
 TYPE OF PIPE V.C.
 TYPE OF JOINT Nub & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
<u>257'</u>	<u>---</u>	<u>YES</u>	<u>1</u>	<u>7/12/87</u>	<u>SLUDGE AND PAINT STRIPINGS</u>
<u>153'</u>	<u>---</u>			<u>7/12/87</u>	<u>etc m.h's</u>
<p>NOTE: ONLY SAW HALF OF PIPE (TOP HALF) LINE HALF FULL OF PAINT STRIPINGS AND SLUDGE. WASHED SEVERAL TIMES TO REMOVE Debris. LINE SEEMS TO BE IN Good CONDITION.</p>					
<p>RE CLEAN</p>					

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TELESPECTION REPORT

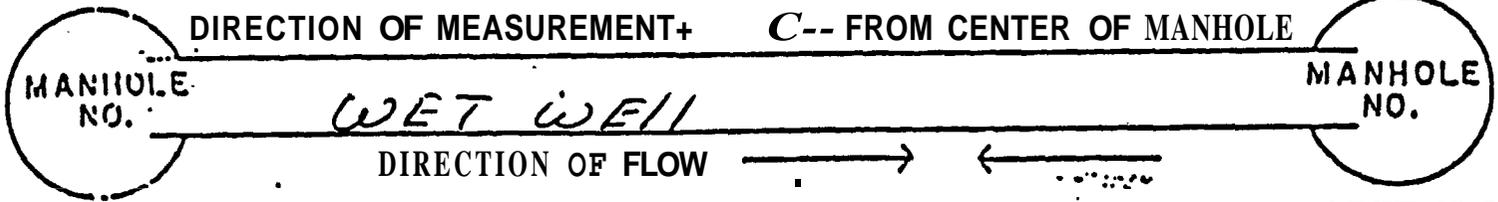
DATE 7/23/82 SET UP L
 AREA B-3437
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION N/A
 MANHOLE CONDITION N/A
 INSPECTOR PIRT
 REMARKS SEE B/L

PIPE SIZE _____
 TYPE OF PIPE WET WELL
 TYPE OF JOINT _____
 JOB FOREMAN _____

DIRECTION OF MEASUREMENT+ C-- FROM CENTER OF MANHOLE



QUADRANT.

T. V. INSPECTION

DISTANCE STADING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
					NOTE: Pumped down WET WELL. WASHED WITH JET SPRAY. CHECKED WALL FOR SPALLING CONCRETE WALLS LOOKED GOOD W. WALL AT WASTE LEVEL SMALL AMOUNTS OF SPALLING OCCURRING. NO MOTOR PROBLEM AT THIS TIME.
					Bldg. 3437 IS Numbered 3434 ON PRINT. PUMPING STATION No. 2 Could NOT GET WASH UNIT OR T.V. VAN TO M.H'S AND LINES BETWEEN M.H'S: A-1 TO B-1, B-1-A TO B-1 B-1 TO B-2. LINES NEED TO BE CLEANED AND TELESPECTED.

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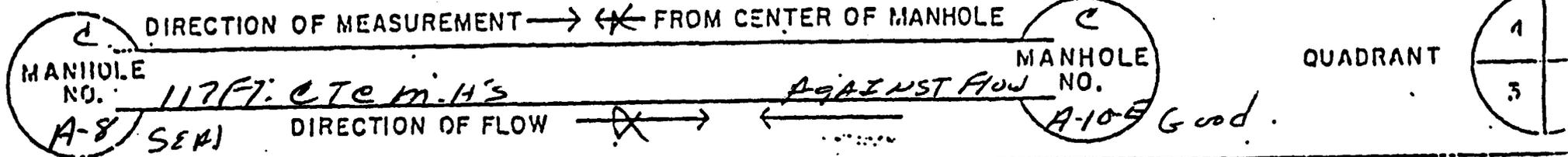
TELESPECTION REPORT

DATE 1/14/88
 AREA W. of 13588
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION Good
 MANHOLE CONDITION SEE BELOW
 INSPECTOR PIRT
 REMARKS SEE BELOW

PIPE SIZE 15"
 TYPE OF PIPE U.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____



