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CONTAMINATION ASSESSMENT REPORT ADDENDUM WITH TRANSMITTAL FOR SITE 1140NW OUTLYING LANDING FIELD BRONSON NAS PENSACOLA FL

06/18/1997

NAVY PUBLIC WORKS CENTER

CONTAMINATION ASSESSMENT REPORT

U.S. NAVY OUTLYING LANDING FIELD (OLF) BRONSON
SITE 1140-NW
PENSACOLA, FLORIDA

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 3887
PENSACOLA, FLORIDA 32508-6500

AUTHOR: GREG CAMPBELL, P.E.
JUNE 1997

PREPARED FOR:

SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P.O. BOX 190010
NORTH CHARLESTON, SOUTH CAROLINA 29418

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Ser 1785
18 June 1997

Mr. John Mitchell
Remedial Project Manager
Florida Dept. Of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: CONTAMINATION ASSESSMENT REPORT (CAR) - SITE 1140-NW, U.S. NAVY OUTLYING LANDING FIELD (OLF) BRONSON, PENSACOLA, FLORIDA

Dear Mr. Mitchell:

Enclosed are two copies of the reference report for your action. If you have any questions, please contact Mr. Greg Campbell of my staff at (904) 452-3180 or 452-4315.

Sincerely,

FRANK STUART
Director, Environmental
Engineering Division
By direction of
the Commanding Officer

Enclosure: (2 copies)
(1) Contamination Assessment Report (CAR)
Site 1140-NW, U.S. Navy Outlying Field (OLF)
Bronson, Pensacola, Florida

Copy to:
SOUTHNAVFACENGCOM (Code 18410, Byes Glover)
NAS Envir. Dept. (Dean Spencer, Code 00500)

ORIGINATED BY:

DATE:

Initialing on ladder indicates: For originator - your best efforts and complete staff work.
For others - your concurrence in content; otherwise attach memo.

DEPARTMENT OF THE NAVY
NAVY PUBLIC WORKS CENTER
310 JOHN TOWER ROAD
PENSACOLA, FLORIDA 32508-5303

IN REPLY REFER TO:

5090
Code 911.4
Ser 1785
18 June 1997

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Site 1140-NW
Pensacola, Florida

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Pensacola, Florida

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1.0 INTRODUCTION

1.1 PURPOSE

The Navy Public Works Center, Naval Air Station, Pensacola, Florida, was retained by Southern Division Navy Facilities Engineering Command (SOUTHNAVFACENGCOM) to conduct a Contamination Assessment and Remediation Plan (if warranted) at the U.S. Navy Outlying Landing Field (OLF) Bronson, Site 1140-NW, Pensacola Naval Air Station, Pensacola, Florida.

Petroleum contamination was discovered at the site on June 29, 1994, during the removal of one (1) underground storage tank (1,000 gallon capacity) previously used to store heating fuel oil.

The underground tank, approximately 50 years old, was used to store heating fuel oil. A Discharge Reporting Form from the Commanding Officer, Naval Air Station Pensacola, was submitted to Mr. W. E. Grimsley, Environmental Health Services, Pensacola, Florida on January 16, 1996.

The findings and conclusions of the field investigation for the Contamination Assessment for OLF Bronson Site 1140-NW are presented herein.

1.2 SITE LOCATION AND AREA OF INVESTIGATION

Site 1140-NW is located within the confines of OLF Bronson which consists of approximately 950 acres of mostly grass and forest. OLF Bronson is located in northwest Florida, on the east side of Perdido Bay, approximately 5 miles west of Pensacola, Florida and about one mile from the Alabama border. Located on OLF Bronson are four abandoned airstrips and the remains of old support buildings for the airfield. OLF Bronson is now known as Blue Angel Recreation Park and is used for recreational purposes. Figure 1-1 shows the facility in relation to surrounding area. Most runoff from the property is toward the southwest through a network of culverts that lead to Perdido Bay. Figures 1-2 thru 1-5 show topographic and local surface drainage features.

The area surrounding OLF Bronson is sparsely populated. Two small communities, Paradise Beach and Perdido Heights, are located about a mile to the north of the old airfield. A few houses are located around the perimeter of the old airfield, but most of the surrounding area is either wetland, forest, or the waters of Perdido Bay. The areas north, south, and east of OLF Bronson are characterized by scattered residential structures, mobile homes, farm buildings, stores, and churches. Perdido Bay is located west of OLF Bronson.

Specifically, Site 1140-NW is located at latitude 30°23'04" N, longitude 87°25'35" W. The 1,000 gallon underground fuel oil tank was removed from the site on June 29, 1994 by PWC personnel. The site is located on the northwest corner of the remains of building 1140. South of the site is a guard shack and flag pole; to the north is the MWR boat pier, an MWR building, and Country Store; to the east is a main road running north to south and one of the

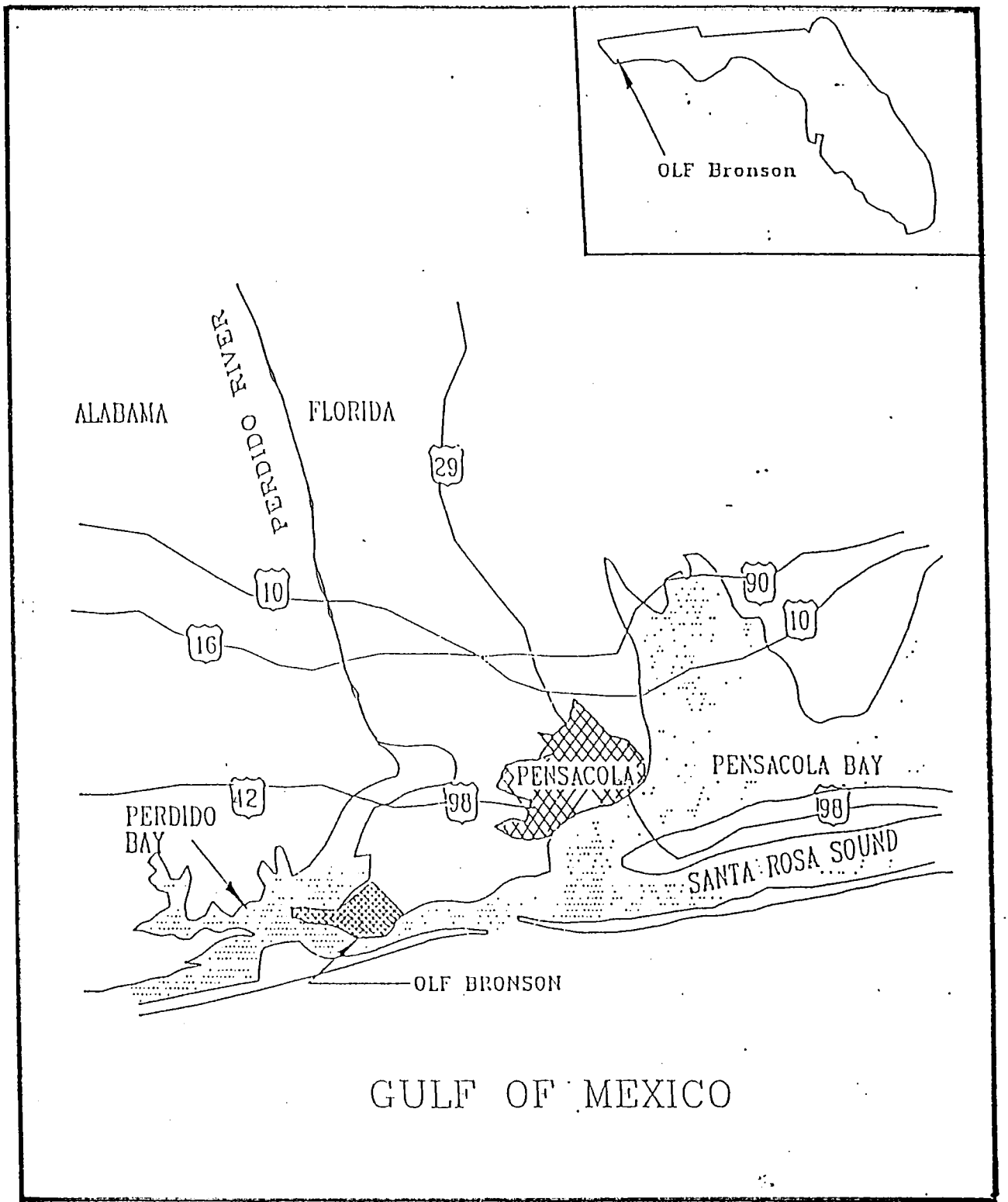


FIGURE 1-1.
OLF Bronson
VICINITY MAP

Key:

Highway

Water Way

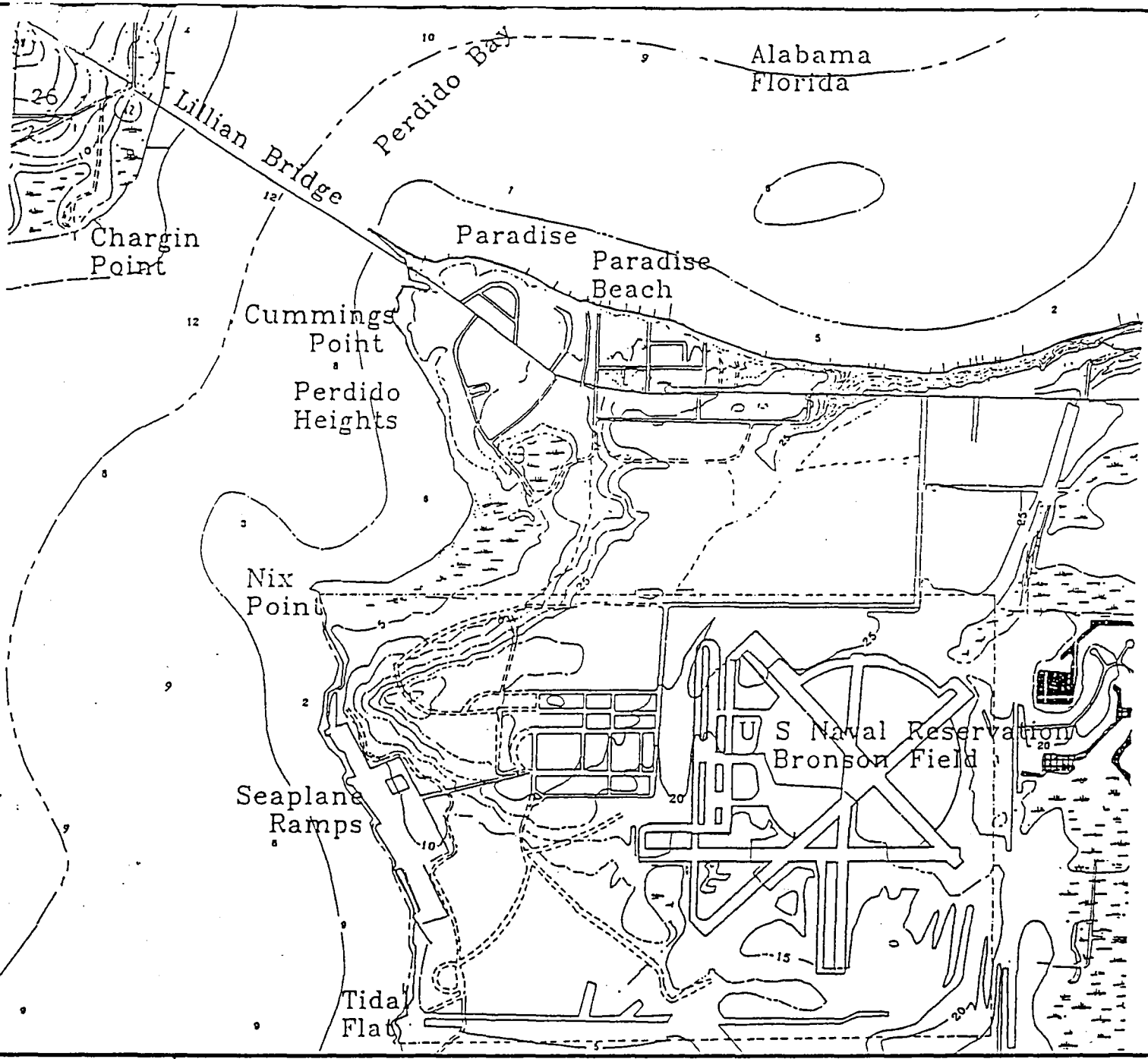


Figure 1-2
OLF Bronson
Topographic Map

Key:
Base Border ----------

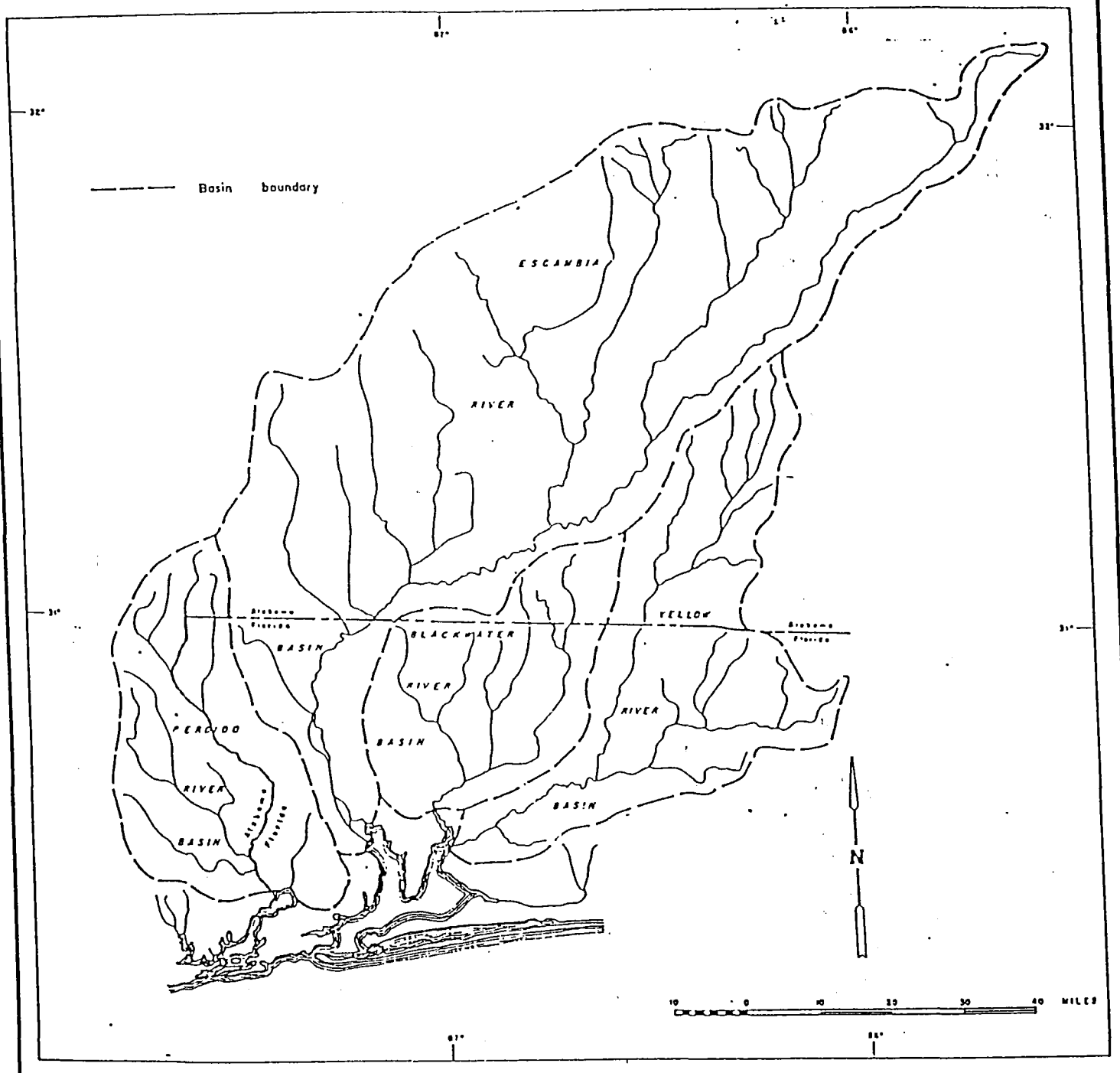


Figure 1-3
OLF BRONSON

Key: Basin Map of Perdido, Escambia, Blackwater, & Yellow Rivers (Modified After Musgrove ET. AL., 1965).

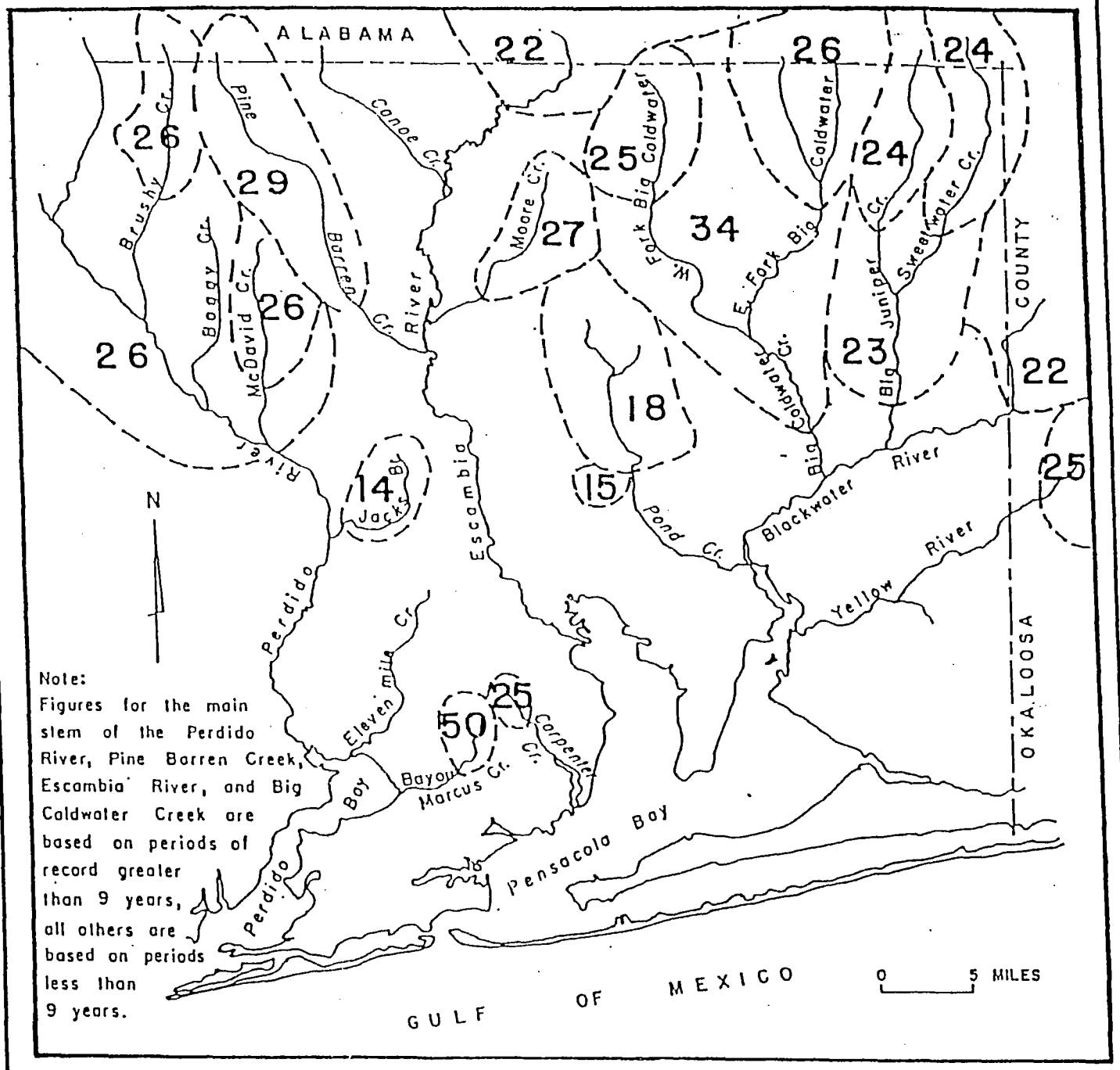


Figure 1-4
OLF BRONSON

Key: Approximate Average Annual Runoff (Inches) From Areas Within Escambia & Santa Rosa Counties (Modified After Musgrove ET. AL.,1965).

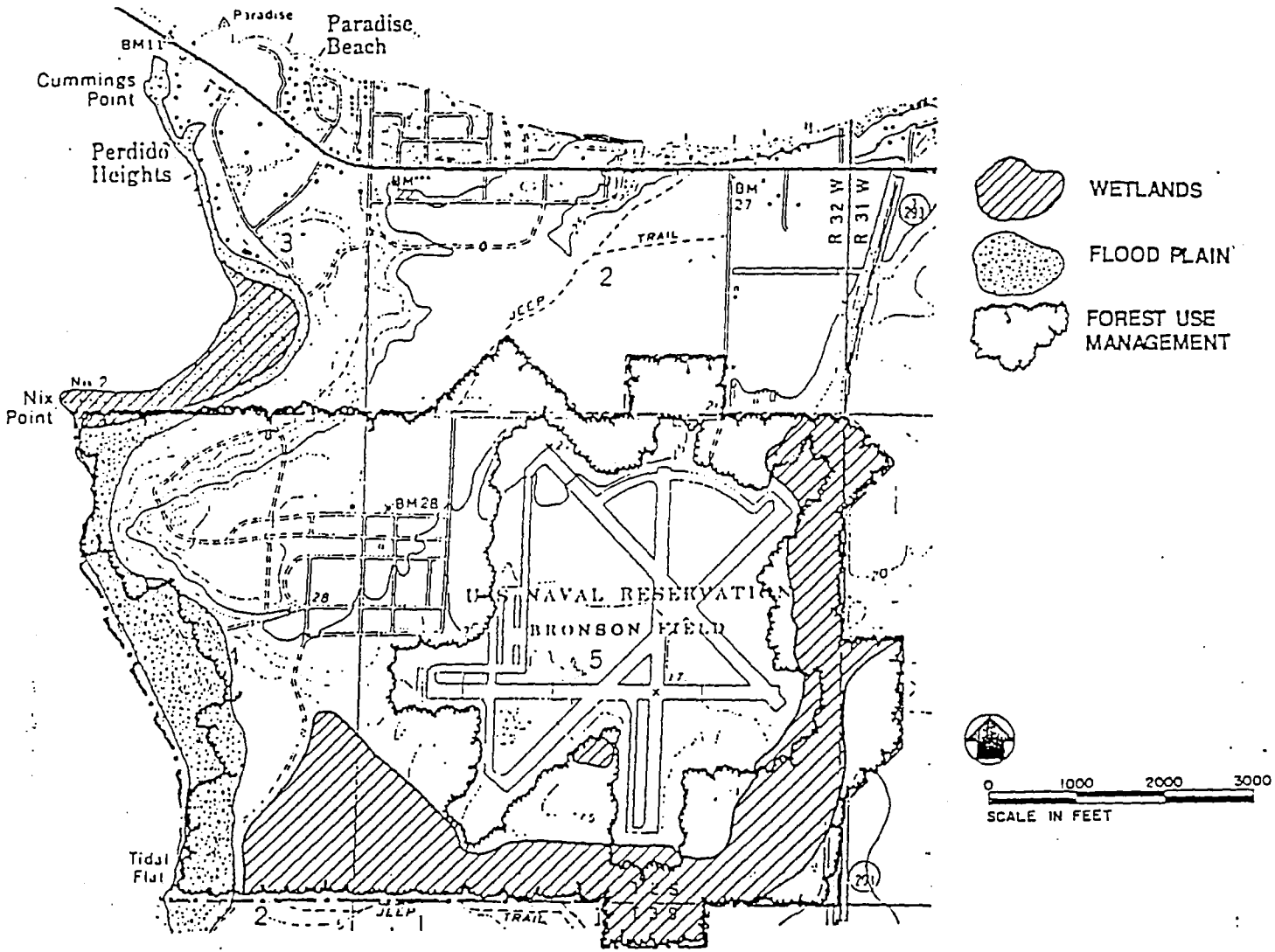


Figure 1-5
OLF Bronson
Flood Plain Area

base campgrounds; and 300 feet to the west is Perdido Bay. Site location maps are included in Figures 1-6 and 1-7 to show locations of buildings, facility boundaries, and former tank.

1.3 SITE HISTORY AND OPERATIONS

OLF Bronson was used as an Outlying Landing Field for NAS Pensacola from 1942-1950. When first opened in 1942, the 950-acre airfield was originally called Tarkiln Field, but in 1944 the name was changed to OLF Bronson. During that time the base used large amounts of aviation gasoline, oil products, and solvents. OLF Bronson was closed as an active airfield in late 1950. Presently, all the runways are inactive. Helicopters from Combat Support Squadron 16 used the area for occasional training until the squadron was dismantled in 1995. All buildings at OLF Bronson have been dismantled and parts of the base have been sold to private parties. Maps of OLF Bronson show building 1140 was designated as a boat shed and pier. The only current employees at Bronson are Morale Recreation and Welfare (MWR) personnel. Duties of MWR personnel at OLF Bronson include operating the campground, minor maintenance of the facility, and teaching sailing and windsurfing.

In 1990, Southern Division Naval Facilities Engineering Command contracted the engineering services of E.C. Jordon Consultants to develop a petroleum underground storage tank program for OLF Bronson. Under that contract all but 35 underground storage tanks (UST) and the piping associated with the tanks were removed. In September 1993, the Navy Public Works Center was retained by the Southern Division Naval Facilities Engineering Command to remove the remaining 35 underground storage tanks.

1.4 INITIAL REMEDIAL ACTION

On June 29, 1994, Navy Public Works Center personnel observed no signs of petroleum soil contamination at Site 1140-NW during the removal of one (1) underground fuel oil storage tank. The limits of the excavation were tested and no contamination was detected.

1.5 RESULTS OF PREVIOUS INVESTIGATIONS

A Closure Assessment was performed during the removal of the underground fuel oil tank which consisted of collecting and analyzing five soil samples and one groundwater sample. All five soil samples were analyzed for priority pollutant volatiles using EPA Method 8260. The groundwater sample was analyzed for volatile aromatics (EPA Method 8260) and polynuclear aromatics (EPA Method 8270A). Copies of the laboratory reports are included in Appendix D.

On July 20, 1994, soil samples collected from Site 1140 North, South, East, and West of the excavation were analyzed for volatiles and semi-volatiles using EPA Method 8260. All contamination levels were below FDEP allowable regulatory levels.

On July 20, 1994, a soil sample collected from Site 1140 Fill Dirt was analyzed for volatile and semi-volatile organics by EPA Method 8260. All contamination levels were below FDEP allowable regulatory levels.

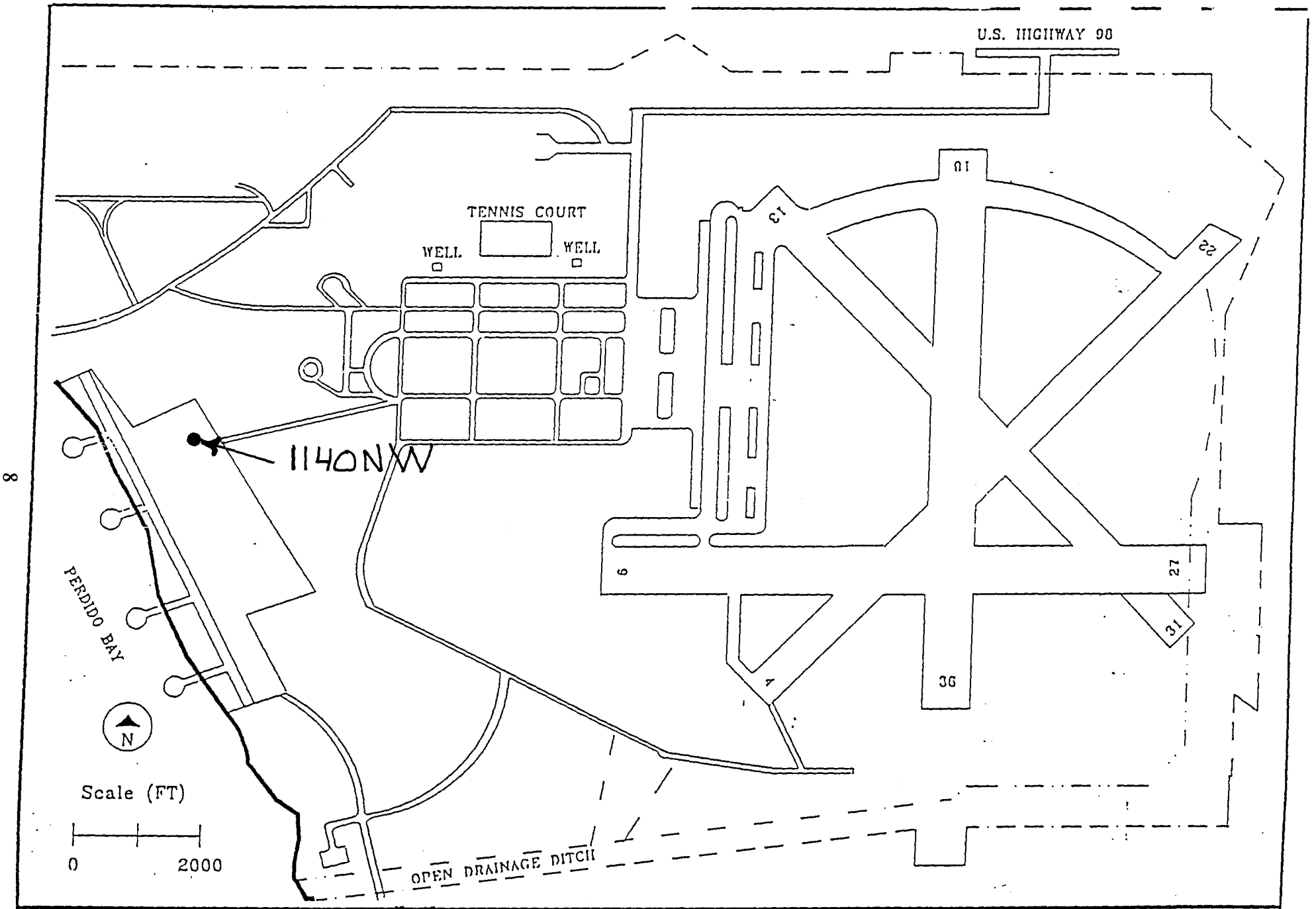


FIGURE 1-6
OLF BRONSON BASE MAP

KEY
— — OPEN DRAINAGE DITCH
—·— NAVAL PROPERTY LINE

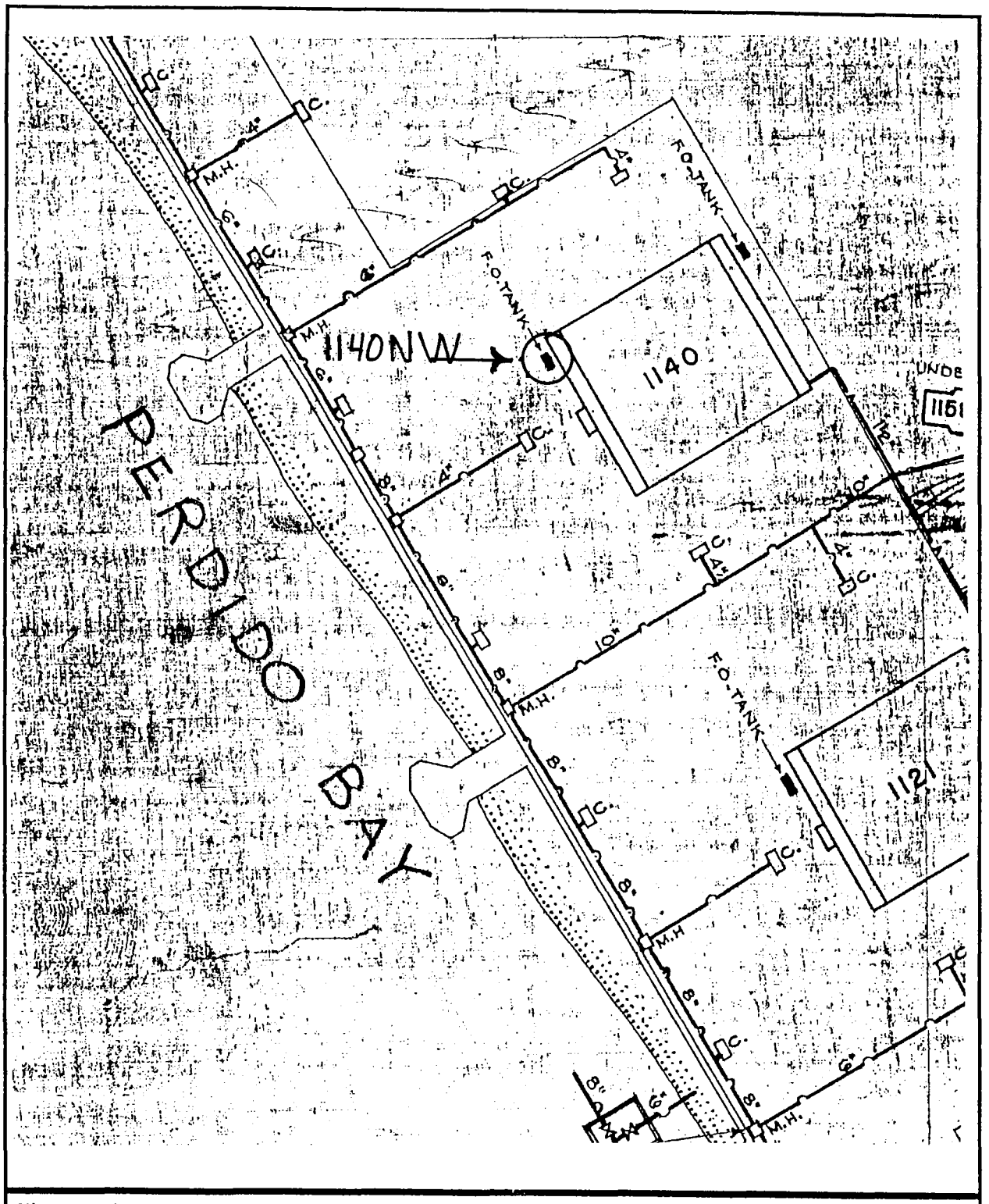


Figure 1-7
OLF Bronson
Site 1140-NW

N

On May 25, 1995, a shallow groundwater monitoring well MW-16 (later renamed MW-1) was installed at Site 1140-NW by FGS Inc.. Figure 2-2 shows the location of monitoring well MW-1. A Well Sample Record and Well Construction Diagram for monitoring well MW-16 is included in Appendix A. A copy of the lithological log for monitoring well MW-16 is included in Appendix C.

On May 30, 1995, a groundwater sample was collected from MW16/1140 and analyzed for volatile organic aromatics (VOAs) by EPA Method 8260 and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270A. Analyses for VOAs indicated all contamination levels were below detection limits. Fluorene, 1-methylnaphthalene, 2-methylnaphthalene, and total naphthalenes were detected at levels of 5 ppb, 20 ppb, 30 ppb, and 50 ppb, respectfully, which exceeded FDEP regulatory limits (detection limit) for fluorene and was less than the FDEP regulatory limits of 100 ppb for total naphthalenes. A summary of the PAH analytical results for the groundwater sample is shown in Table 1-1.

1.6 REGIONAL GEOLOGY AND HYDROGEOLOGY

Figure 1-8 displays the soil configuration map as of 1991. Surface sediments in the Bronson Field area are classified with the Croatan, Foxworth, Hurricane, Lakeland, Leon, Pickney, Pottsburg, and Urban Land associations.

OLF Bronson resides along the western edge of the Florida Panhandle within the Coastal Plain Province. The Coastal Plain, a major physiographic division of the United States, extends eastward from Texas and northward as far as New York. It consists of cretaceous to recent age beds of sand, silt, limestone, and clay that dip gently seaward. Most of these sediments were deposited during higher stands of the sea as the Mississippi River system transported eroded debris southward. The Gulf Coast region of the United States is the landward side of the most active geosyncline in North America. The formations which make up the landward side of the geosyncline are all wedge-shaped, thickening rapidly from the outcrop gulfward to the south.

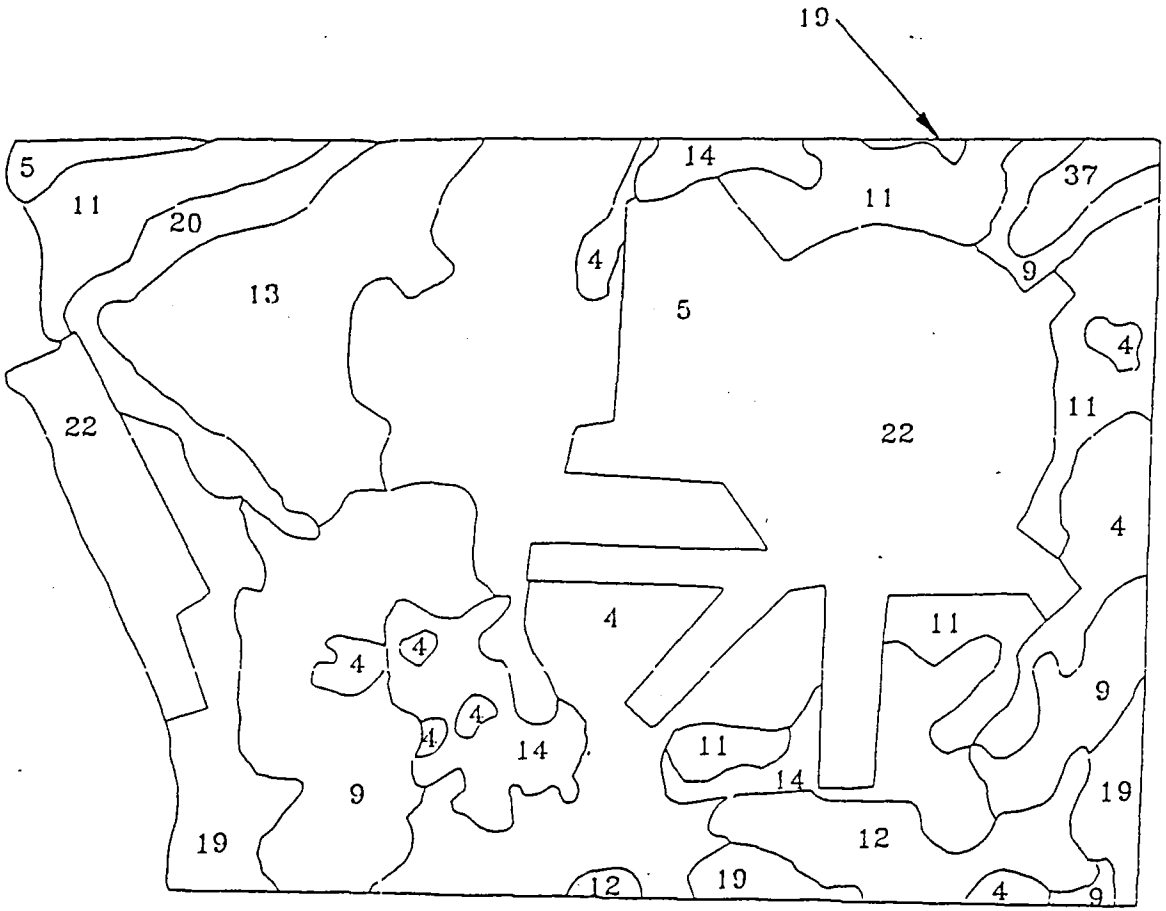
More precisely, OLF Bronson resides with the Coastal Lowland topographic subdivision of the Coastal Plain which consists of relatively undissected, nearly level plains lying less than 100 feet above sea level (Marsh, 1966). It is situated along the north flank of the Mississippi Embayment, which accounts for the characteristic southwestward dip of cretaceous and younger strata (Figure 1-9 thru Figure 1-12).

Figure 1-13 describes the geologic sequence by a representative log of an oil test well near Pensacola. For the region of study, a thick sequence of sand, gravel, and clay extends from the surface to as much as 1000 feet deep. Nearly all wells in this area tap permeable sediments within this sequence - collectively referred to as the Sand-and-Gravel Aquifer. In the southern part (where OLF Bronson resides), the two aquifers are separated by a thick clay unit of Miocene age, which serves to confine the water that is present in the upper limestone of the Floridan Aquifer (Figure 1-14). An extensive clay bed, the Bucatunna Clay Member of the Byram Formation, underlies the upper limestone of the Floridan Aquifer and forms an aquiclude throughout the area. The lower limestone of the Floridan Aquifer

TABLE 1-1
SUMMARY OF PAHs
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLE
COLLECTED FROM MONITORING WELL MW-16
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NW

PARAMETER: PAHs	B1140-NW MW-16
Acenaphthene	BDL
Acenaphthylene	BDL
Anthracene	BDL
Benzo(a)anthracene	BDL
Benzo(a)pyrene	BDL
Benzo(b)fluoranthene	BDL
Benzo(g,h,i)perylene	BDL
Benzo(k)fluoranthene	BDL
Chrysene	BDL
Dibenzo(a,h)anthracene	BDL
Fluoranthene	BDL
Fluorene	5
Indeno(1,2,3-cd)pyrene	BDL
Naphthalene	BDL
Phenanthrene	BDL
Pyrene	BDL
1-Methylnaphthalene	20
2-Methylnaphthalene	30
TOTAL NAPHTHALENES	50

NOTES: BDL = Below detection limits.
Groundwater samples were collected on May 30, 1995.
All results are reported in parts per billion (ppb) unless otherwise noted.



4 Pickney Sand

5 Croatan & Pickney Soils, Depressional

9 Leon Sand

11 Hurrricane Sand

12 Croatab Muck Depressional

13 Lakeland Sand, Level

14 Pottsburg Sand

19 Foxworth Sand

20 Lakeland Sand Gentle Slope

22 Urban Land

37 Pickney Mucky Sand Depressional

N

Scale (FT)

0 2000

Figure 1-8
OLF Bronson
Soil Map
(Modified Ater U.S.D.A 1991)

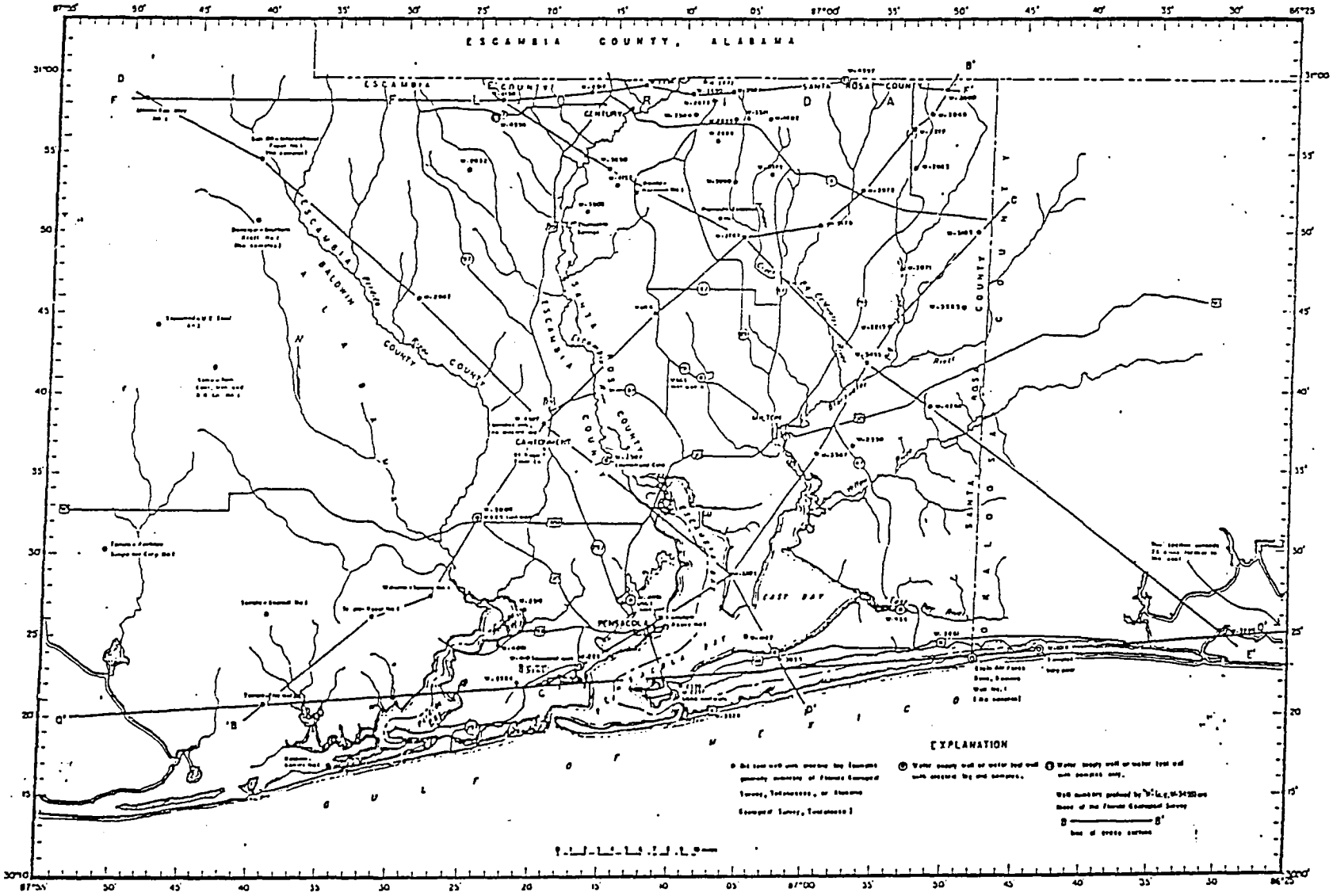


Figure 1-9
OLF Bronson

Key: Map of Westernmost Florida & Southwestern Alabama Showing Locations of Cross Sections & Wells Used in This Report (Modified After Marsh, 1966).

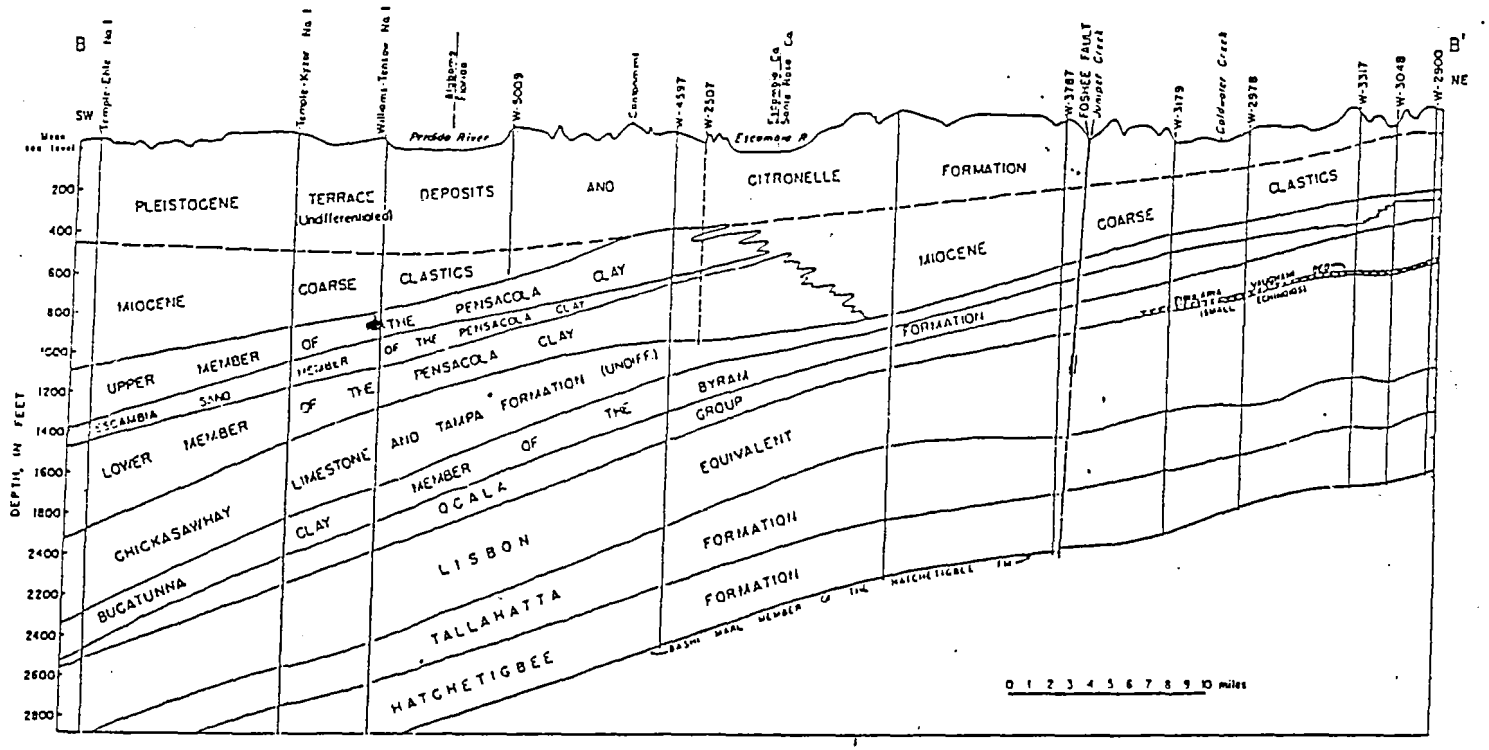


Figure 1-10
OLF Bronson

Key: Geologic Cross Section B–B' Across Escabia & Santa Rosa Couties (Modified After Marsh, 1966). Section Parallels the Regional Dip.