T. V. INSPECTION

DISTANCE READING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
<u>117 FT.</u>				<u>7/12/87</u>	<u>CTC M-H'S</u>
					<u>NOTES LINE IS CLEAN AND IN GOOD CONDITION. HAD TO WASH SEVERAL TIMES TO REMOVE SAND AND STRIPPING BUILD-UP.</u>
					<u>M.H. - A-8, SEAL AROUND JOINTS AND PIPE AT S. SIDE GROUND WATER INFILTRATING.</u>
					<u>RE-CLEAN</u>

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BUILDING 3561

NAVAL AIR STATION

TELESPECTION REPORT

DATE 7/23/61 SET UP

AREA S. of B-3437

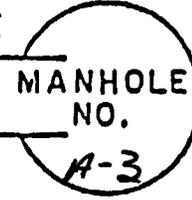
INDUSTRIAL WASTE

STREET _____

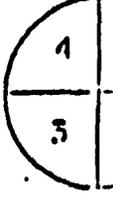
PIPE CONDITION UNKNOWN
 MANHOLE CONDITION SEE BELOW
 INSPECTOR PLIRT
 REMARKS SEE BELOW

PIPE SIZE 18"
 TYPE OF PIPE U.C.
 TYPE OF JOINT Hub & SPIGOT
 JOB FOREMAN _____

DIRECTION OF MEASUREMENT → ← FROM CENTER OF MANHOLE



QUADRANT



DIRECTION OF FLOW → ←

T. V. INSPECTION

DISTANCE FEADING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
					M.H. A-4 Approx. 2.5 FT. ABOVE GROUND.
					M.H. A-3 Approx 4 FT. ABOVE GROUND.
					SINK HOLE AROUND M.H. A-3. COULD NOT GET WASH NET TO M.H.'S.
					Approx. 14" of SLUDGE IN BOTTOM OF M.H. A-3. GROUND WATER INFILTRATING AT INLET AT M.H. A-3.
					RF-CLEAN

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TELESPECTION REPORT

DATE 7/23/53 SET UP 6
 AREA W. of B-3460
 STREET _____

INDUSTRIAL WASTE

PIPE CONDITION UNKNOWN
 MANHOLE CONDITION SEE BELOW
 INSPECTOR PIRT
 REMARKS SEE BELOW

PIPE SIZE 15"
 TYPE OF PIPE V.C.
 TYPE OF JOINT HUB & SPIGOT
 JOB FOREMAN _____

DIRECTION OF MEASUREMENT → ← FROM CENTER OF MANHOLE

MANHOLE NO.

MANHOLE NO.

QUADRANT

A-5 Good

DIRECTION OF FLOW → ←

A-4 RE-GROUT

T. V. INSPECTION

DISTANCE STATIONING	QUADRANT 1 2 3 4	PHOTO TAKEN	PHOTO NO.	DATE INSPECTED	DESCRIPTION OF DEFECT
					WASHED SEVERAL TIMES, SILT AND SLUDGE STILL IN LINE - CAMERA COULD NOT PASS. M.H. A-4 - GROUT JOINTS IN WALL, GROUND WATER INFILTRATING. M.H. A-4 - HOLDING APPROX. 16" OF WATER. M.H. A-4 - APPROX 2 1/2 FT. ABOVE GROUND.
					RE-CLEAN

IWTP Sewer Line Maintenance Summary

**Recorded Maintenance on IWTP Sewer Line
PWC — NAS Pensacola**

W.R.		Date	Activity		Location	Date Performed (if noted)
88576	5391603	7/6/87	Inst alarm, light, sump, pump, etc	3557	500	10/15/87
88584	5391603	7/13/87	Pur and Rpl 8" CH valve on I/W line	3434	633	9/18/87
88612	5391603	7/30/87	Ch/Rpr the No. 3 Pump	3437	634	
88631	5391603	8/10/87	Raise and Clean Manholes B-1, B-2, B-4, B-5 and B-6		500	12/28/87
88692	5251203	10/13/87	Rpr the No. 3 Pump	3435	543/634	1/14/88
88701	5391603	10/15/87	Pur/Inst timers on 3 pumps	3437	625	10/19/87
88714	5391203	10/27/87	Rpr I/W lift Station Pump 1st Deck	782	634	1/25/88
88718	5391603	11/3/87	Rpl impeller #3 pump Rpl bgs #2 pump	3437	634	1/11/88
88777	5391603	1/4/88	Rpl floats Rpr alt on var speed pumps	3448	576	3/17/88
88778	5251603	1/6/88	Ch and Rpr the No. 1 Lift	3290	634	2/5/88
88870	5391603	3/22/88	Rpr/Rpl IW Lift Pump — north side of building	782	634	
88885	5391603	4/4/88	Rpr lift station pump alternator	3437	576	
88893	5391603	4/21/88	Rpr ST check valve and Rpr cooling sys IW lift pump	782	634	
88984	5391603	7/15/88	Rpr/Rpl the No. 2 motor	3437	543	
88927	5391603	8/4/92	Rpl HI level alarm at IW lift Station — Forrestal Pier		676	