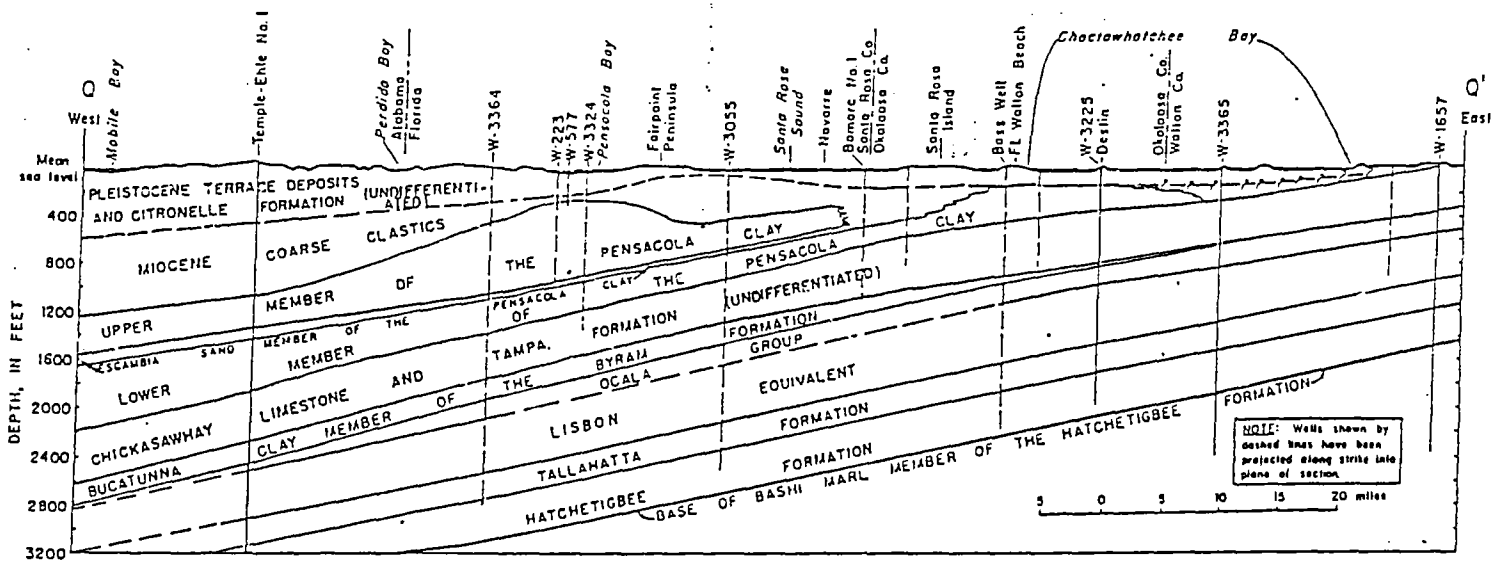


Figure 1-11
OLF Bronson

Key: Geologic Section Q–Q' From Mobile Bay to the Choctawhatchee River (115 Miles) Showing Formations along the Gulf Coast of Western Florida (Modified After Marsh, 1966).

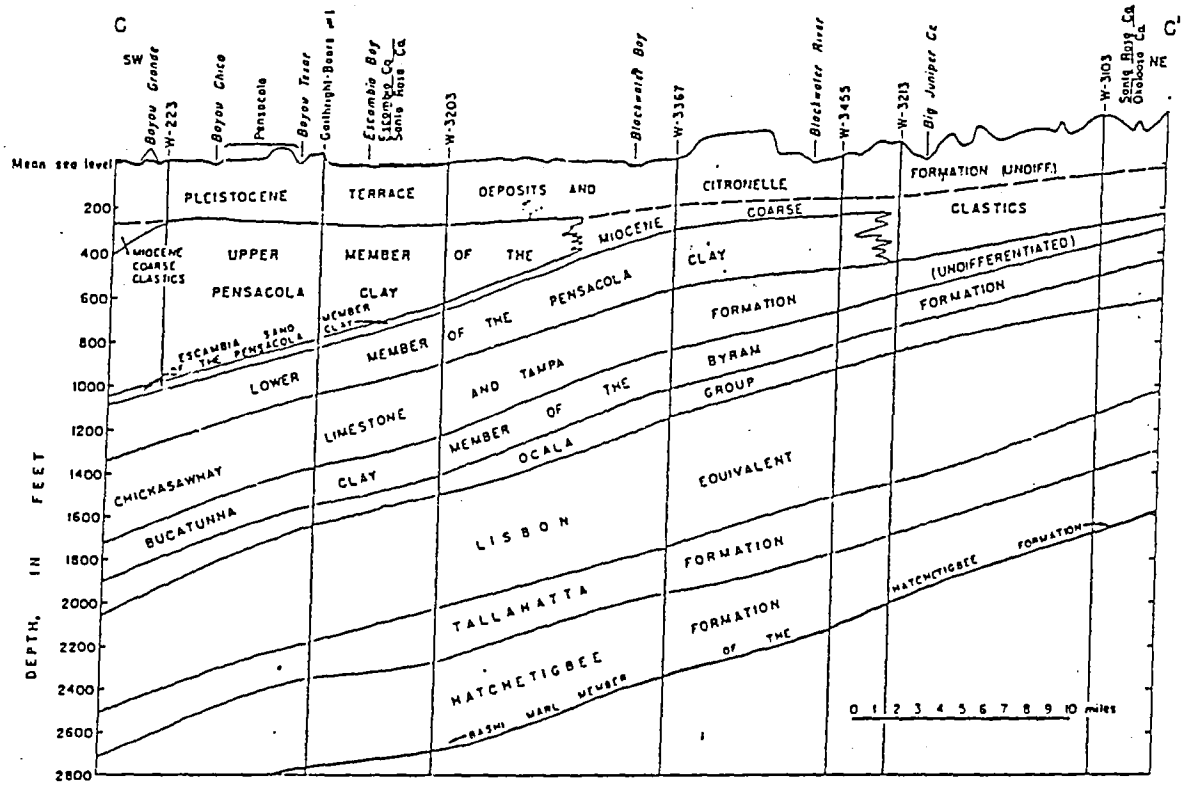


Figure 1-12
OLF Bronson

Key: Geologic Section C–C' Across Escambia & Santa Rosa Counties (ModifiedAfter Marsh, 1966). Section is Parallel to Regional Dip.

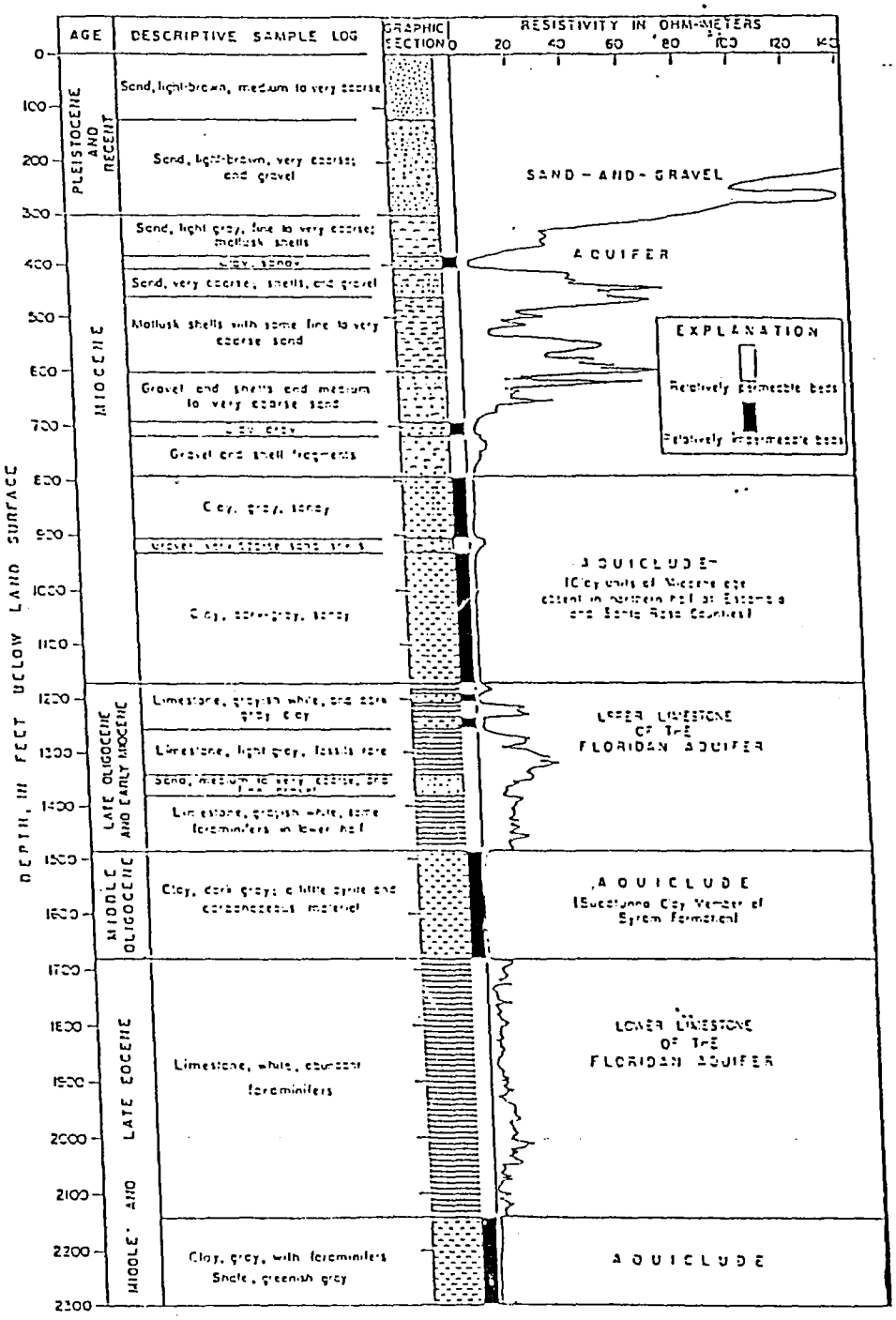


Figure 1-13
OLF Bronson

Key: Representative Geologic Sequence Based on Log of Oil Test Well Located Near Pensacola (After Marsh, 1966).

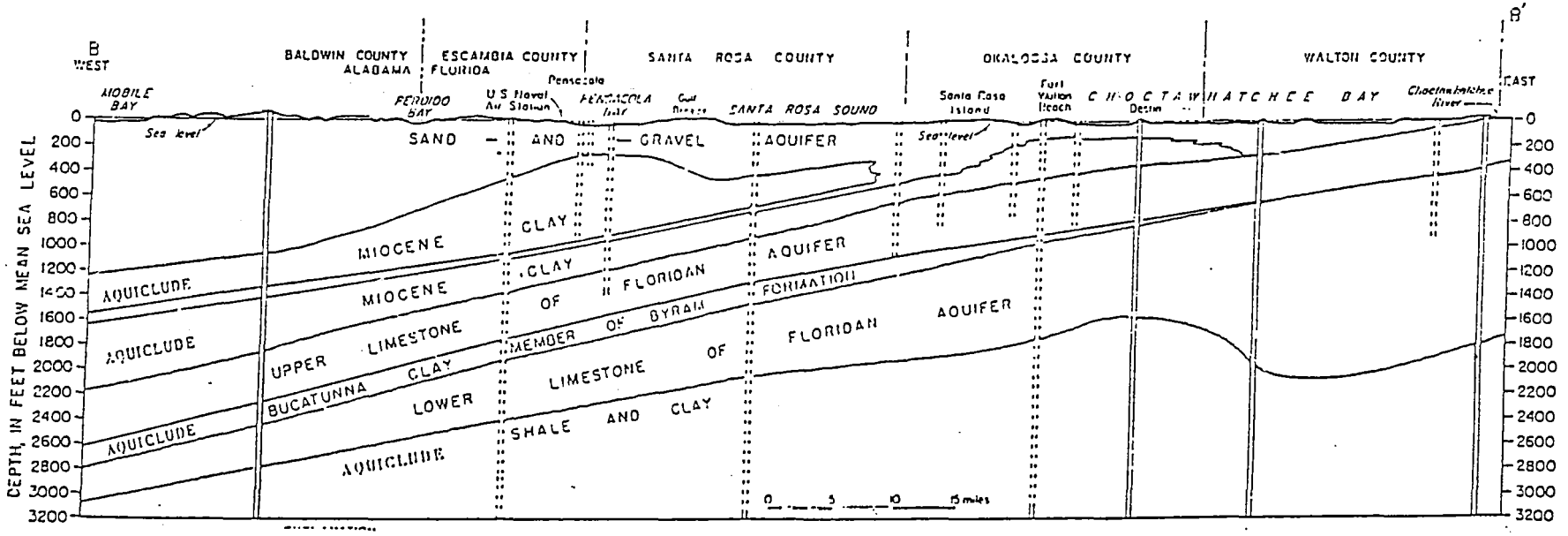


Figure 1-14
OLF Bronson

Key: Geologic Section Across Escambia & Santa Rosa Counties Showing Aquifers & Aquicludes Along Section B-B' in Figure 8 (Modified After musgrove ET. AL., 1965).

underlies the Bucatunna and rests upon relatively impermeable clay and shale. Within the area, no freshwater aquifers occur below the lower limestone of the Floridan Aquifer. More than 99 percent of groundwater utilized for drinking and industrial purposes in the region is obtained from the Sand-and-Gravel Aquifer.

Parts of the Sand-and-Gravel Aquifer have a rather high average porosity and permeability and are thus excellent reservoirs for groundwater. The aquifer primarily consists of relatively insoluble quartz grains, which accounts for the low mineral content and softness of this water. The groundwater conditions are complicated by great lithologic variability due to facies changes during deposition. Groundwater is under artesian pressure where lenses and layers of clay, sandy clay, or hardpan overlie a saturate permeable bed. Groundwater is under non-artesian conditions where such clays or hardpan are absent or where the permeability is not completely saturated. It is common for a well to tap both artesian and non-artesian sources. Groundwater in the Sand-and-Gravel Aquifer is derived almost entirely from rain falling in the area. Recharge is greatest where land is relatively flat. The aquifer is discharged by pumping, evapotranspiration, and seepage into streams, swamps, bays and the Gulf of Mexico.

The gradient along the potentiometric surface in the shallow beds of the Sand-and-Gravel Aquifer generally indicates movement of groundwater toward nearby streams. The seepage of this groundwater supplies more than half of the entire flow of the smaller streams in Escambia and neighboring Santa Rosa Counties. Average velocity of groundwater was previously computed to be approximately 100 feet per year in the Pensacola area. The water table tends to be highest under the broad, relatively level lands that are at a higher elevation than the surrounding lands.

The artesian pressure head of water in the lower permeable beds of the Sand-and-Gravel Aquifer does not conform to the topography of the land as much as the water table. The artesian pressure head of water from the lower beds indicates a general movement of water to the south. The head of water in the northern part of Escambia and Santa Rosa Counties is usually more than 100 feet above sea level and at some places exceeds 150 feet. In the central part of the counties, the artesian pressure head is about 30 to 80 feet above sea level except near the large rivers. Upward leakage of groundwater probably occurs, which lowers the pressure head of the groundwater. The artesian pressure head of water under the lands adjacent to the bays is usually less than 20 feet above sea level and is often less than 10 feet above sea level.

Pumping tests on nearby wells screened within the Sand-and-Gravel Aquifer indicate specific capacity values that range from 30 to 80 gallons per minute per foot of drawdown. Aquifer tests performed on wells penetrating the Sand-and-Gravel Aquifer owned by the City of Pensacola, the U. S. Navy (at NTTC Station), and Newport Industries indicate transmissivities ranging from 58,800 to 94,000 gallons per day per foot.

With few exceptions, the sum of the mineral constituents in the groundwater of the Sand-and-Gravel Aquifer is very low, ranging from 12 to 36 ppm. Water in this aquifer is exceptionally soft, generally containing 4 to 30 ppm of calcium and magnesium carbonates. The fluoride content of this water is usually less than 0.2 ppm. Iron content of water from this aquifer

ranges from 0.06 to 4.9 ppm, although it is generally less than 0.15 ppm. Copious amounts of carbon dioxide render much of the water acidic. In some areas water contains hydrogen sulfide in solution. Carbon dioxide measurements in waters beneath NAS Pensacola have been as high as 100 mg/l. However, elsewhere in the area, carbon dioxide concentrations are generally less than 30 mg/l. In Bronson Field groundwater reserves, chloride is the major anion and is generally accompanied by a predominant sodium cation.

1.7 WELL SURVEY

Escambia County Utilities Authority (ECUA) operates two potable water wells (#1 and #2) located at OLF Bronson. The wells are permitted by the Northwest Florida Water Management District and are used to supply potable water to the base and to ECUA customers in the Perdido Key Community. Both wells are located within a ½ mile radius of the site, but are not located within a 1/4 mile radius of the site. Construction details of the two wells are shown in Table 1-2. Potable water well #1 was taken out of service in June 1995.

2.0 SITE ASSESSMENT

2.1 SOIL BORING AND MONITORING WELL CONSTRUCTION DETAILS

PWC personnel initiated the investigation with the installation of 15 soil borings to a depth of 6 feet below land surface (BLS). These borings were installed by W.E.S., Inc. on March 26, 1996. The soil borings were installed using a hollow stem auger. The augers were decontaminated between borings. Soil samples were collected from each borehole at 1, 3, 5, and 6 feet BLS and analyzed for volatile organic vapors using an organic vapor analyzer (OVA) with a flame ionization detector. Soil boring cuttings were placed back into the boreholes upon completion of installation. A location map showing the borehole locations is shown in Figure 2-1.

Shallow monitoring wells MW-2 thru MW-6 were installed at Site 1140-NW by W.E.S., Inc. on April 4, 1996. The monitoring wells were placed around the perimeter and 30' from monitoring well MW-1 (closure well). Shallow monitoring wells MW-7 thru MW-11 were installed at the site on May 16, 1996. Their placement was based upon the analytical results of monitoring wells MW-2 thru MW-6 which had detected PAH contaminations (see Table 1-1). Vertical extent monitoring well DMW-12 was completed at the site on May 26, 1996. On August 14, 1996, shallow monitoring well MW-13 was installed downgradient of monitoring well MW-12 which showed minimal petroleum contamination. Soil samples were collected from each of the boreholes during the installation of groundwater monitoring wells at 3, 4, and 5 feet BLS. Each soil sample collected was analyzed for volatile organic vapors using an organic vapor analyzer (OVA) with a flame ionization detector. Monitoring well locations are shown in Figure 2-2. Construction diagrams for monitoring wells MW-2 thru MW-13 are shown in Appendix A.

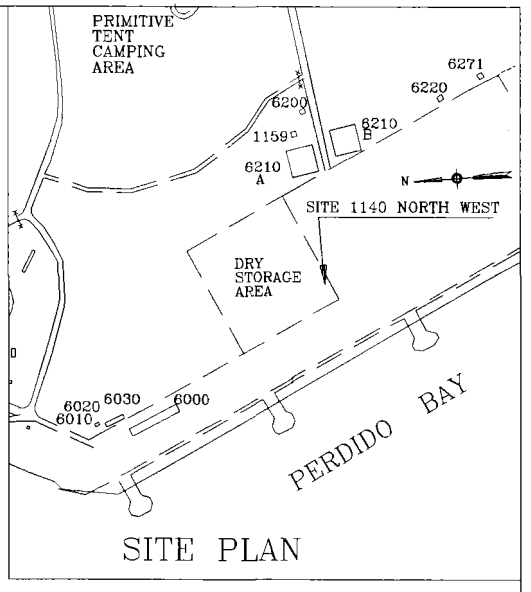
The shallow monitoring wells consist of a 2-inch diameter by 10.0 feet of 0.010-inch slotted schedule 40 PVC pipe, threaded to 3.5 feet of solid PVC riser (exception is MW-13 with 3.0'

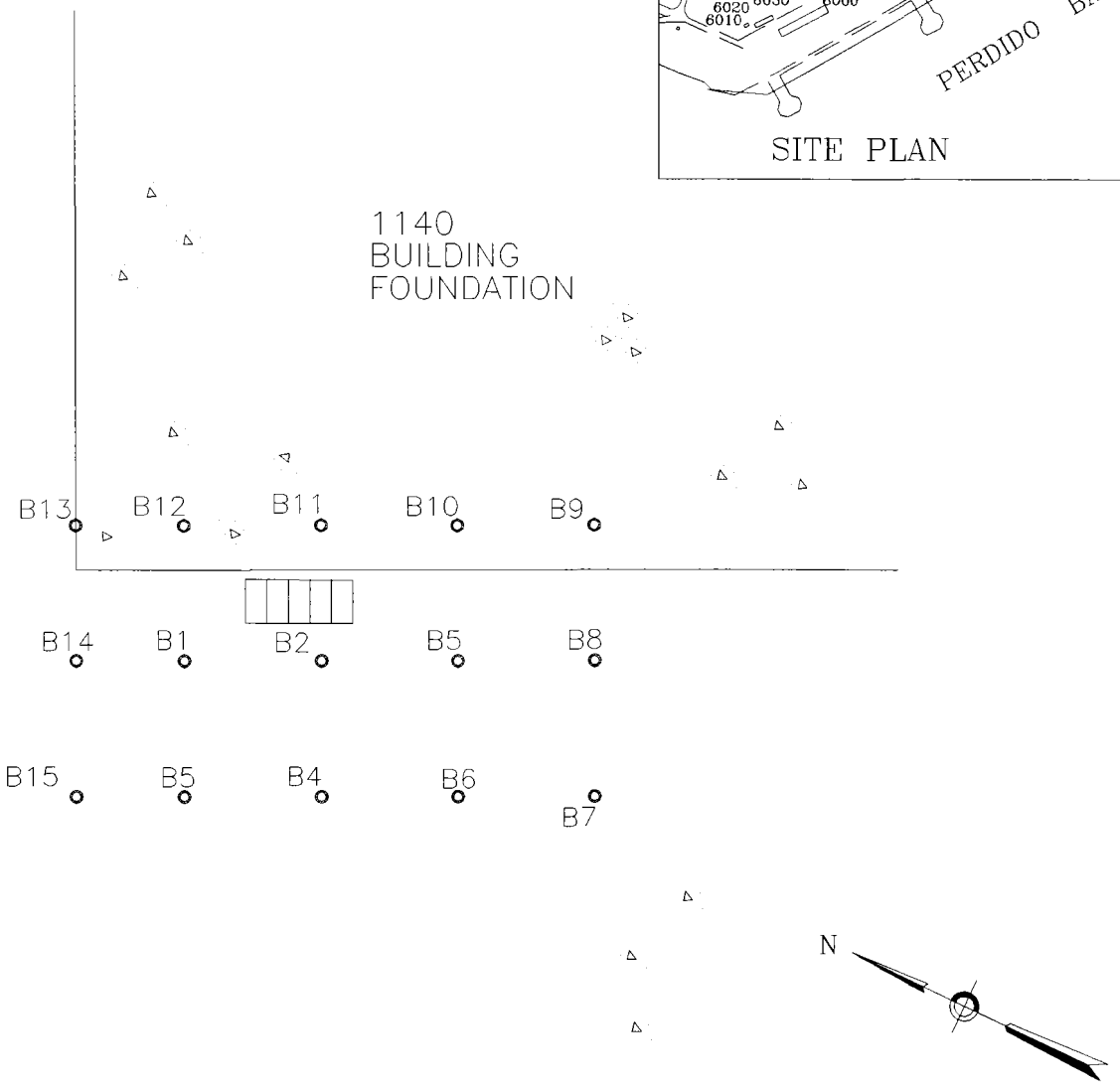
TABLE 1-2

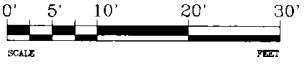
CONSTRUCTION DETAILS OF WATER-SUPPLY WELLS

OLF BRONSON WELL NUMBER	#1	#2
Year Drilled	1942	1943
Depth Drilled	245ft	248ft
Length, outside casing	126ft 9in	120ft
Diameter, outside casing	24in	24in
Material, outside casing	Black Steel	Black Steel
Depth to static water level	26ft	23ft 4in
Normal suction lift (wkng. level)	53ft	43ft
Normal yield, GPM	800	800
Test yield, GPM	1007	1012
Type of grout	Type 1 Portland	Type 1 Portland
Drilling method	Reverse Flow	Reverse Flow
Type of strainer	Shutter Bronze	Shutter Bronze
Depth to top of strainer	135ft	144ft
Protection from surface water?	Yes	Yes
Is inundation of well possible?	No	No
Sale intrusion noted in past?	No	No
Has the well ever been contaminated?	No	No
Pump manufacturers' name	Layne Bowler	Layne Bowler
Model number	11 8MH	11 8MH
Capacity GPM	750	800
Check valve present in line?	Yes	Yes
Date of last servicing	4/26/94	5/11/95
Maintenance schedule (day/mo.)	Daily	Daily

Notes: uk=unknown
s.s.=stainless





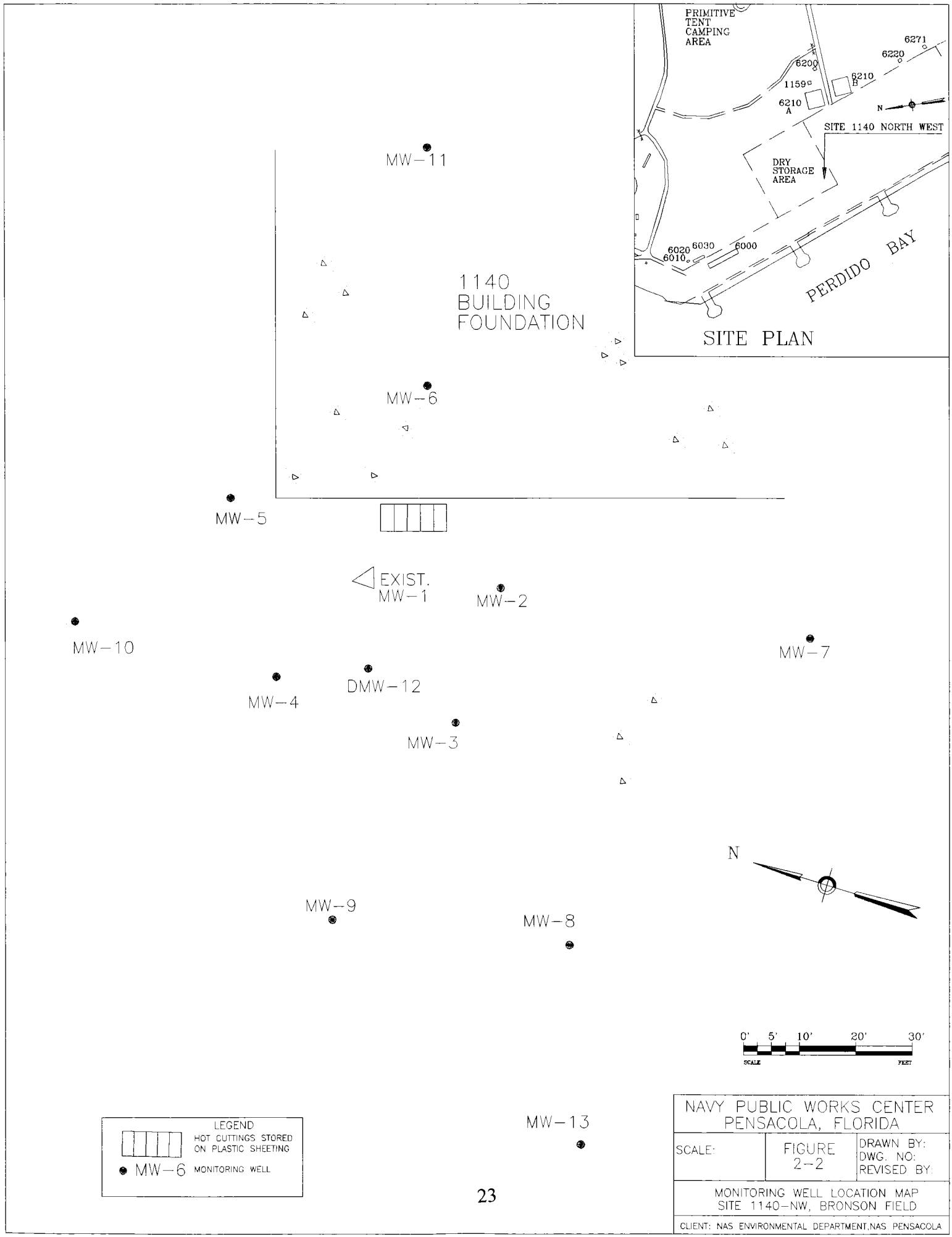


LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

B14 SOIL BORING LOCATION MAP

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2--1	DRAWN BY: DWG. NO: REVISED BY:
SOIL BORING LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
1140 BUILDING FOUNDATION
MW-6
MW-5
EXIST. MW-1
MW-2
MW-10
MW-7
MW-4
DMW-12
MW-3
N
MW-9
MW-8
0' 5' 10' 20' 30'
SCALE FEET
MW-13
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-2
DRAWN BY:
DWG. NO:
REVISED BY:
MONITORING WELL LOCATION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA

of riser). The wells were completed in approximately 8-inch diameter boreholes approximately 13.5 feet in depth (exception is MW-13 at 13.0 feet in depth) using the hollow stem auger drilling method. A sand pack consisted of course silica sand (sand pack mesh size 20-30) and extended approximately one foot above the top of the well screen. A one foot bentonite seal was placed above the sand pack, and the remaining annular space was filled with neat cement grout. The PVC casing was brought up to 0.2' below ground level. A steel manhole cover was placed in borehole around the PVC riser and set with neat cement. An 8-inch diameter steel manhole cover was placed over the manhole. A 2 foot by 2 foot concrete pad was installed around the outside of the manhole cover at the top of the land surface.

Vertical extent monitoring well, designated DMW-12, was completed by W.E.S., Inc., on May 26, 1996. The monitoring well was set at 24.5 feet BLS with 5 feet of 2-inch diameter 0.010-inch slotted schedule 40 PVC screen, threaded to 19.5 feet of solid schedule 40 PVC riser casing. The PVC casing was extended to 0.2 feet below ground level. A steel manhole casing (8-inches diameter x 4-inches deep) was placed in the borehole around the PVC riser and set with neat cement grout. An 8-inch diameter steel manhole cover was placed over the manhole. A 6-inch thick concrete encasement (4,000 psi) was installed around the outside of the manhole and flush to the land surface. A sand pack consisting of course silica sand (sand pack mesh size 20-30) was filled from the bottom to one foot above the screen, followed by a one foot fine sand seal above the sand filter pack, followed by neat cement grout from the top of the fine sand seal to the surface.

2.2 GROUNDWATER FLOW DIRECTION

The top of casing (TOC) elevations for shallow monitoring wells MW-2 thru MW-6 were surveyed by Charlotte Engineering and Surveying, Inc. on April 16, 1996. The top of casing (TOC) elevations for shallow monitoring wells MW-7 thru MW-13 were surveyed by Charlotte Engineering and Surveying, Inc. on September 3, 1996. No survey bench marks were located near the site and therefore the top of casing elevations were based on an assumed benchmark elevation of 30.00 feet above mean sea level (MSL) at the Top of Casing Existing MW-1.

Groundwater elevations for the groundwater level measurements taken on monitoring wells MW-1 thru MW-13 on February 27, 1997 are shown in Table 2-1. A groundwater flow direction map for the groundwater level measurements taken on February 27, 1997 is shown in Figure 2-3. The groundwater flow direction map indicates the groundwater flow at the site is to the west toward Perdido Bay.

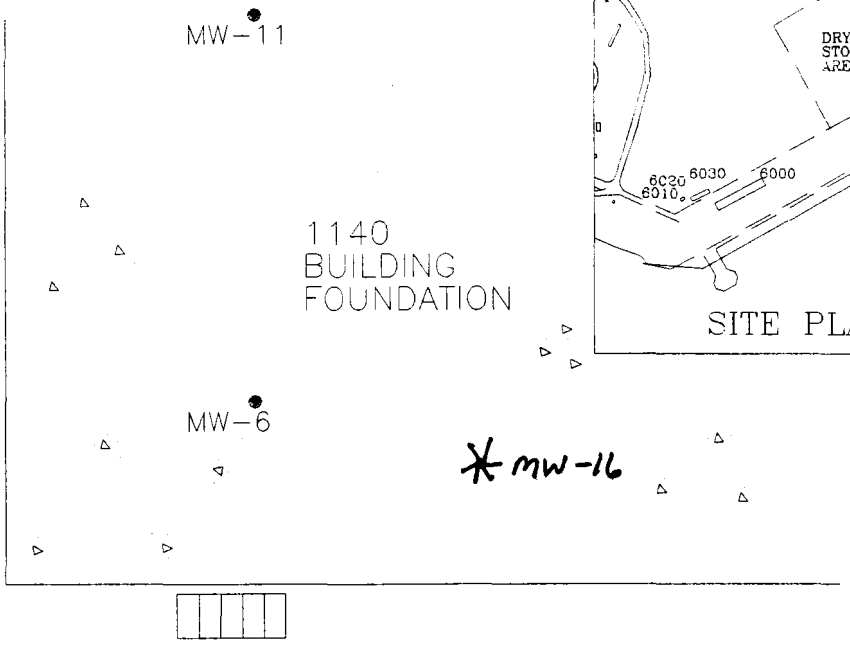
Water level measurements were measured at monitoring wells MW-1 thru MW-9 at 20 minute time intervals for two hours prior to low and high tide; and two hours after low and high tide on March 6, 1997 to determine if the groundwater is influenced by tidal fluctuations. The results of the tidal fluctuation data is provided in Appendix E. The maximum groundwater elevation difference observed during the high tide readings was 0.04 feet at monitoring wells MW-1 and MW-6; while the minimum groundwater elevation difference observed during the high tide readings was 0.01 feet at monitoring well MW-13. No groundwater elevation

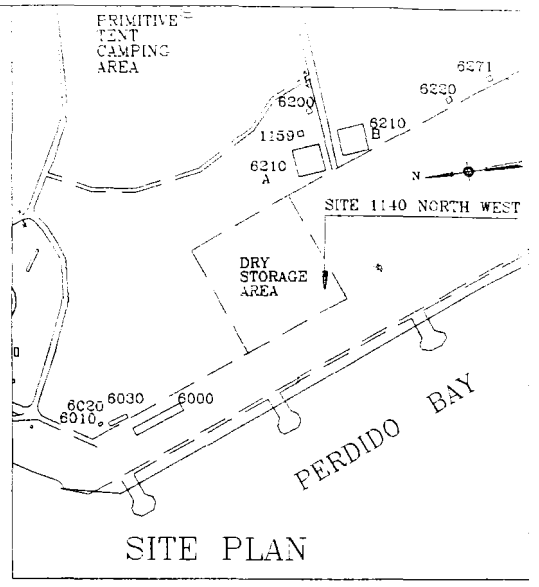
TABLE 2-1
TOP OF CASING AND GROUNDWATER ELEVATION
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140NW

WELL NUMBER	TOC FT. M.S.L.	DTW (FT) 2/27/97	GROUNDWATER ELEVATION 2/27/97
MW-1	30.00	7.01	22.99
MW-2	30.10	7.12	22.98
MW-3	29.96	7.11	22.85
MW-4	30.03	7.12	22.91
MW-5	30.03	6.99	23.04
MW-6	30.26	7.15	23.11
MW-7	30.02	7.09	22.93
MW-8	29.80	7.07	22.73
MW-9	29.80	7.06	22.74
MW-10	29.86	7.01	22.85
MW-11	30.24	7.07	23.17
DWM-12	30.05	7.02	23.03
MW-13	29.73	7.15	~~22.68~~

NOTES: TOC = Top of Casing
DTW = Depth to Water
Benchmark assumes elevation of 30.00 ft., Top of Casing Existing MW-1, Bronson Field, Florida.

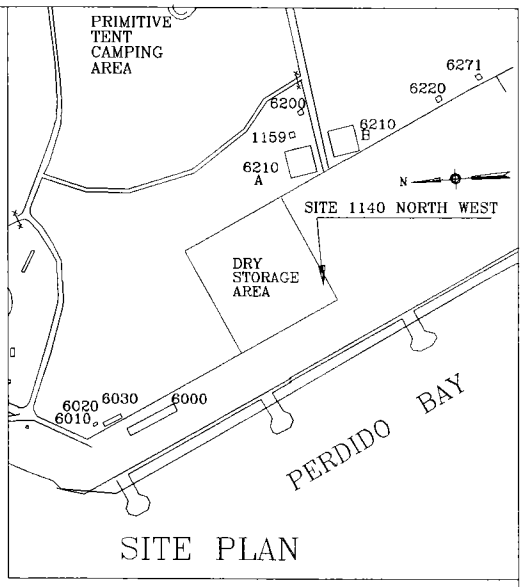
NEW MW	DEPTH
MW-14	13'
MW-15	13'
MW-16	13'





LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
● MW-6 MONITORING WELL
✱ NEW MW (PROPOSED)

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-2	DRAWN BY: DWG. NO: REVISED BY:
MONITORING WELL LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		



MW-11
(23.17)

1140
BUILDING
FOUNDATION

23.1

MW-6
(23.11)

MW-5
(23.04)

23

EXIST.
MW-1
(22.99)

MW-2
(22.98)

MW-10
(22.85)

22.9

MW-7
(22.93)

MW-4
(22.91)

DMW-12

MW-3
(22.85)

22.8

N

MW-9
(22.74)

MW-8
(22.73)

0' 5' 10' 20' 30'
SCALE FEET

LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(22.98) GROUNDWATER ELEVATION
23.00 GROUNDWATER ELEVATION CONTOUR

MW-13
(22.68)

22.7

GW FLOW DIRECTION

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-3	DRAWN BY: DWG. NO: REVISED BY:
GROUNDWATER FLOW DIRECTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		

difference was observed during the low tide readings at monitoring wells MW-1 thru MW-13.

2.3 GROUNDWATER FLOW RATE

There are currently nine sites at Bronson Field at which contamination assessment reports are being conducted. Because the hydrogeology at the site was generally found consistent at each of the nine sites at Bronson Field, slug tests were performed at only 3 of the sites (Sites 1140-NE, 1122 and 1116). A rising head slug test was performed at each of the three sites by W.E.S., Inc. to assess the hydraulic conductivity of the surficial zone of the Sand-and-Gravel Aquifer. The rising head slug test performed at 1140-NE will be used to assess the hydraulic conductivity of the surficial zone of the Sand-and Gravel Aquifer for Site 1140-NW. Procedures for conducting the slug tests, slug test data graphs and calculations for Site 1140-NE are attached in Appendix B. The slug test results indicate the estimated horizontal hydraulic (k) at Site 1140-NE to be 0.9719 ft/day. The calculated linear groundwater flow velocity at Site 1140-NE was estimated to be 0.0152 ft/day (5.5337 ft/yr).

2.4 SOIL ASSESSMENT

The extent of soil contamination at the site was determined by OVA screening. Fifteen soil borings (B1 thru B15) were installed by W.E.S., Inc. on March 26, 1996 using a hollow stem auger (see Figure 2-1 for locations). Soil samples were collected from each borehole at intervals of 1, 3, 5, and 6 feet BLS. The groundwater at the site was generally found at approximately 6-7 feet BLS. The soil borings were installed at and around the former tank location. Soil samples were also collected from the boreholes during the installation of monitoring wells MW-2 thru MW-6 at 1, 3, and 5 foot intervals BLS; MW-7 thru MW-11 at 1 and 4 foot intervals BLS; DMW-12 at 1 and 4 foot intervals BLS; and MW-12 at 1 and 4 foot intervals BLS and analyzed with an OVA for volatile organic vapors (see Figure 2-2 for locations). No VOCs were detected in the soil samples collected from boreholes B1 thru B15 or MW-2 thru MW-13.

2.5 SITE SPECIFIC GEOLOGY AND HYDROGEOLOGY

The principal aquifer of concern at the site is the surficial zone of the Sand-and-Gravel Aquifer. The surficial zone was penetrated to a depth of 24.5 feet during this investigation. The lithology at monitoring wells MW-1 thru MW-6 and MW-13 was generally composed of: (1) concrete and sub-base, from 0 to 1 foot BLS; (2) fine to medium grained silty sand, brown in color, from 1 to 5 feet BLS; (3) fine to medium grained silty sand, trace of clay, lighter brown in color, from 4 to 6 feet BLS; and (4) fine to medium to coarse grained silty sand, trace of clay, from 6 to 13.5 feet BLS. The lithology found at MW-7 thru MW-11 was generally composed of: (1) concrete from 0 to 8 inches BLS; (2) sandy loam, light brown in color, from 8 inches to 3 feet BLS; (3) fine grained sand, white in color, from 3 to 3.5 feet BLS; (4) sandy silt, black in color, "Bay Bottom" from 3.5 to 4.5 feet BLS; (5) fine to medium grained silty sand, trace of clay, dark grey in color, from 4.5 to 11.5 feet BLS; and (6) fine to medium grained silty sand, trace of clay, dark grey in color, from 11.5 to 13.5 feet BLS. The lithology found at the vertical extent monitoring well was consistent with that

found at shallow monitoring wells MW-2 thru MW-6 and was composed of: (1) concrete and sub-base from 0 to 1 foot BLS; (2) fine to medium grained silty sand, brown in color, from 1 to 4 feet BLS; (3) fine to medium to coarse grained silty sand, trace of clay, lighter brown in color from 4 to 10 feet BLS; and (3) medium to course grained sand, grey in color, from 10 to 24 feet BLS. The groundwater table at the site was encountered at approximately 4.5 to 6 feet BLS. Lithological logs describing the soils encountered at various depth, the approximate groundwater level, and OVA screening results for the soil borings installed during the monitoring well installation are shown in Appendix C.

2.6 SURFACE WATER ASSESSMENT

No surface water was observed at the site and therefore no surface water assessment was performed for this report. The nearest surface water body, Perdido Bay, is located approximately 1.4 miles west of the site.

2.7 GROUNDWATER QUALITY ASSESSMENT

Groundwater samples were extracted from shallow groundwater monitoring wells MW-1 thru MW-13 and vertical extent monitoring well DMW-12 by W.E.S., Inc. using the methods and procedures outlined in W.E.S., Inc. Comprehensive Quality Assurance Plan No. 900465G. Monitoring wells MW-2 thru MW-6, MW-7 thru MW-11, MW-13, and DMW-12 were sampled on April 11, June 5, August 22, and November 7, 1996, respectfully, and analyzed for the kerosene analytical group (with the exception of lead) outlined in FDEP Rule 62-770. The kerosene analytical group included analysis of groundwater samples for volatile organic aromatics (VOAs), polynuclear aromatic hydrocarbons (PAHs), ethylene dibromide (EDB), and total petroleum hydrocarbons (TPHs) utilizing EPA Methods 8260, 8270A, 504, and FLPRO, respectively. Analytical results for groundwater samples collected from monitoring wells MW-1 thru MW-13 are included in Appendix D.

Groundwater samples were collected from each monitoring well using the quiescent sampling technique by Navy Public Works Center (PWC) Pensacola laboratory personnel on April 29 and 30, 1997. The groundwater sampling was conducted in accordance with the methods and procedures outlined in PWC's Comprehensive Quality Assurance Plan (CompQAP No. 920121G). The groundwater samples were analyzed for total lead using EPA method 7421. A copy of the laboratory analysis is provided in Appendix D.

No kerosene analytical group parameters were detected in the groundwater samples collected from monitoring wells MW-5, MW-7, MW-9, MW-10, or MW-11.

Chloroform was detected in the groundwater sample collected from deep vertical extent monitoring well DMW-12 on November 7, 1996 at a concentration of 2 ppb which is well below the FDEP groundwater guidance concentration of 10 ppb for chloroform. No VOAs were detected in the groundwater samples collected from shallow monitoring wells MW-2 thru MW-13. A summary of the analytical results is included in Table 2-2.

Phenanthrene was detected in the groundwater sample collected from monitoring well MW-3

TABLE 2-2
SUMMARY OF VOAs
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS MW-2 THRU MW-13
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140NW

PARAMETER	MONITORING WELL NUMBER											
	MW-2 4/11/96	MW-3 4/11/96	MW-4 4/11/96	MW-5 4/11/96	MW-6 4/11/96	MW-7 6/5/96	MW-8 6/5/96	MW-9 6/5/96	MW-10 6/5/96	MW-11 6/5/96	DMW-12 11/7/96	MW-13 8/22/96
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2	BDL
TOTAL BTEX	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

NOTES: BDL = Below detection limits
All results reported in parts per billion (ppb) unless otherwise noted.
Dates groundwater analyses performed for MW-2 thru MW-13 noted above.

on April 11, 1996 at a concentration of 33 ppb which exceeds the FDEP target level of detection limit for phenanthrene. Total naphthalenes were detected in the groundwater sample collected from monitoring well MW-3 on April 11, 1996 at a concentration of 1060 ppb which exceeds the FDEP target level of 100 ppb for total naphthalene. Total naphthalenes were detected in the groundwater samples collected from monitoring well MW-8 and MW-13 at a concentration of 8 ppb and 17 ppb, respectfully, which is well below the FDEP target level of 100 ppb for total naphthalene. No PAHs were detected in groundwater samples collected from monitoring wells MW-2 or MW-4 thru MW-6 (April 11, 1996); MW-7 or MW-9 thru MW-11 (June 5, 1996), or DMW-12 (November 7, 1996). A summary of the analytical results is included in Table 2-3. A total naphthalene distribution contamination map is included in Figure 2-4.

Total petroleum hydrocarbons (TPHs) were detected in groundwater samples collected from monitoring wells MW-2 (4/11/96), MW-3 (4/11/96), and MW-13 (8/22/96) at concentration levels of 1900 ppb, 110000 ppb, and 240 ppb, respectfully. TPH levels in monitoring well MW-3 exceeded the FDEP allowable limits for TPH of 5000 ppb. No TPHs were detected in the groundwater samples collected from monitoring wells MW-4 thru DMW-12. A TPH contamination distribution map is included in Figure 2-5. Total lead was not detected in any of the groundwater samples collected from the monitoring wells. EDB was detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, and MW-6 at concentrations of 120 ppb, 30 ppb, 110 ppb, and 30 ppb, respectfully, which exceeded the FDEP regulatory limits of 0.02 ppb for EDBs. No EDBs were detected in the groundwater samples collected from monitoring wells MW-5 or MW-7 thru DMW-13. A summary of the analytical results is included in Table 2-4. An EDB contamination distribution map is included in Figure 2-6.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

- The source of the discharge has been eliminated and the approximate gallons of heating fuel oil released is unknown.