Recorded Maintenance on IWTP Sewer Line
PWC — NAS Pensacola

W.R.	Date	Activity	Location	Date Performed (if noted)
88990	5391603	7/25/88	Rpr motor Building 3437	3437 543
88993	5251603	7/25/88	Telespect Sewer Lines 4531-534 and 535-538	
88996	5391603	7/25/88	Pur and Install Sight Glasses for Oil Capture tanks	3437 635
88387	5391603	2/9/89	Rpr/Rpl gratings on the I/W manhole South of building 3460	3460 500
88422	5391603	3/14/89	Prep and Paint Eq at 3 I/W Lift Station Building	631W 631E 627 638
88421	5391603	3/14/89	Pur and Install Mercury Vapor light West of Storage tank	3437 625
88513	5391603	5/18/89	Rpl impeller on the No. 2 pump	3437 634
88531	5251603	7/10/91	Rpl manhole covers at misc. locations	500
88550	5391603	6/20/89	Remove Contaminated Soil (oil spill) from N and W side of B 3437	3437 500
88566	5391603	7/15/89	Fab and Install 6" pipe dumping manifold with fittings	3437 633
88569	5391603	7/15/89	Rebuild No. 2 I/W Lift Pump	3437 634
88867	5391603	3/9/90	Remove and Rebuild No. 3 Lift Station Pump	3437 634
88933	5251603	5/2/90	Rpl sewer line from Bldg to 1st manhole	1982 633

**Recorded Maintenance on IWTP Sewer Line
PWC — NAS Pensacola**

W.R.		Date	Activity		Location	Date Performed (if noted)
88939	5391603	5/4/90	Reprogram Control Computer — Alternate 2 and 3 Pumps	3437	576	
88844	5251603	8/9/90	Excav and Rpr sewer line at SW comer of bldg	45	633	
88854	5391603	8/17/90	Rpr/Rpl No. 2 pump	3644	634	
88507	5251603	6/12/91	Rebuild No. 1 and 2 Lift Station Pumps	3290	634	
88860	5391603	8/27/90	rpl line shaft and bearings on #3 L.S. Pump	3437	634	
88656	5391603	11/13/91	Rpr No., 2 and 3 L.S. Pump and Assoc Piping	3437	567	
88815	5251603	4/2/92	Rpr/Rpl sewer line between 623A and 623B by B3609		633	
88974	5391603	6/5/90	Reprogram Controls — Tech Rep	3437	576	
88327	5391603	4/1/93	Check and Rpr IW lift Station Pump	7828	634	
88340	5251603	4/12/93	Excav and Rpr sewer main	1854	633	
88344	5391603	4/12/93	Rpr Ruptured IW lines between buildings (Site 30)	741/225	633	
10736	5251603	5/25/88	Ch and Rpr broken sewer main between buildings	600/3249	633	
10774	5251603	5/14/87	Repack CH valve, Dis. Valve. #1 Pump and Unjam impeller	3434	634	
10795	5251603	1/28/88	Ch/Rpr #2 Lift Pump at B 3290	3290	634	4/5/88
10708	5391603	3/5/88	Rpr I/W Lift Pump (Site 30)	3450	634	4/13/88

Recorded Maintenance on IWTP Sewer Line
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W.R.		Date	Activity		Location	Date Performed (if noted)
10737	5391603	5/26/88	Secure water to all bldgs assoc with IW	NASP	633	
10746	5391603	7/5/88	Rpr controls lift station at 356013561	3560	576	
10767	5391603	5/1/89	Rebuild the east pump at B. 631	631	634	
10795	5391603	8/2/89	Rebuild IW lift Station pump	741	634	
10700	5391603	8/2/89	Rpr/Rpl; IN line west of B3450 (Site 30)	3450	633	
10778	5391603	1/19/90	Rpr leaking IW line west of B3450 (Site 30)	3450	633	
10794	5391603	2/16/90	Rpr the No. 2 / N lift station pump	3437	634	
10743	5391603	7/8/91	Excavate and Rpr IW line at NW side of Bldg 634	634	635	
10760	5251603	2/5/93	Rebuild No 2 L.S. pump	3242	634	
10769	5391603	3/2/93	Check and rpr broken discharge line at IW Lift Station by B-782-A	782-A	634	
88656	5251603	9/12/89	Excav and Rpl Sewer main from bldg to 1st Manhole	3466	633	
88666	5391603	9/18/89	Excav and Rpr I/W Line W side of Parade Ground	NASP	633	
88327	5391603	4/1/93	Check and Rpr IW Lift Station Pump	7828	634	
88344	5391603	4/13/93	Rpr rupture IW line between buildings	741/225	633	