- No volatile organic vapors were detected in the soil samples collected from borings B1 thru B15 or during the construction of monitoring wells MW-2 thru MW-13 and vertical extent groundwater monitoring well DMW-12 using OVA screening techniques.

- Twelve shallow groundwater monitoring wells (MW-1 thru MW-11 and MW-13) and one deep vertical extent groundwater monitoring well (DMW-12) were installed at the site and groundwater samples were collected from each well and analyzed for the kerosene analytical group listed in FDEP Rule 62-770.600(8)(b).

- No free-phase petroleum hydrocarbons were detected in any of the monitoring wells.

TABLE 2-3
SUMMARY OF PAHs
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS MW-2 THRU MW-13
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140NW

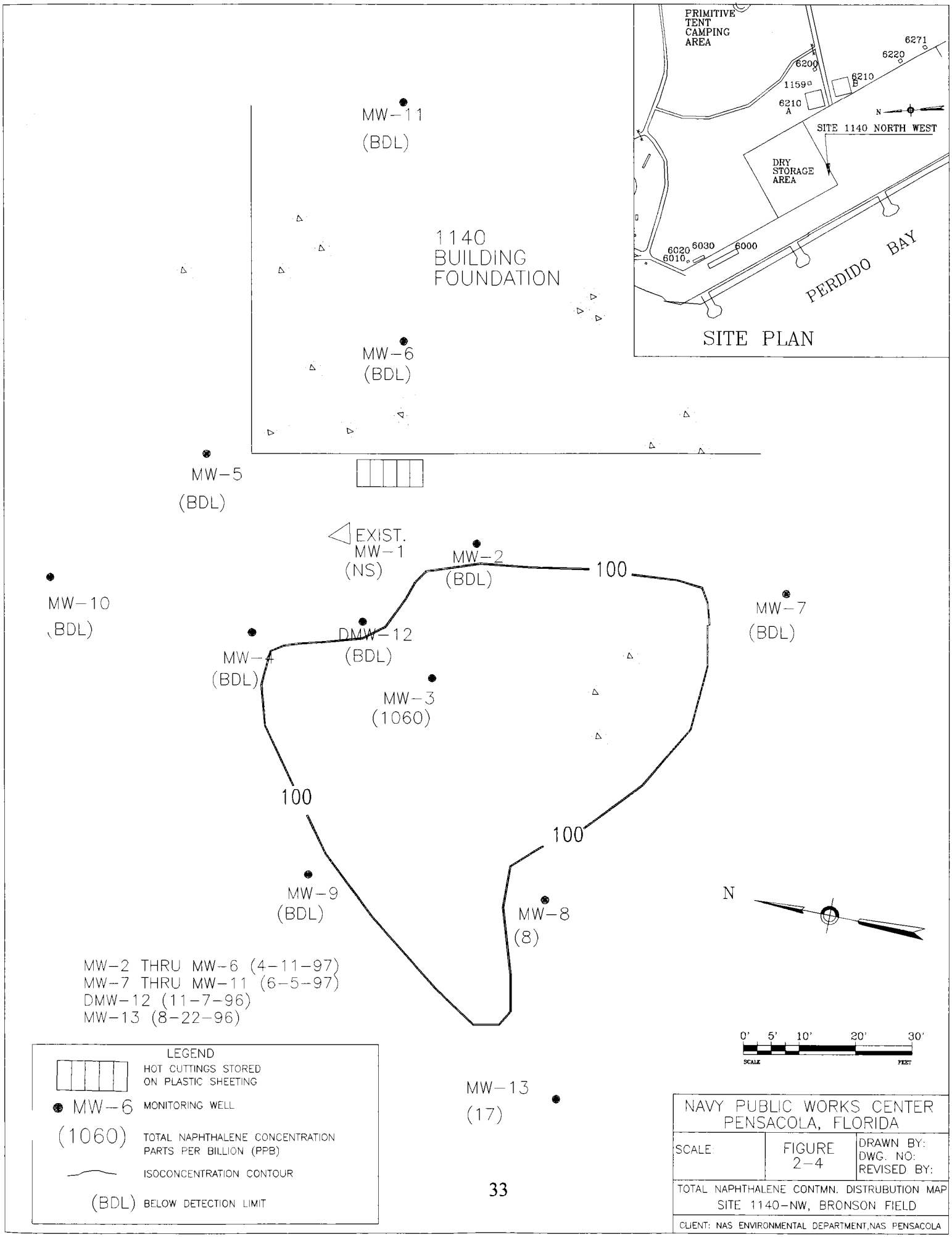
PARAMETER	MONITORING WELL NUMBER											
	MW-2 4/11/96	MW-3 4/11/96	MW-4 4/11/96	MW-5 4/11/96	MW-6 4/11/96	MW-7 6/5/96	MW-8 6/5/96	MW-9 6/5/96	MW-10 6/5/96	MW-11 6/5/96	DMW-12 11/7/96	MW-13 8/22/96
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	190	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5
Phenanthrene	BDL	33	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1-Methylnaphthalene	BDL	350	BDL	BDL	BDL	BDL	8	BDL	BDL	BDL	BDL	7
2-Methylnaphthalene	BDL	520	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5
TOTAL NAPHTHALENE	BDL	1060	BDL	BDL	BDL	BDL	8	BDL	BDL	BDL	BDL	17

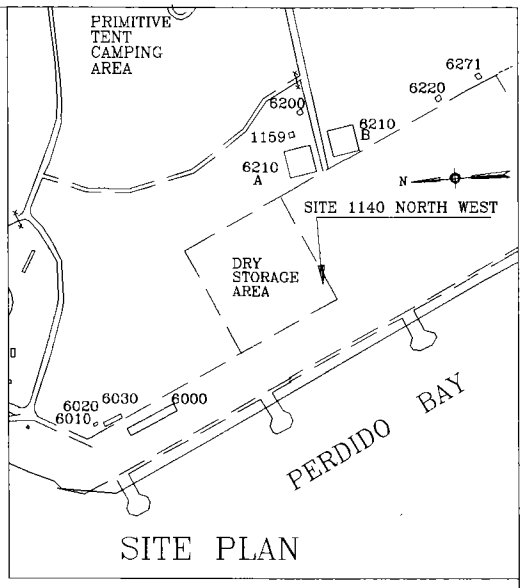
NOTES: BDL = Below detection limits
All results reported in parts per billion (ppb) unless otherwise noted.
Dates groundwater analyses performed for MW-2 thru MW-13 noted above.

TABLE 2-4
SUMMARY OF TRPH, LEAD, AND EDB ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS MW-1 THRU MW-13 U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NW

PARAMETER	MONITORING WELL NUMBER												
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	DMW-12	MW-13
TRPH 4/11/96	NS	1900	110000	BDL	BDL	BDL	NS	NS	NS	NS	NS	NS	NS
TRPH 5/23/96	BDL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
TRPH 6/5/96	NS	NS	NS	NS	NS	NS	BDL	BDL	BDL	BDL	BDL	NS	NS
TRPH 8/22/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	240
TRPH 11/7/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	BDL	NS
Lead 4/29/97 & 4/30/97	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
EDB 4/11/96	NS	0.12	0.03	0.11	BDL	0.03	NS	NS	NS	NS	NS	NS	NS
EDB 6/5/96	NS	NS	NS	NS	NS	NS	BDL	BDL	BDL	BDL	BDL	NS	NS
EDB 8/22/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	BDL
EDB 11/7/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	BDL	NS

NOTES:
All results reported in parts per billion (ppb) unless otherwise noted.
Dates of groundwater monitoring analyses performed on MW-1 thru MW-13 noted above.
BDL = Below detection limits
NS = Not sampled
TRPH = Total Recoverable Petroleum Hydrocarbons
EDB = 1,2 Dibromoethane


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159a
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(BDL)
1140 BUILDING FOUNDATION
MW-6
(BDL)
MW-5
(BDL)
EXIST. MW-1
(NS)
MW-2
(BDL)
100
MW-10
(BDL)
MW-7
(BDL)
DMW-12
(BDL)
MW-4
(BDL)
MW-3
(1060)
100
100
MW-9
(BDL)
MW-8
(8)
N
MW-2 THRU MW-6 (4-11-97)
MW-7 THRU MW-11 (6-5-97)
DMW-12 (11-7-96)
MW-13 (8-22-96)
0' 5' 10' 20' 30'
SCALE FEET
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(1060) TOTAL NAPHTHALENE CONCENTRATION PARTS PER BILLION (PPB)
ISOCONCENTRATION CONTOUR
(BDL) BELOW DETECTION LIMIT
MW-13
(17)
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-4
DRAWN BY:
DWG. NO:
REVISED BY:
TOTAL NAPHTHALENE CONTMN. DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(BDL)

MW-5
(BDL)

EXIST.
MW-1
(BDL)

5000

MW-2
(1900)

MW-10
(BDL)

MW-7
(BDL)

DMW-12
(BDL)

MW-4
(BDL)

MW-3
(110000)

5000

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-1 (5-23-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

0' 5' 10' 20' 30'
SCALE FEET

MW-13
(240)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

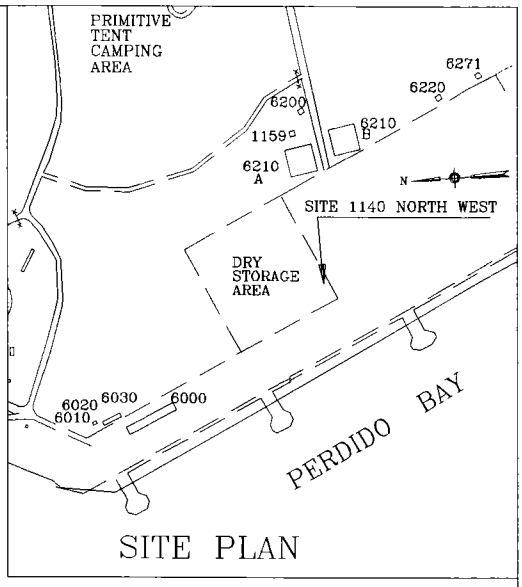
MW-6 MONITORING WELL

(240) TRPH CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-5	DRAWN BY: DWG. NO: REVISED BY:
TRPH CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(0.03)

0.02

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(0.12)

MW-10
(BDL)

MW-7
(BDL)

MW-4
(0.11)

DMW-12
(BDL)

MW-3
(0.03)

0.02

0.02

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

(0.02) EDB CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

(NS) NOT SAMPLED

MW-13
(BDL)

0' 5' 10' 20' 30'
SCALE FEET

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		

- Groundwater depths measured in monitoring wells MW-1 thru MW-13 on February 29, 1997 indicates the groundwater flows toward the west.

- Monitoring well MW-3 (1060 ppb) was the only well to exceed the FDEP target level of 100 ppb for total naphthalene.

- No groundwater samples collected from shallow monitoring wells MW-2 thru MW-13 or deep vertical extent monitoring well DMW-12 exceeded the FDEP target level of 50 ppb for total VOAs.

- EDBs detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, and MW-6 exceeded the FDEP allowable regulatory limits of 0.02 ppb for EDB.

- Monitoring well MW-2 exceeded the FDEP target level of 5000 for TPHs.

- Total lead was not detected in the groundwater samples collected from monitoring wells MW-1 thru MW-13 or vertical extent groundwater monitoring well DMW-12.

- The average estimated horizontal hydraulic conductivity at the site is 0.9719 feet per day (ft/day).

- The average estimated linear velocity at the site is 0.0152 ft/day (5.5337 ft/yr).

- The areal extent of the soil and groundwater contamination at the site appears to be limited to a small area and the levels of contamination are moderate.

3.2 RECOMMENDATIONS

Based upon the findings and conclusions of this contamination assessment a No Further Action (NFA) proposal is recommended for the soil and a Monitoring Only (MO) plan is recommended for the groundwater. The MO plan for the groundwater is proposed as follows:

(1) Monitoring wells MW-2, MW-3, MW-4, MW-6, MW-9, and MW-11 be sampled and analyzed for EDB and TPH by EPA Method 504 and FLPRO, respectfully, quarterly for one year.

(2) Monitoring wells MW-2, MW-3, MW-4, and MW-6 which exceeded FDEP target levels are considered the source monitoring wells. Monitoring wells MW-9 and MW-11 are considered the downgradient and upgradient monitoring wells, respectively.

(3) If the contaminant levels in monitoring wells MW-2, MW-3, MW-4, and MW-6 increase above the baseline concentrations in this report for two consecutive sampling events; or if contaminates are detected in the downgradient monitoring well MW-9 above the FDEP target levels, the monitoring only plan shall be discontinued and a remedial action plan be prepared and implemented.

4.0 PROFESSIONAL REVIEW CERTIFICATION

The Contamination Assessment contained in this report was prepared using sound, hydrogeologic principles and judgement. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned engineer should be notified to evaluate the effects of any additional information on the assessment described in this report. This Contamination Assessment Report was developed for U.S. Navy Outlying Landing Field (OLF) Bronson, Site 1140-NW, Pensacola, Florida, and should not be construed to apply to any other site.

G. A. Campbell
Professional Engineer
P.E. No. 38572

6/23/97
Date

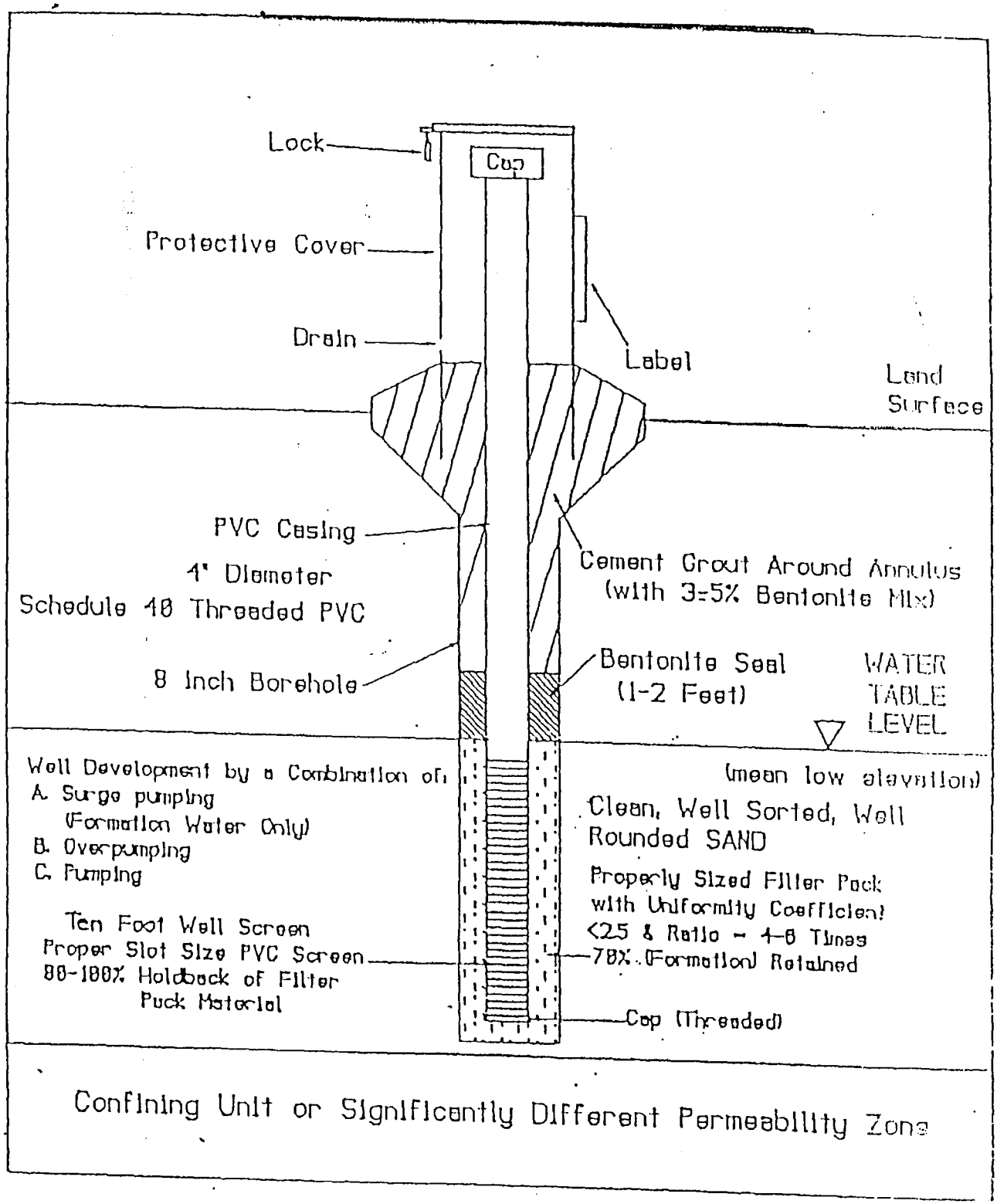
5.0 REFERENCES

Naval Energy and Environmental Support Activity, Port Hueneme, California, Preliminary Assessment Report of Outlying Landing Field (OLF) Bronson, Escambia County, Florida, January 1991.

APPENDICES

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS



DECEMBER, 1991
M. KENNEDY &
D. STAPLES

BASIC MONITOR WELL
DESIGN IN A WATER
TABLE AQUIFER

W.E.S., Inc.
Environmental Division

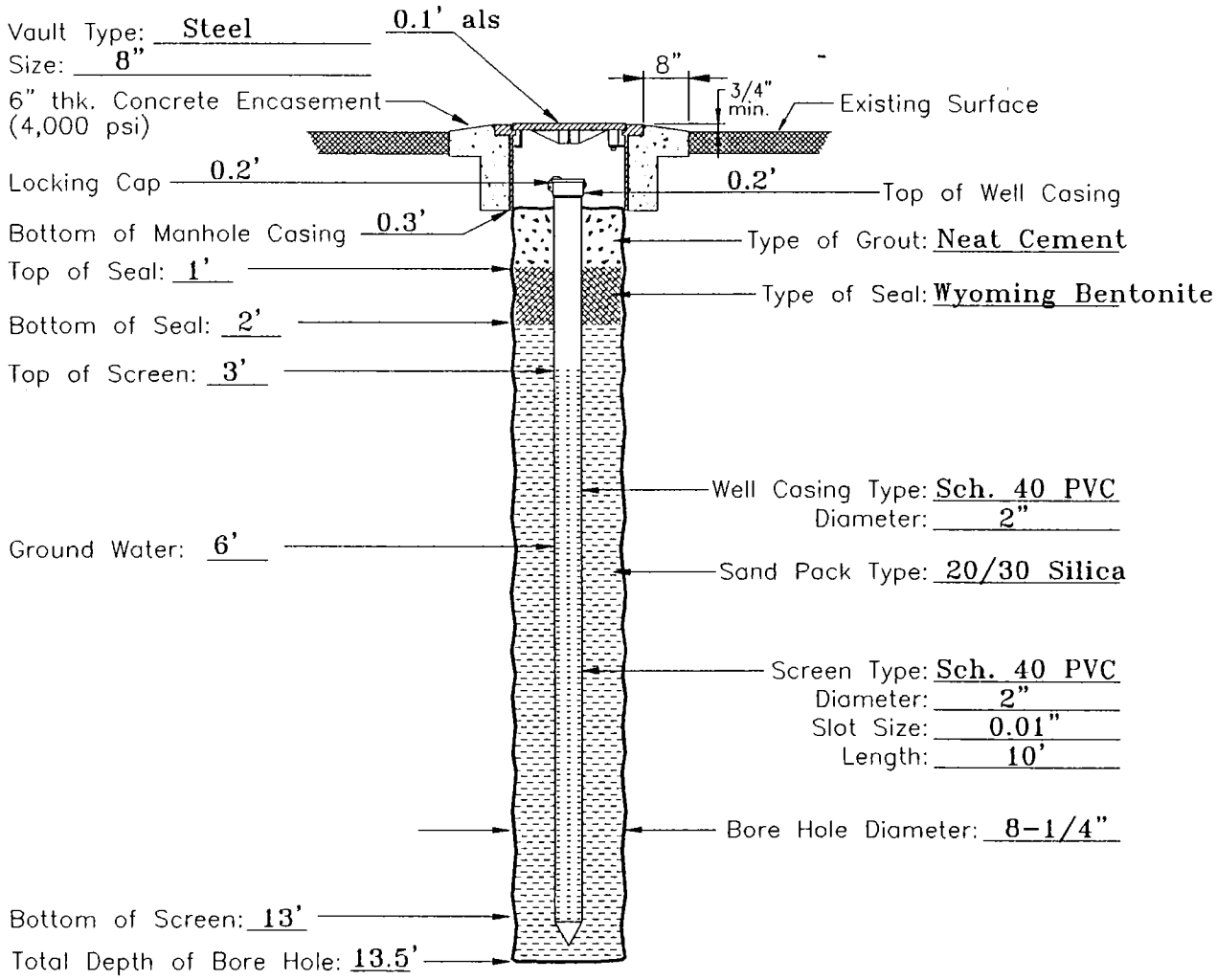
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Cloyd Griffey
WELL NUMBER: MW-2

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NW), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/4/96 Finish: 4/4/96
TIME Start: 0815 Finish: 0845

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-19951128.1143

W.E.S., Inc.
Environmental Division

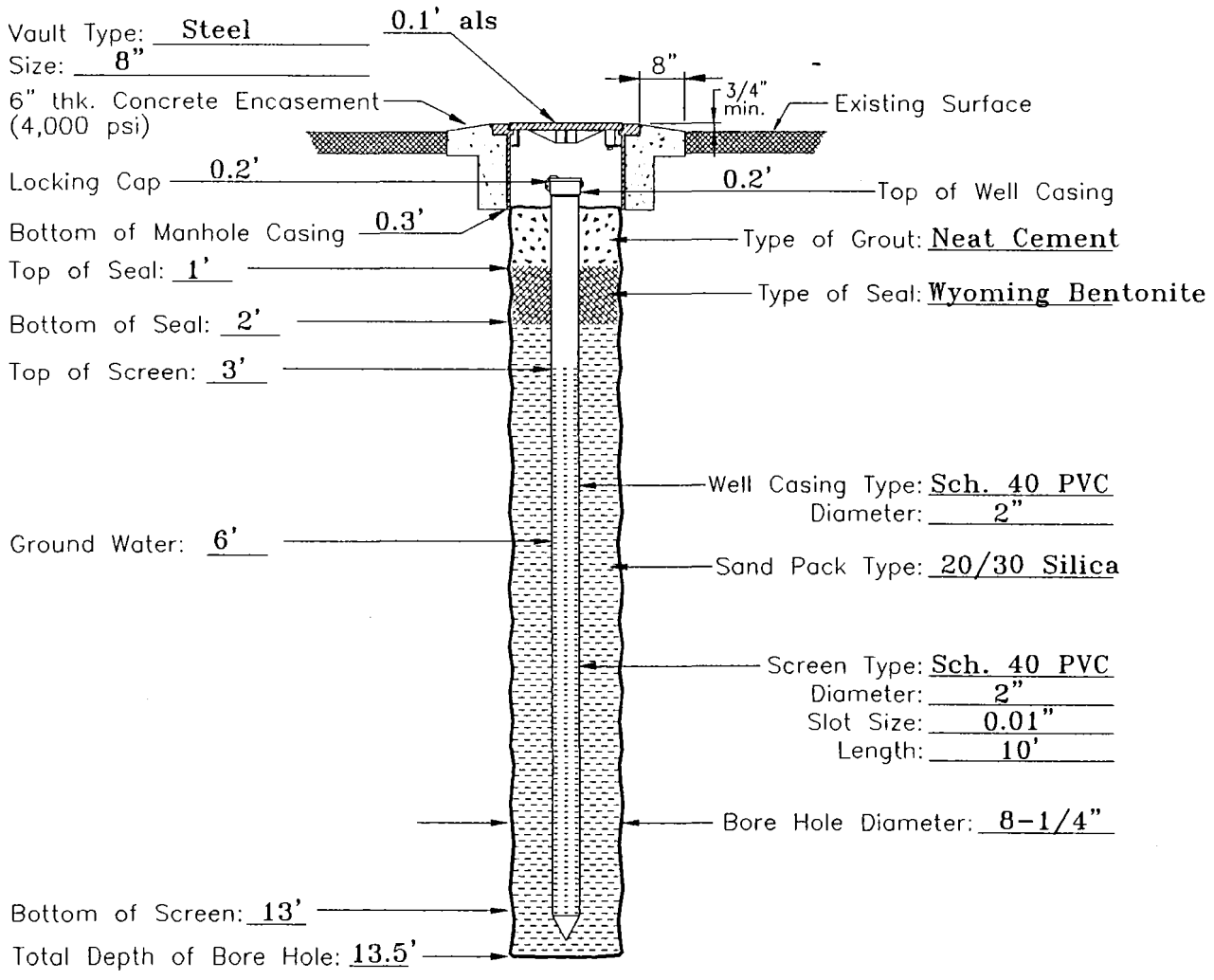
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Cloyd Griffey
WELL NUMBER: MW-3

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NW), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/4/96 Finish: 4/4/96
TIME Start: 0845 Finish: 0915

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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W.E.S., Inc.
Environmental Division

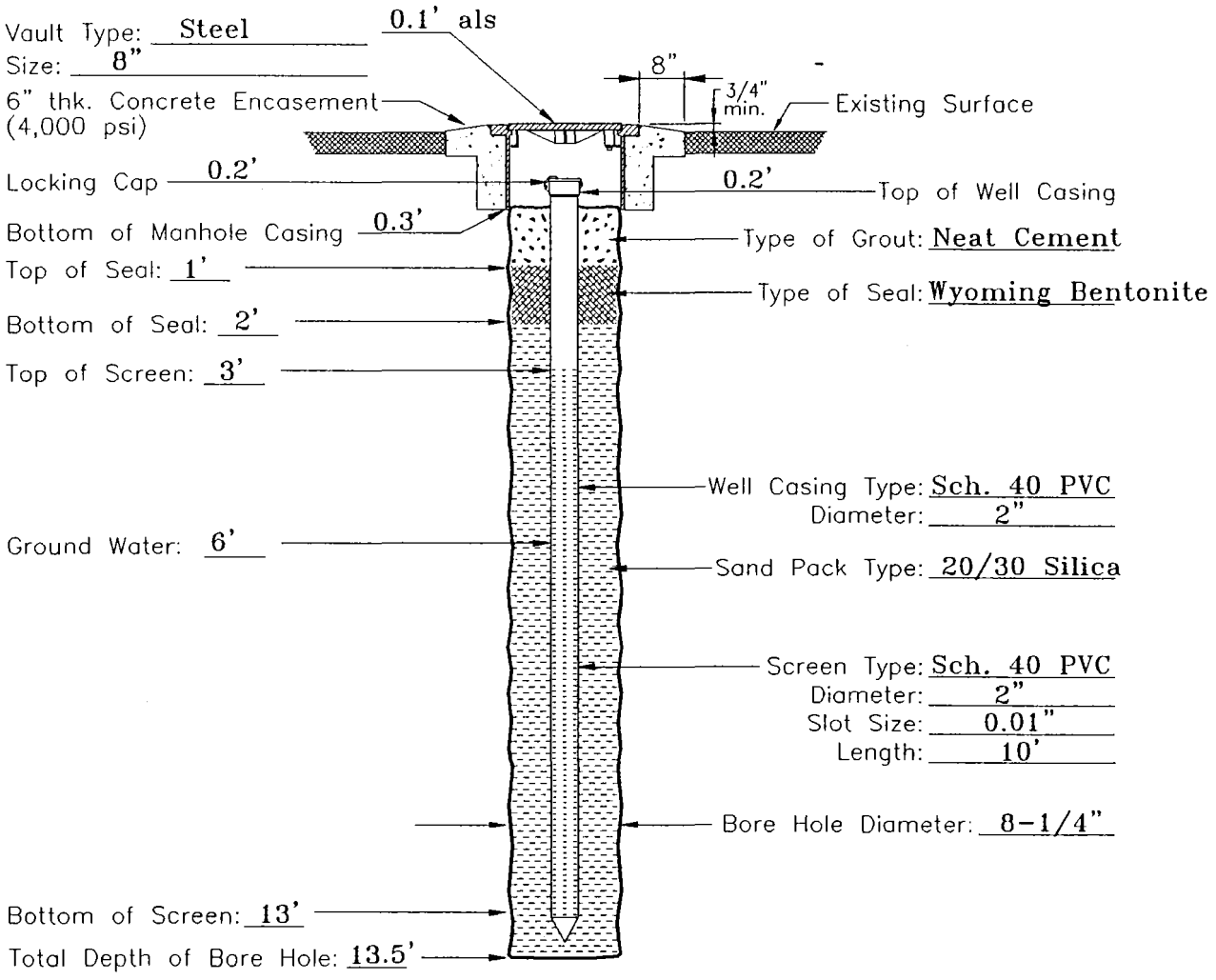
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Cloyd Griffey
WELL NUMBER: MW-4

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NW), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/4/96 Finish: 4/4/96
TIME Start: 0915 Finish: 0945

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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W.E.S., Inc.
Environmental Division

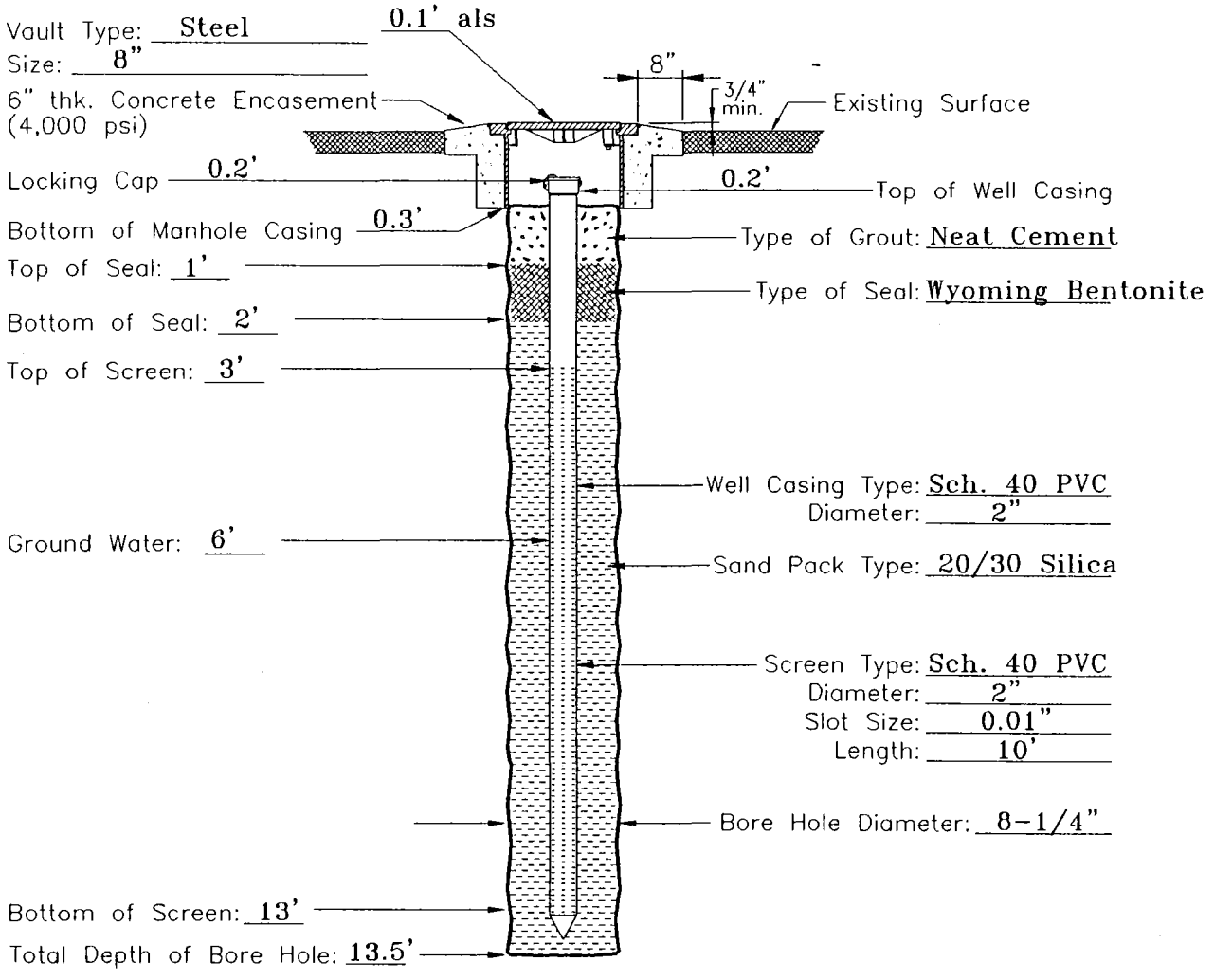
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Cloyd Griffey
WELL NUMBER: MW-5

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NW), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/4/96 Finish: 4/4/96
TIME Start: 0945 Finish: 1015

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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W.E.S., Inc.
Environmental Division

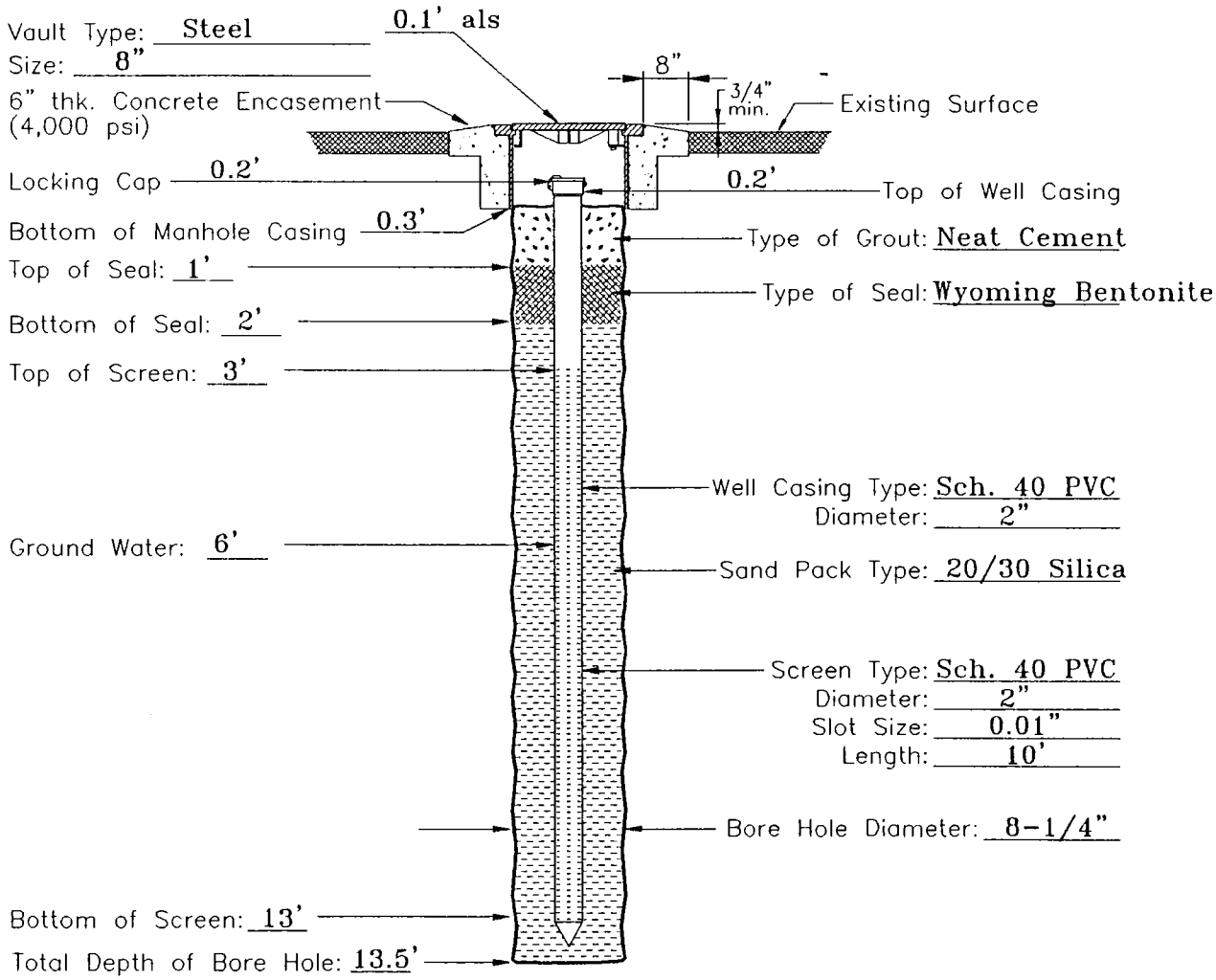
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Cloyd Griffey
WELL NUMBER: MW-6

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NW), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/4/96 Finish: 4/4/96
TIME Start: 1015 Finish: 1045

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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W.E.S., Inc.
Environmental Division

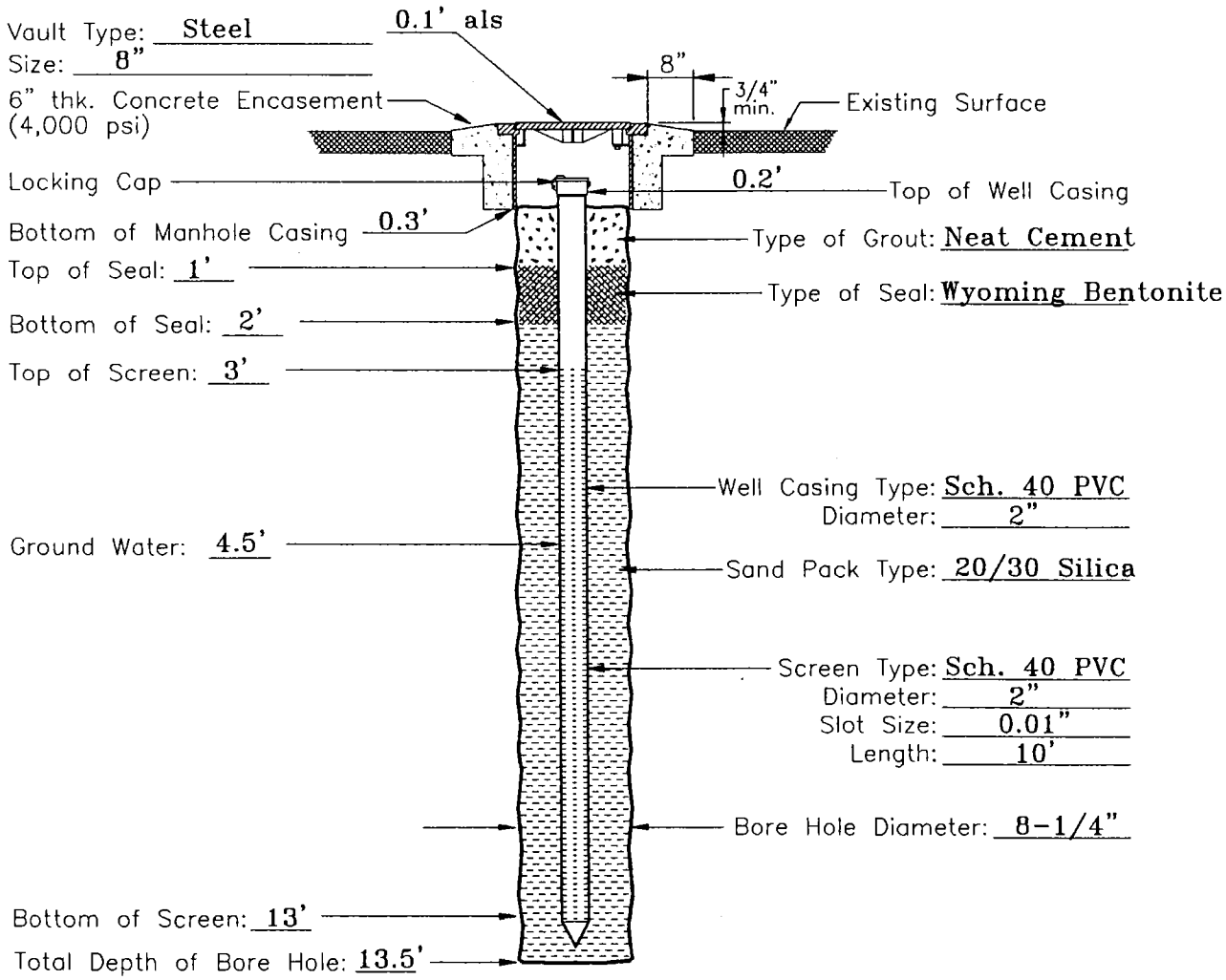
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-7

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 5/16/96 Finish: 5/16/96
TIME Start: 0845 Finish: 0915

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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W.E.S., Inc.
Environmental Division

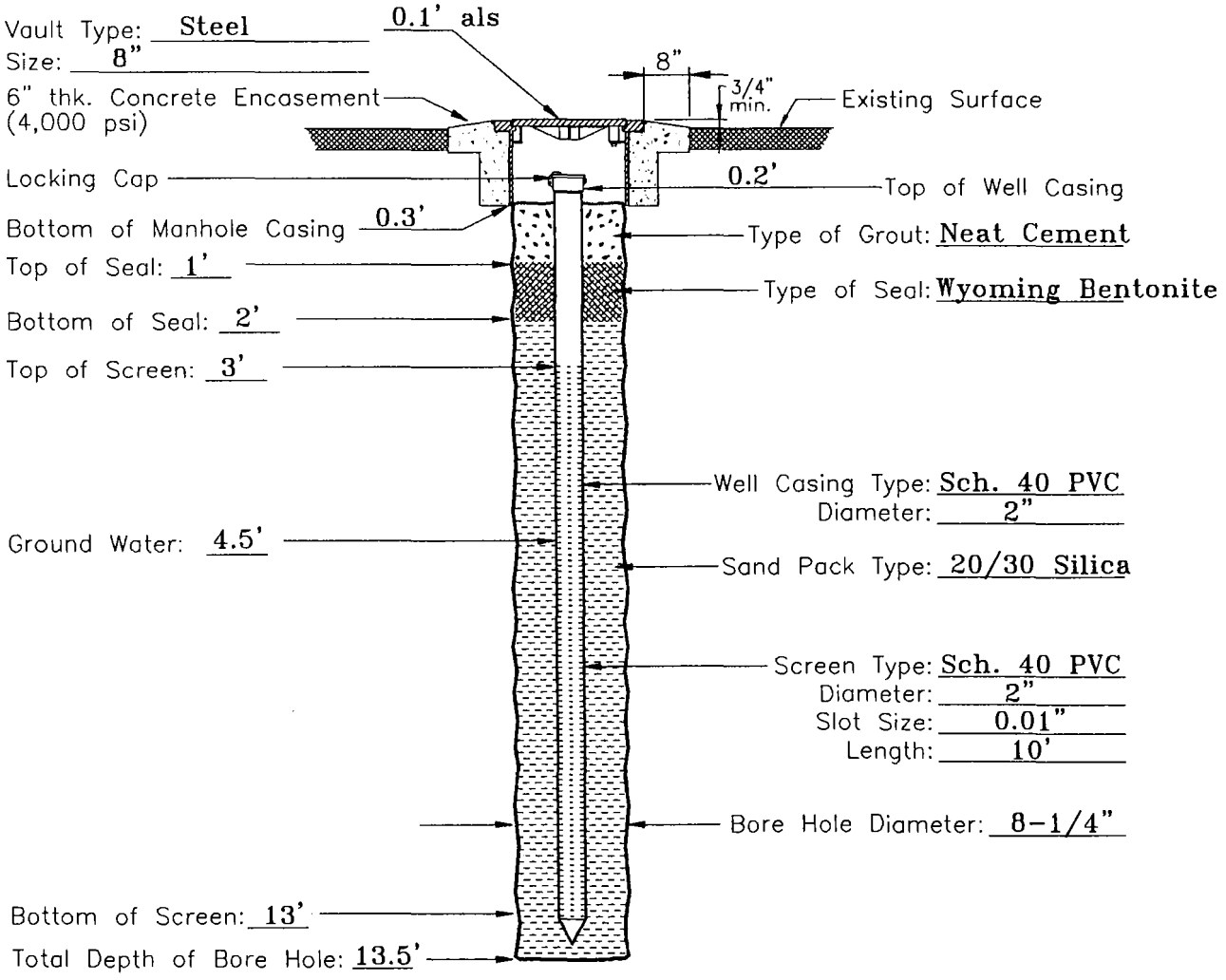
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-8

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 5/16/96 Finish: 5/16/96
TIME Start: 0915 Finish: 0945

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

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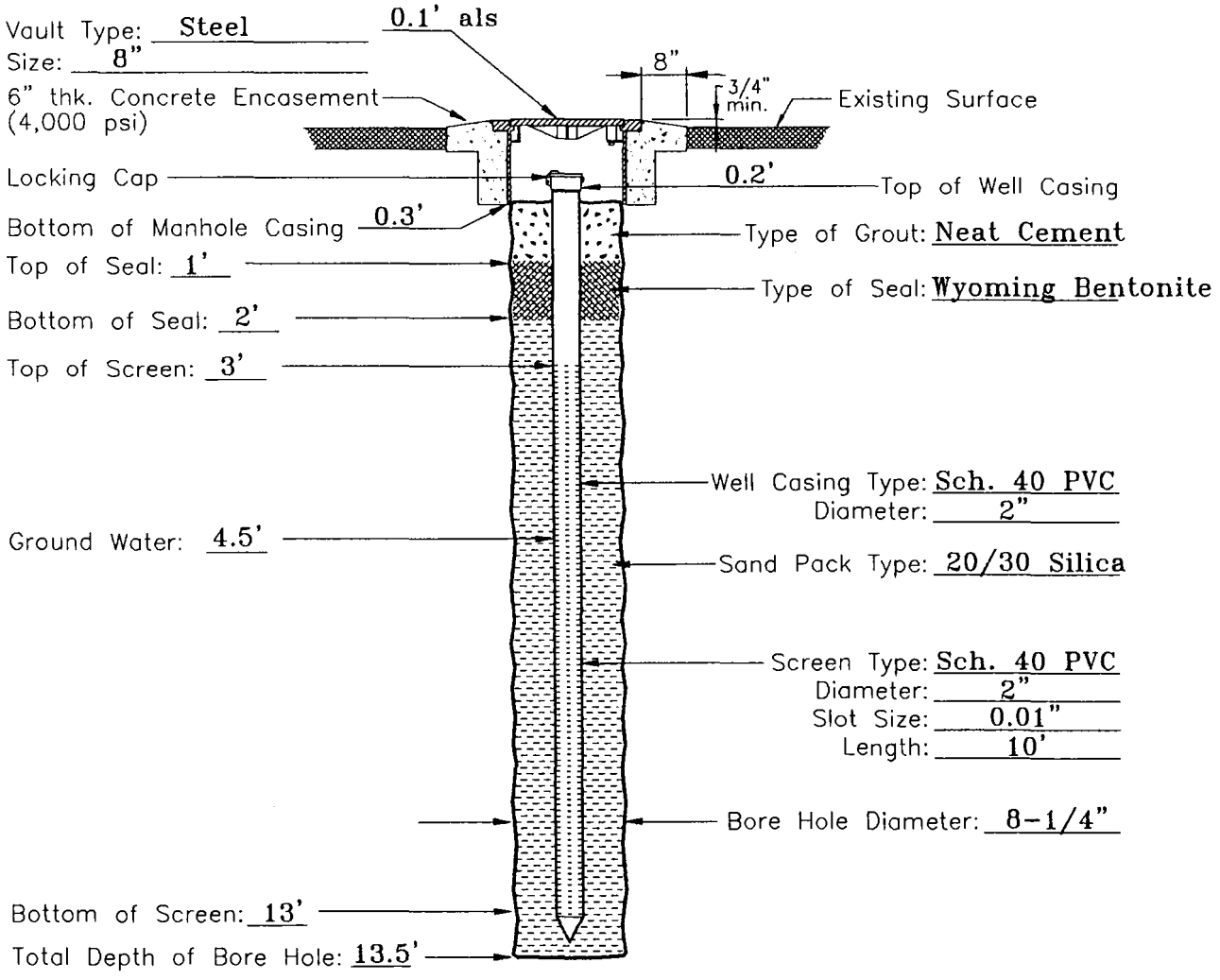
W.E.S., Inc.
Environmental Division
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-9