Recorded Maintenance on IWTP Sewer Line
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W.R.		Date	Activity		Location	Date Performed (if noted)
10779	5391603	5/22/87	Rpl impeller and pump blow, coat impeller	3437	634	
10779	5391603	12/16/87	Rpl impeller and rpr check valve on the No. 2 pump	3437	634	1/11/88
16795	5251603	1/28/88	Ch and Rpr #2 Lift Pump at B3290	3290	634	4/5/88
10702	591603	3/5/88	Rpr I/W Lift Pump	3450	634	4/13/88
10736	5251603	5/25/88	Ch and Rpr Broken sewer main between bldgs	600/3249	633	
10746	5391603	7/5/88	Rpr controls lift station at 3560/3561	3560	576	
10788	5391603	11/19/90	Rpr leaking I/W line on the W side of B 3450	3450	633	
10769	5391603	3/2/93	Check and Rpr broken discharge line at IW lift station by B782-A	782-A	634	
25157		8/2/84	Rpl lift pump	3437		
25198		8/27/84	Rpr #1 pump and check valve	3437		
25208		9/5/84	Rpl lift pump with submersible WS631	631		
25491		7/12/85	Rpl lift pump (direct replacement)	3437		
25492		7/12/85	Rpl lift pump and rebuild old pump	3434		
25578		9/10/85	Rpr IW manhole 604	604		

Recorded Maintenance on IWTP Sewer Line
PWC — NAS Pensacola

W.R.	Date	Activity	Location	Date Performed (if noted)
25597	9/30/85	Inspect IW manholes from B.604 to B3434 — Rec to rpr	NAS	
25598	9/30/85	Telespection of IW manholes from B604 to 3434	NAS	
25674	11/27/85	Manhole A-3 Raise MH and rpr top	3437	
25700	12/16/85	Req repl of IW Lift Pump	631	
25701	12/16/85	Rpl subm pump	627	
25738	12/20/85	Rpl IW Lift Pump — South Pump	3450	
25964	9/3/86	Rpl 15" IW line W of Bldg	3460	
25984	10/8/86	Rpr west IW Lift station at B 782-B	782-B	
25020	12/11/86	Jet wash and telespect IW lines	NASP	
25024	12/18/86	Rprs to misc IW manholes and piping	NAS	
25219	8/31/87	CH and Rpt the No 2 Pump (was 88658)	3568	
25256	10/21/87	Telespect IW Line (was 88657)	NAS	
25370	7/28/88	Rpl West IW pump	782	
25390	8/22/88	Rpr/Rpl IW manhole A-3 East of Murray and SW of B3557	3557	
25467	12/15/88	Rpl IW manhole A2; south of building 3434	3437	

Recorded Maintenance on IWTP Sewer Line
PWC — NAS Pensacola

W.R.	Date	Activity	Location	Date Performed (if noted)
25572	5/26/89	Clean Wet Wells 627, 631, 782B, 3434, 3437	NASP	
25693	3/19/90	Rpr/Rpl IW L.S. Pumps at 4 locations 627, 631, 741, and 3454		
25780	11/14/90	Rpl L.S. Pumps in B631W and 3568	631W/3568	
25843	6/21/91	Rep IEA Lift Station Pump at major IW lift stations	NASP	
25883	10/22/91	Emergency Rprs to IW manhole Murray Blvd		
25075	4/15/93	Telespect & Rpr IW lines (was 94698)	NAS	
25097	5/20/93	Rpr IW line between 742 and 782	742/782	
25128	10/8/93	Reroute IW line and Tie to DW Line	7828	
25129	10/8/93	Telespect all IW lines at NASP		

Reference: Summarized from PWC Maintenance Records