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 5/16/96 Finish: 5/16/96
TIME Start: 0945 Finish: 1015

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

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W.E.S., Inc.
Environmental Division

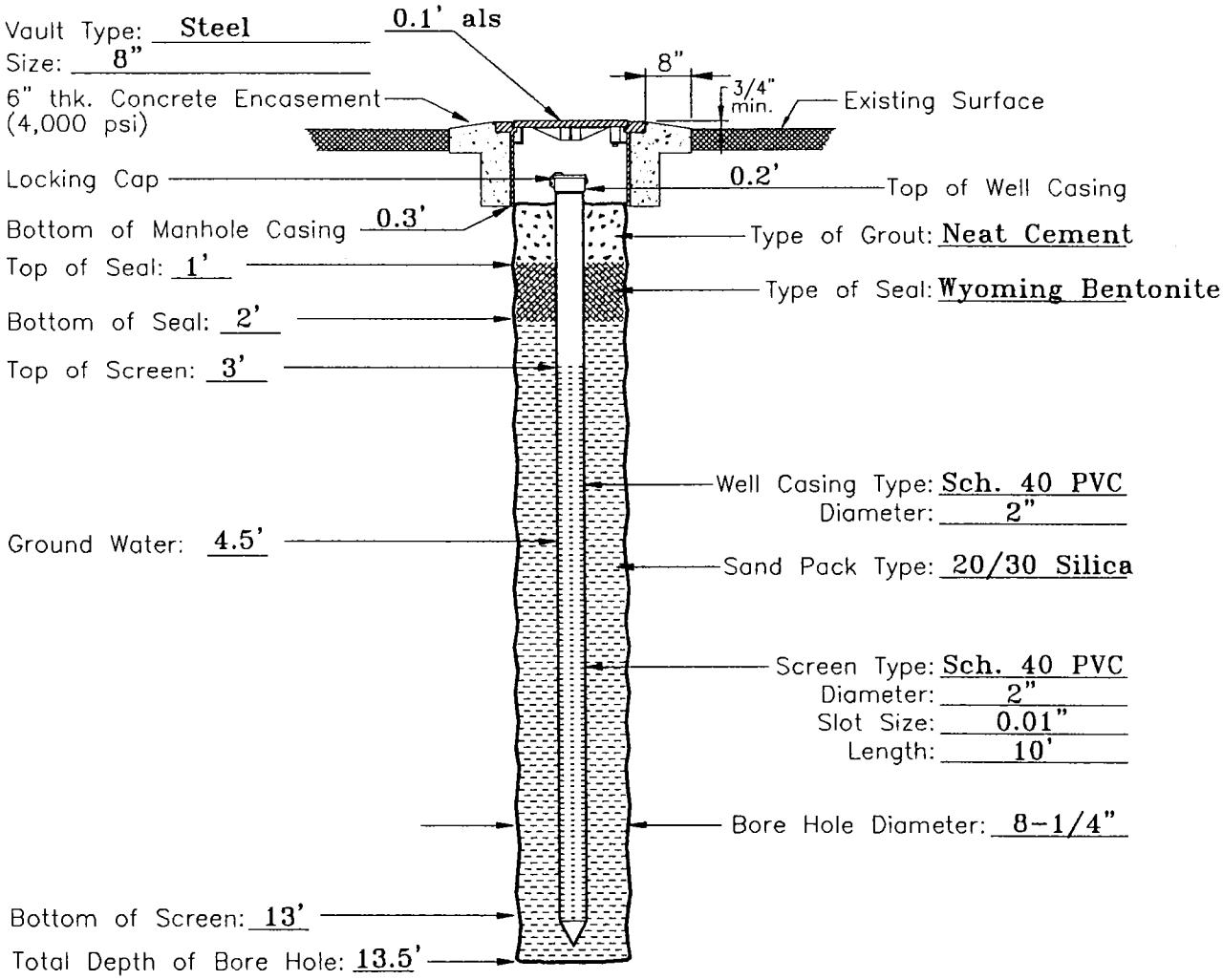
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-10

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 5/16/96 Finish: 5/16/96
TIME Start: 1015 Finish: 1045

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-19951128.1143

W.E.S., Inc.
Environmental Division

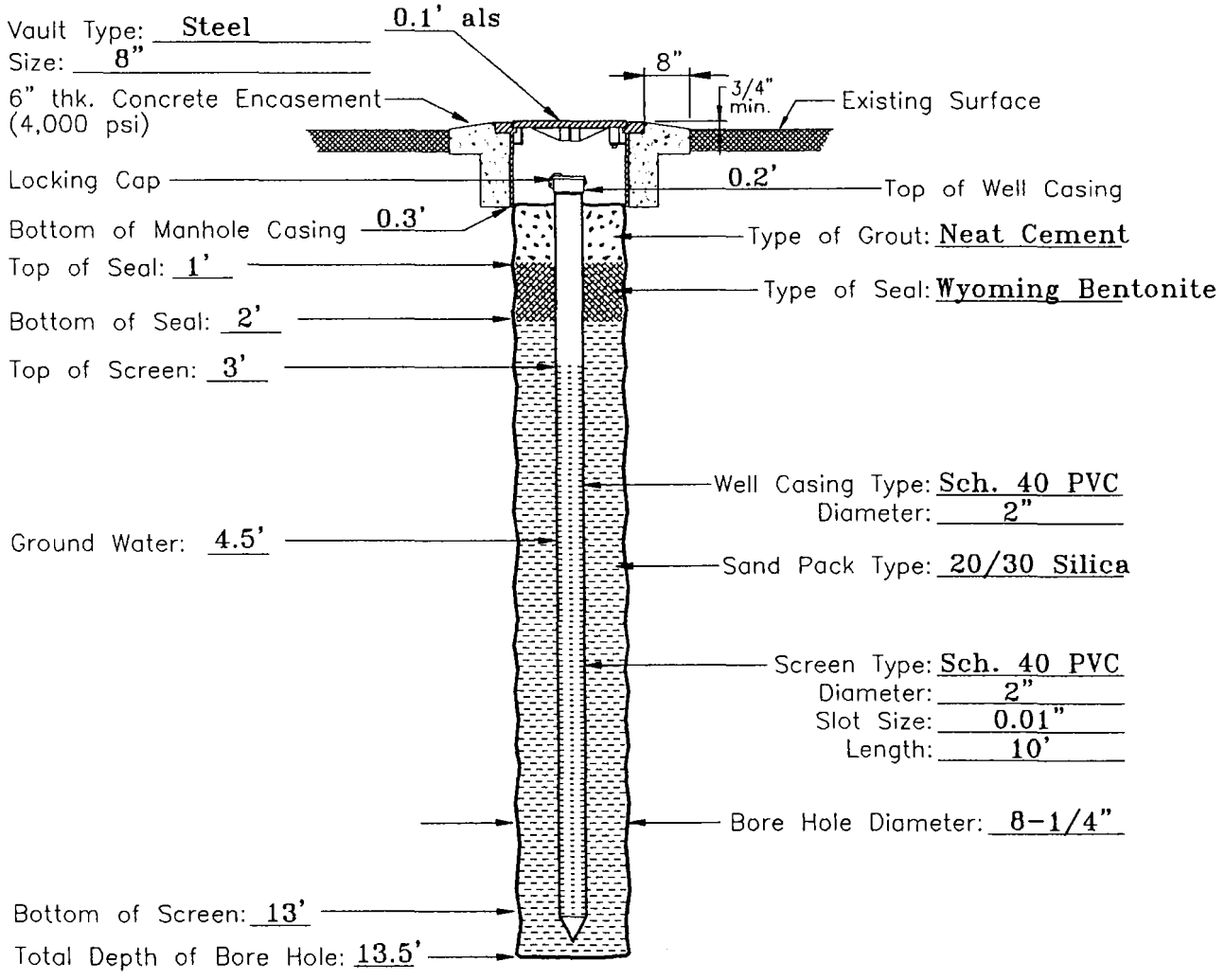
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-11

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 5/16/96 Finish: 5/16/96
TIME Start: 1045 Finish: 1115

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-19951128.1143

W.E.S., Inc.
Environmental Division

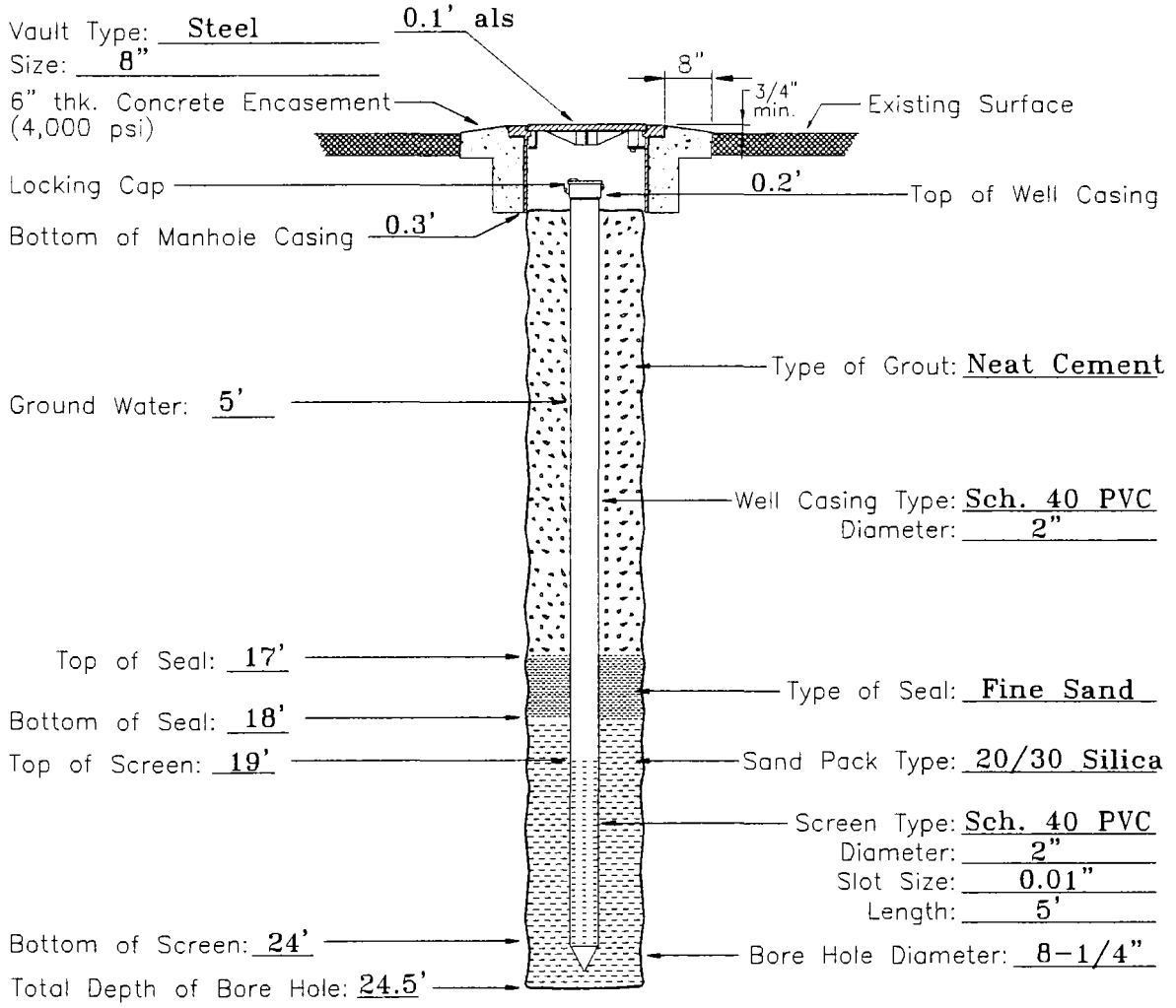
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

VERTICAL EXTENT
MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: DMW-12

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 5/23/96 Finish: 5/26/96
TIME Start: 1530 Finish: 1600

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-19951128.1143

W.E.S., Inc.
Environmental Division

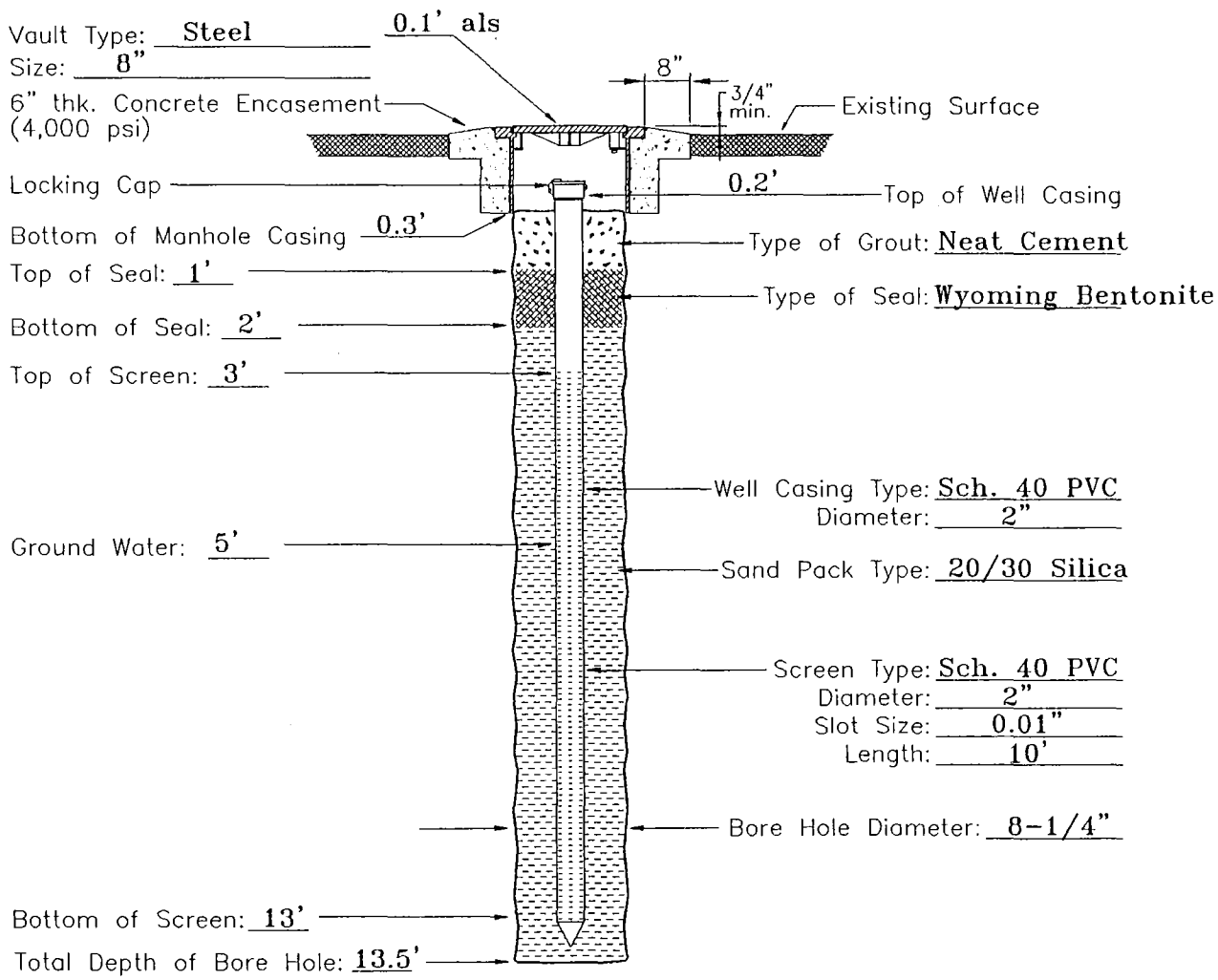
MONITOR WELL CONSTRUCTION DETAIL

6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

LOGGED BY: Patrick J. Brown
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: MW-13

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NW, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 8/14/96 Finish: 8/14/96
TIME Start: 1150 Finish: 1300

COMMENTS: (Lost circulation interval, Water level changes, Hole collapse interval, etc.):



NOTE: DEPTHS SHOWN ARE BELOW LAND SURFACE (B.L.S.)

DRAWING ABOVE IS NOT TO SCALE

CAD FILE @STA3> C:\ACADR13\MW-DETL1.DWG STA3-19951128.1143

APPENDIX B

SLUG TEST DATA, GRAPHS AND CALCULATIONS

W.E.S., Inc.

October 31, 1996

Slug Test/Aquifer Parameter Evaluation
Bronson Field, Site 1140NE
as performed on September 11, 1996.
Contract No. N65114-95-D-2126
Delivery Order No. 0027

A single well recovery test (slug test) was performed on Monitor Well No. 4 of Site 1140NE, located at Bronson Field, in Pensacola, Florida. Single well recovery tests involve the displacement of a known volume of water in a well and measuring the resulting change in hydraulic head over time until the water stabilized to its initial level. The water level measurements were made with a pressure transducer and recorded on a Thor Environmental Data Logger.

The calculation of hydraulic conductivity was based on the assumptions presented by Bouwer and Rice (1976). The well is assumed to be partially penetrating (That is, the saturated aquifer thickness is greater than the saturated monitor well screen length).

The movement of contaminants in a groundwater system depends, in part, on the flow characteristics of the aquifer beneath the site. In order to evaluate the flow characteristics, the following parameters were calculated: 1) hydraulic conductivity, 2) average linear flow velocity, and 3) transmissivity (effective soil porosity).

The relative ability of a porous medium to transmit fluid is measured by the hydraulic conductivity, a function of both the aquifer material and the fluid (Freeze and Cheery, 1979). Hydraulic Conductivity (K) values for the shallow saturated deposits were estimated from the single well recovery test (slug test) conducted on MW-4. The hydraulic conductivity calculations and field data from the single well slug test are presented following the text portion of this report. The hydraulic conductivity (K) in MW-4 at Bronson Field's Site No. 1140NE Well No. 4 is calculated at **0.0006749 ft/min.**, or **0.9719 ft/day**.

The average hydraulic gradient for this site was calculated at **0.0039 ft/ft**. This value was derived utilizing existing groundwater elevation data from the site.

Therefore, using a hydraulic gradient of 0.0039, the hydraulic conductivity value obtained from the single well slug test (0.9719 ft/day) and an assumed effective porosity of **0.25**, the average linear groundwater flow velocity was estimated to be **0.0152 ft/day (5.5337 ft per year)**, using the following formula:

$$V = \frac{Ki}{n}$$

where:
V = average linear flow velocity
K = hydraulic conductivity
i = gradient
n = effective soil porosity

These values should be viewed as an approximation only. The slug tests provide hydraulic conductivity values only for the materials immediately adjacent to the tested well screen. Although the calculated

• Corporate Headquarters •
6389 Tower Lane • Sarasota, Florida 34240 • (941) 371-7617 • Fax (941) 378-5218
• Web Site: http://www.wesinc.com/water

groundwater flow velocity may be used as an approximation of the rate of contaminant migration in water, the method does not account for hydrodynamic dispersion, chemical sorption, or degradation, which are factors affecting contaminant velocity.

Sincerely,

W.E.S., Inc.
Environmental Division

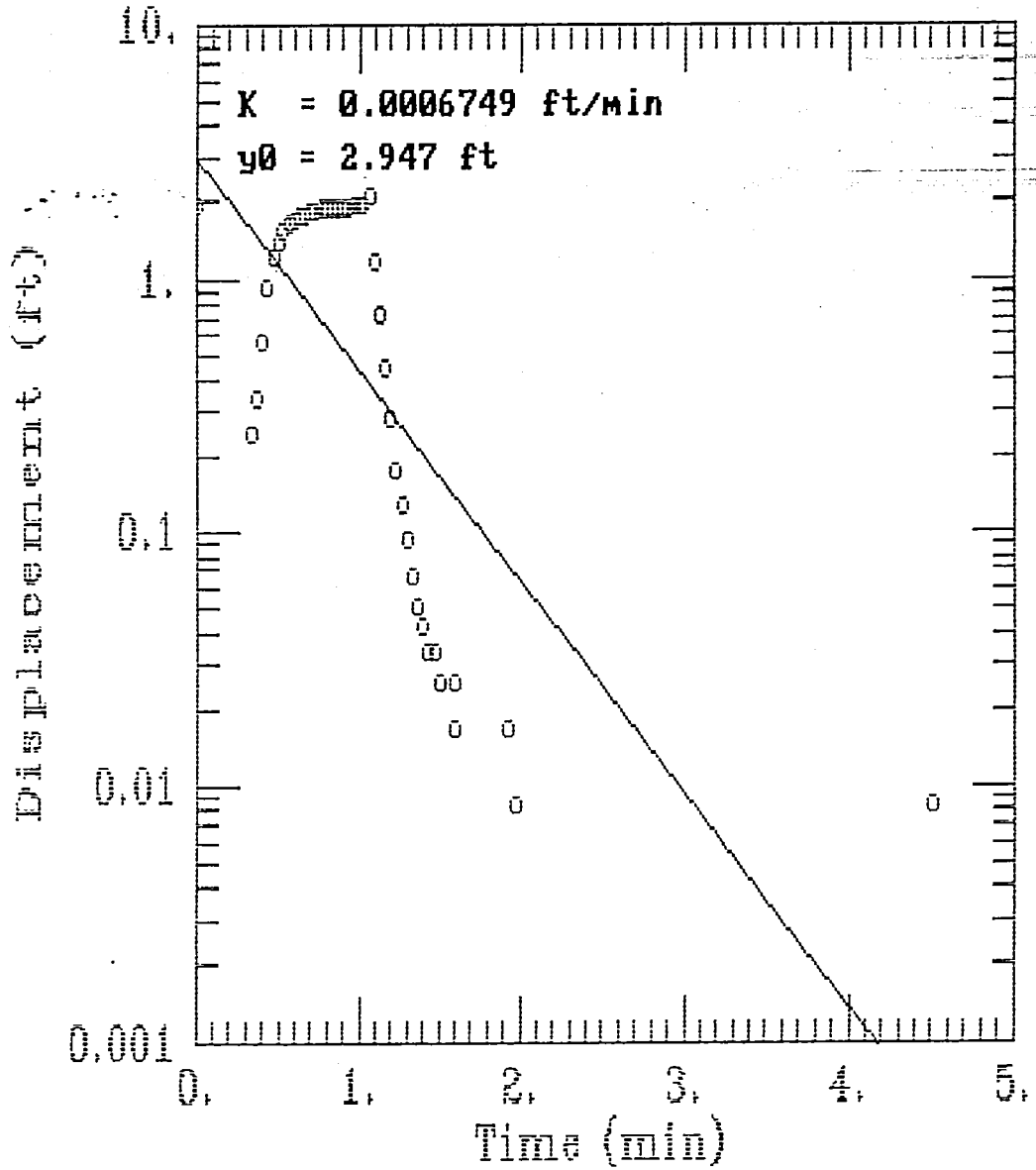
Patrick J. Brown
Staff Geologist

Michael J. Walsh, P.G.
Project Administrator

cc: File

g:\clients\nas-pen\slgtst\bf1140ne.doc

Bronson Field, Site 1140 NE



AQTESOLV

GERAGHTY & MILLER, INC.

Modeling Group

B-3

S/N SDEE-03A-SN-3098 Block 1

Program: STEP TEST
Readings: 139
Start Time: 14:43:37
Start Date: 09/11
Range: 0015 PSI
Channels: 1
Units: Ft-H2O

Step 1
Interval 00:00:02
Readings 300

Time	Chnl 1						
0.00	+5.9145	1.13	+5.2047	2.27	+5.9060	3.40	+5.9060
0.03	+5.9145	1.17	+5.4751	2.30	+5.9060	3.43	+5.9060
0.07	+5.9145	1.20	+5.6357	2.33	+5.9060	3.47	+5.9060
0.10	+5.9145	1.23	+5.7370	2.37	+5.9060	3.50	+5.9060
0.13	+5.9145	1.27	+5.7877	2.40	+5.9060	3.53	+5.9060
0.17	+5.9145	1.30	+5.8215	2.43	+5.9060	3.57	+5.9060
0.20	+5.9145	1.33	+5.8469	2.47	+5.9060	3.60	+5.9060
0.23	+5.9145	1.37	+5.8638	2.50	+5.9060	3.63	+5.9060
0.27	+5.9145	1.40	+5.8722	2.53	+5.9060	3.67	+5.9060
0.30	+5.9145	1.43	+5.8807	2.57	+5.9060	3.70	+5.9060
0.33	+5.6695	1.47	+5.8807	2.60	+5.9060	3.73	+5.9060
0.37	+5.5765	1.50	+5.8891	2.63	+5.9060	3.77	+5.9060
0.40	+5.3399	1.53	+5.8891	2.67	+5.9060	3.80	+5.9060
0.43	+4.9935	1.57	+5.8891	2.70	+5.9060	3.83	+5.9060
0.47	+4.7147	1.60	+5.8976	2.73	+5.9060	3.87	+5.9060
0.50	+4.5203	1.63	+5.8976	2.77	+5.9060	3.90	+5.9060
0.53	+4.3767	1.67	+5.8976	2.80	+5.9060	3.93	+5.9060
0.57	+4.2669	1.70	+5.8976	2.83	+5.9060	3.97	+5.9060
0.60	+4.1993	1.73	+5.8976	2.87	+5.9060	4.00	+5.9060
0.63	+4.1486	1.77	+5.8976	2.90	+5.9060	4.03	+5.9060
0.67	+4.1232	1.80	+5.8976	2.93	+5.9060	4.07	+5.9060
0.70	+4.0894	1.83	+5.8976	2.97	+5.9060	4.10	+5.9060
0.73	+4.0641	1.87	+5.8976	3.00	+5.9060	4.13	+5.9060
0.77	+4.0472	1.90	+5.8976	3.03	+5.9060	4.17	+5.9060
0.80	+4.0303	1.93	+5.8976	3.07	+5.9060	4.20	+5.9060
0.83	+4.0218	1.97	+5.9060	3.10	+5.9060	4.23	+5.9060
0.87	+4.0049	2.00	+5.9060	3.13	+5.9060	4.27	+5.9060
0.90	+3.9965	2.03	+5.9060	3.17	+5.9060	4.30	+5.9060
0.93	+3.9880	2.07	+5.9060	3.20	+5.9060	4.33	+5.9060
0.97	+3.9796	2.10	+5.9060	3.23	+5.9060	4.37	+5.9060
1.00	+3.9711	2.13	+5.9060	3.27	+5.9060	4.40	+5.9060
1.03	+3.9627	2.17	+5.9060	3.30	+5.9060	4.43	+5.9060
1.07	+3.8106	2.20	+5.9060	3.33	+5.9060	4.47	+5.9060
1.10	+4.7400	2.23	+5.9060	3.37	+5.9060	4.50	+5.9060

S/N SDEE-03A-SN-3098 Block 1							

Program: STEP TEST							
Readings: 139							
Start Time: 14:43:37							
Start Date: 09/11							
Range: 0015 PSI							
Channels: 1							
Units: Ft-H2O							

Step 1							
Interval 00:00:02							
Readings 300							

Time Chnl 1							
4.53 +5.9060							
4.57 +5.9060							
4.60 +5.9060							
Test 1 aborted at Step 1							

APPENDIX C

LITHOLOGIC LOG

LOG OF MONITORING WELL

Project Name: Bronson Field

Job # P95-255-34

Location: 1140

Facility: NAS

Start Date/Time: 5/25/95

MW Number: MW16

Finish Date/Time: 5/25/95

Logged By: Darryl Gates

Top Of Casing Elevation: N/A

Drilling Contractor: Pensacola Testing Labs

Surface Elevation: N/A

Total Depth: 15'

Driller: Larry Minchu

Depth Feet	Sampler Type	Sample ID #	Contamination: Odor	Contamination: OVA/HNu ppm SOIL	Contamination: Visible Y=Yes N=No	Soil Rock Symbol	Soil and Rock Description/Comment	Monitor Well Data: Material Description	Monitor Well Data: Concrete Pad
	1120						Dirt Surface	grout	
							Brown fine to med grained sand	2" pvc riser	
			N	BDL	N		4'	Bentonite Seal	
5	X						Tan fine to med grained sand		
			N				7'	0.010 Slotted Screen	
10							Gray fine to med grained sand	10/40 Silica Sand	
15							15' End of Boring		
20									
25									

C-1

WELL SAMPLE RECORD

PROJECT NO. _____ DATE 5/30/95 CHECKED BY _____

PROJECT Brownson Field SAMPLED BY Joy Jones / Darryl Gates DATE CHECKED _____

WELL I.D.	DEPTH TO WATER (FT. BMP)	TOTAL WELL DEPTH (FT. BMP)	WELL TYPE AND DIAMETER	WATER VOLUME IN WELL (GAL.)	PURGE RATE (GPM)	DURATION OF PURGING (MIN.)	VOLUME PURGED (GAL.)	PURGE METHOD	METHOD OF SAMPLE COLLECTION	DATE OF SAMPLE COLLECTION	TIME OF SAMPLE COLLECTION	SAMPLE TEMP. (C)	SAMPLE PH / ODOR	SAMPLE CONDUCTIVITY UMHOS/CM	COMMENTS (ODOR, COLOR, ETC.)
MW1	15.5	24.3	2" pvc	1.5	~0.5	15	~8	C	TB	5/30/95	1220		NONE		*In lieu of temp,
MW2	14.1	25.15		1.9		13	~10				1230		Slight petro		pH and Conductivity
MW3	14.8	24.85		1.7		20	~10				1235		NONE		all 18 wells were
MW4	13.12	24.6		1.95		14	~10				1237		NONE		purged 5 volumes
MW5	14.35	24.6		1.74		19	~9				1248		NONE		
MW6	7.00	14.8		1.32		9	~7				1355		NONE		
MW7	14.61	18.85		0.72		7	~4				1515		SEWAGE		
MW8	19.20	23.7		0.76		18	~4				1425		NONE		
MW9	15.0	23.7		1.5		20	~7.5				1830		Slight petro		
MW10	3.25	11.8		1.45		16	~7.5				1636		Sulfur		
MW11	7.95	16.64		1.48		7	~7.5				1727		NONE		
MW12	6.35	14.5		1.39		11	~7				1650		Petro		
MW13	13.05	24.60		1.96		11	~10				1452		Sewage		
MW14	19.8	23.4		0.61		6	~3				1559		NONE		
MW15	18.0	24.8		1.2		9	~6				1542		NONE		
MW16	5.42	14.65		1.57		17	~8				1705		NONE		
MW17	8.20	15.9		1.31		18	~6.5				1758		PETRO		
MW18	18.50	22.50		0.68		8	~4				1355		NONE		

PURGE AND COLLECTION METHODS: C = CENTRIFUGAL PUMP; P = PERISTALTIC PUMP; TB = TEFLON BAILER; PB = PVC BAILER; X = OTHER (DESCRIBE)

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 04/04/96	Completed: 04/04/96
MONITOR WELL NO.: MW-2	Start Time: 0815	Finish Time: 0845
Delivery Order 0014	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA HA				100%	1	0'-1'; Concrete & Sub-base.	0	NR	0
				100%	3	1'-4'; Brown, Fine to Medium Silty Sand.	0	NR	0
				100%	5	4'-6'; Lighter Brown, Fine to Medium, Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6'-13.5'; Darker Brown, Fine to Medium to Coarse, Silt Sand. Trace of Clay.			
				100%	9				
				100%	11				
				100%	13				
						End of Boring @ 13.5' bls			
					15				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date: 04/15/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 04/04/96	Completed: 04/04/96
MONITOR WELL NO.: MW-3	Start Time: 0845	Finish Time: 0915
Delivery Order 0014	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA HA				100%	1	0'-1'; Concrete & Sub-base.	0	NR	0
				100%	3	1'-4'; Brown, Fine to Medium Silty Sand.	0	NR	0
				100%	5	4'-6'; Lighter Brown, Fine to Medium, Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6'-13.5'; Darker Brown, Fine to Medium to Coarse, Silt Sand. Trace of Clay.			
				100%	9	NOTE: Strong Petroleum Odor Encountered @ Water Table.			
				100%	11				
				100%	13				
						End of Boring @ 13.5' bls			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G. No. 0001181
Florida Professional Geologist No. 0001181

Date: 04/15/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

C-4

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 04/04/96	Completed: 04/04/96
MONITOR WELL NO.: MW-4	Start Time: 0915	Finish Time: 0945
Delivery Order 0014	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA HA				100%	1	0'-1'; Concrete & Sub-base.	0	NR	0
				100%	3	1'-4'; Brown, Fine to Medium Silty Sand.	0	NR	0
				100%	5	4'-6'; Lighter Brown, Fine to Medium to Coarse Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6'-13.5'; Darker Brown, Fine to Medium to Coarse, Silt Sand. Trace of Clay.			
				100%	9				
				100%	11				
				100%	13				
						End of Boring @ 13.5' bls			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G. 1181
Florida Professional Geologist No. 0001181

Date: 04/15/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

C-5

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 04/04/96	Completed: 04/04/96
MONITOR WELL NO.: MW-5	Start Time: 0945	Finish Time: 1015
Delivery Order 0014	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST				100%	1	0'-1'; Concrete & Sub-base.	0	NR	0
HOLE				100%	3	1'-4'; Brown, Fine to Medium Silty Sand.	0	NR	0
				100%	5	4'-6'; Lighter Brown, Fine to Medium to Coarse Silty Sand. Trace of Clay.	0	NR	0
HSA			Water Table @ approx. 6' bls	100%	7	6'-13.5'; Darker Brown, Fine to Medium to Coarse, Silt Sand. Trace of Clay.			
HA				100%	9				
				100%	11				
				100%	13				
						End of Boring @ 13.5' bls			
					15				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date: 04/15/96

MICHAEL J. WALSH
PROFESSIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 04/04/96	Completed: 04/04/96
MONITOR WELL NO.: MW-6	Start Time: 1015	Finish Time: 1045
Delivery Order 0014	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA				100%	1	0'-1'; Concrete & Sub-base.	0	NR	0
				100%	3	1'-4'; Brown, Fine to Medium Silty Sand.	0	NR	0
				100%	5	4'-6'; Lighter Brown, Fine to Medium to Coarse Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6'-13.5'; Darker Brown, Fine to Medium to Coarse, Silt Sand. Trace of Clay.			
HA				100%	9				
				100%	11				
				100%	13				
						End of Boring @ 13.5' bls			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael S. Walsh, P.G. 0001181
Florida Professional Geologist No. 0001181

Date 04/15/96

MICHAEL S. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 05/16/96	Completed: 05/16/96
MONITOR WELL NO.: MW-7	Start Time: 845	Finish Time: 915
Delivery Order 0019	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HOLLOW STEM AUGER						0-8"; Concrete.			
				100%	1		0	NR	0
						8"-3'; Lt. Brown Sandy Loam.			
				100%	3	3'-3.5'; White Fine Grained Sand.			
							0	NR	0
			Water Table @ Approx. 4.5' BLS			3.5'-4.5'; Black, Sandy Silt "Bay Bottom".			
					5				
						4.5'-11.5'; Grey, Silty Fine Grained Sand; Trace of Clay.			
					7				
				100%	9				
						11.5'-13.5'; Dark Grey Silty Fine to Medium Grained Sand; Trace of Clay.			
				100%	11				
				100%	13				
						End of Boring @ 13.5' BLS			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date 05/30/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

C-8

Site 1140NW	LOGGED BY: Patrick Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 05/16/96	Completed: 05/16/96
MONITOR WELL NO.: MW-8	Start Time: 915	Finish Time: 945
Delivery Order 0019	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HOLLOW STEM AUGER						0-8"; Concrete.			
				100%	1		0	NR	0
						8"-3'; Lt. Brown Sandy Loam.			
				100%	3	3'-3.5'; White Fine Grained Sand.			
							0	NR	0
			Water Table @ Approx. 4.5' BLS			3.5'-4.5'; Black, Sandy Silt "Bay Bottom".			
					5				
						4.5'-11.5'; Grey, Silty Fine Grained Sand; Trace of Clay.			
					7				
				100%	9				
						11.5'-13.5'; Dark Grey Silty Fine to Medium Grained Sand; Trace of Clay.			
				100%	11				
				100%	13				
						End of Boring @ 13.5' BLS			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date 05/30/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 05/16/96	Completed: 05/16/96
MONITOR WELL NO.: MW-9	Start Time: 945	Finish Time: 1015
Delivery Order 0019	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HOLLOW STEM AUGER						0-8"; Concrete.			
				100%	1		0	NR	0
						8"-3'; Lt. Brown Sandy Loam.			
				100%	3	3'-3.5'; White Fine Grained Sand.			
							0	NR	0
			Water Table @ Approx. 4.5' BLS			3.5'-4.5'; Black, Sandy Silt "Bay Bottom".			
					5				
						4.5'-11.5'; Grey, Silty Fine Grained Sand; Trace of Clay.			
					7				
				100%	9				
						11.5'-13.5'; Dark Grey Silty Fine to Medium Grained Sand; Trace of Clay.			
				100%	11				
				100%	13				
						End of Boring @ 13.5' BLS			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date: 05/30/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick Brown	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 05/16/96	Completed: 05/16/96
MONITOR WELL NO.: MW-10	Start Time: 1015	Finish Time: 1045
Delivery Order 0019	Contract No. N65114-95-D-2126	CONTAMINATION DATA

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HOLLOW STEM AUGER						0-8"; Concrete.			
				100%	1		0	NR	0
						8"-3'; Lt. Brown Sandy Loam.			
				100%	3	3'-3.5'; White Fine Grained Sand.			
							0	NR	0
			Water Table @ Approx. 4.5' BLS			3.5'-4.5'; Black, Sandy Silt "Bay Bottom".			
					5				
						4.5'-11.5'; Grey, Silty Fine Grained Sand; Trace of Clay.			
					7				
				100%	9				
						11.5'-13.5'; Dark Grey Silty Fine to Medium Grained Sand Trace of Clay.			
				100%	11				
				100%	13				
						End of Boring @ 13.5' BLS			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date 05/30/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. 0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick Brown	SHEET 1 OF 1	
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA	
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile	
	Start Date: 05/16/96	Completed: 05/16/96	
MONITOR WELL NO.: MW-11	Start Time: 1045	Finish Time: 1115	
Delivery Order 0019	Contract No. N65114-95-D-2126	CONTAMINATION DATA	

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HOLLOW STEM AUGER						0-8"; Concrete.			
				100%	1		0	NR	0
						8"-3'; Lt. Brown Sandy Loam.			
				100%	3	3'-3.5'; White Fine Grained Sand.			
							0	NR	0
			Water Table @ Approx. 4.5' BLS			3.5'-4.5'; Black, Sandy Silt "Bay Bottom".			
					5				
						4.5'-11.5'; Grey, Silty Fine Grained Sand; Trace of Clay.			
					7				
				100%	9				
						11.5'-13.5'; Dark Grey Silty Fine to Medium Grained Sand; Trace of Clay.			
				100%	11				
				100%	13				
						End of Boring @ 13.5' BLS			
					15				

I Certify that this lthological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date: 05/30/96

MICHAEL J. WALSH
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1	
Bronson Field	Contractor: WES, Inc.	Dr. Method:	HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig:	Mobile
	Start Date: 5/23/96	Completed:	5/23/96
MONITOR WELL NO.: DMW-12	Start Time: 1530	Finish Time:	1600
Delivery Order 0037	Contract No. N65114-95-D-2126	CONTAMINATION DATA	

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NET	NOTES
POST HOLE HSA HA				100%	2	0'-1'; Concrete & Sub-base.	0	NR	0	
				100%			0	NR	0	
			Water Table @ approx. 5' bls		6	1'-4'; Brown, Fine to Medium Silty Sand.				
					10	4'-10'; Lighter Brown, Fine to Medium to Coarse Silty Sand. Trace of Clay.				
					14	10-24' ; Gray, medium, coarse sand				
					18					
					22					
					26	End of Boring @ 24' bls				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, III
Florida Professional Geologist No. 0001181

Date 11/4/96

MICHAEL J. WALSH III
PROVISIONAL LICENSE
No. PG0001181
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

C-13

Site 1140NW	LOGGED BY: Patrick J. Brown	SHEET 1 OF 1	
Bronson Field	Contractor: WES, Inc.	Dr. Method:	HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig:	Mobile
	Start Date: 08/14/96	Completed:	08/14/96
MONITOR WELL NO.: MW-13	Start Time: 1150	Finish Time:	1300
Delivery Order 0028	Contract No. N65114-95-D-2126	CONTAMINATION DATA	

TYPE	NUMB	BLOW	SAMP. INTV. (FT.)	SAMP. RECV. (IN)	DEPTH	DESCRIPTION OF MATERIALS AND CONDITIONS	OVA RESULTS (PPM) CARBON FILTER W/O	WITH	NOTES NET
POST HOLE HSA HA				100%	1	0'-1'; Concrete & Sub-base.	0	NR	0
				100%	3	1'-4'; Brown, Fine to Medium Silty Sand.	0	NR	0
				100%	5	4'-6'; Lighter Brown, Fine to Medium to Coarse Silty Sand. Trace of Clay.			
			Water Table @ approx. 5' bls						
				100%	7	6'-13'; Darker Brown, Fine to Medium to Coarse, Silty Sand. Trace of Clay.			
				100%	9				
				100%	11				
				100%	13				
						End of Boring @ 13' bls			
					15				

I Certify that this lithological log, including geological and hydrogeological interpretations, has been prepared under my direct supervision and meets the minimal technical requirements as set forth in Chapter 492 of the Florida Statues.

Reviewed by: Michael J. Walsh, P.G.
Florida Professional Geologist No. 0001181

Date 08/19/96

C-14

APPENDIX D

SOIL AND GROUNDWATER ANALYTICAL RESULTS

Navy Public Works Center
Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

Laboratory Report
Volatiles by Method 8260

Requester:	NPWC Environmental
Address:	Bldg. 3691
	NAS Pensacola, FL 32508
Phone #:	452-3094
Contact:	Paul Semmes

Lab ID Number:	9407231A
Received Date:	20 Jul 94
Sample Site:	Bronson Field
Job Order #:	120 6810

Sample ID#	Lab	1- 5072			2- 5073			3- 5074			4- 5075		
Sample Name	Requester	Bldg 1140B North			Bldg 1140B South			Bldg 1140B East			Bldg 1140B West		
Collector Name		P. Semmes			P. Semmes			P. Semmes			P. Semmes		
Date/Time	Comp start												
Collected	Comp stop												
(Military)	Grab	20 Jul 94 @ 1125			20 Jul 94 @ 1130			20 Jul 94 @ 1115			20 Jul 94 @ 1110		
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab		
Analyst		J. W. Moore			J. W. Moore			J. W. Moore			J. W. Moore		
Date of Analysis		20 Jul 94			22 Jul 94			23 Jul 94			23 Jul 94		
Sample Matrix		Soil			Soil			Soil			Soil		
Dilution		Dilution X 1			Dilution X 1			Dilution X 1			Dilution X 1		
PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 5072	units	Limit	2- 5073	units	Limit	3- 5074	units	Limit	4- 5075	units	Limit
Benzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Bromobenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Bromochloromethane	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2
Bromodichloromethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Bromoform	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Bromomethane	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2
n-Butylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
sec-Butylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
tert-Butylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Carbon Tetrachloride	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Chlorobenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Chloroethane	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2
Chloroform	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Chloromethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
2-Chlorotoluene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
4-Chlorotoluene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Dibromochloromethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2-Dibromo-3-chloropropane	EPA 8260	BDL	ug/kg	5	BDL	ug/kg	5	BDL	ug/kg	5	BDL	ug/kg	5
1,2-Dibromoethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Dibromomethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2-Dichlorobenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,3-Dichlorobenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,4-Dichlorobenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Dichlorodifluoromethane	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2
1,1-Dichloroethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2-Dichloroethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,1-Dichloroethene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
cis-1,2-Dichloroethene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
trans-1,2-Dichloroethene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2-Dichloropropane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,3-Dichloropropane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
2,2-Dichloropropane	EPA 8260	BDL	ug/kg	4	BDL	ug/kg	4	BDL	ug/kg	4	BDL	ug/kg	4
1,1-Dichloropropene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Ethylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Hexachlorobutadiene	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2
Isopropylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
p-Isopropyltoluene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Methylene chloride	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1

Navy Public Works Center
Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

Laboratory Report
Volatiles by Method 8260

Requester: NPWC Environmental
Address: Bldg. 3691
NAS Pensacola, FL 32508
Phone #: 452-3094
Contact: Paul Semmes

Lab ID Number: 9407231A
Received Date: 20 Jul 94
Sample Site: Bronson Field
Job Order #: 120 6810

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 5072	units	Limit	2- 5073	units	Limit	3- 5074	units	Limit	4- 5075	units	Limit
Naphthalene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
n-Propylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Styrene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,1,1,2-Tetrachloroethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,1,2,2-Tetrachloroethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Tetrachloroethene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Toluene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2,3-Trichlorobenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2,4-Trichlorobenzene	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2
1,1,1-Trichloroethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,1,2-Trichloroethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Trichloroethene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Trichlorofluoromethane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2,3-Trichloropropane	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,2,4-Trimethylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
1,3,5-Trimethylbenzene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
Vinyl Chloride	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
o-Xylene	EPA 8260	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1	BDL	ug/kg	1
m,p-Xylene	EPA 8260	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2	BDL	ug/kg	2

Surrogate Recoveries Compound	Acceptance Limits				
1,2-Dichloroethane-d4	70-121	103	97	99	99
Toluene-d8	84-138	102	104	103	102
Bromofluorobenzene	59-113	101	91	94	98

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.

Approved by: Jerry Dees, Laboratory Director Date: 29-Jul-94 @ 08:59

PWC5090/14

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

Laboratory Report
Volatiles by Method 8260

Requester: NPWC Environmental
Address: Bldg. 3691
NAS Pensacola, FL 32508
Phone #: 452-3094
Contact: Paul Semmes

Lab ID Number: 9407231B
Received Date: 20 Jul 94
Sample Site: Bronson Field
Job Order #: 120 6810

Sample ID#	Lab	1- 5093	2-	3-	4-
Sample Name	Requester	B1140B Fill dirt			
Collector Name		P. Semmes			
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	20 Jul 94 @ 1135			
Sample Type	Comp/Grab	Comp			
Analyst		J. W. Moore			
Date of Analysis		23 Jul 94			
Sample Matrix		Soil			
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER Volatiles by GCMS (Capillary)	METHOD #	ID# 1- 5093	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit
Benzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Bromobenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Bromochloromethane	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2
Bromodichloromethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Bromoform	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Bromomethane	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2
n-Butylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
sec-Butylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
tert-Butylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Carbon Tetrachloride	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Chlorobenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Chloroethane	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2
Chloroform	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Chloromethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
2-Chlorotoluene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
4-Chlorotoluene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Dibromochloromethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dibromo-3-chloropropane	EPA 8260	BDL	ug/kg	5		ug/kg	5		ug/kg	5		ug/kg	5
1,2-Dibromoethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Dibromomethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dichlorobenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,3-Dichlorobenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,4-Dichlorobenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Dichlorodifluoromethane	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2
1,1-Dichloroethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dichloroethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,1-Dichloroethene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
cis-1,2-Dichloroethene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
trans-1,2-Dichloroethene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dichloropropane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,3-Dichloropropane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
2,2-Dichloropropane	EPA 8260	BDL	ug/kg	4		ug/kg	4		ug/kg	4		ug/kg	4
1,1-Dichloropropene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Ethylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Hexachlorobutadiene	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2
Isopropylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
p-Isopropyltoluene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Methylene chloride	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1

Navy Public Works Center
Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

Laboratory Report
Volatiles by Method 8260

Requester: NPWC Environmental
Address: Bldg. 3691
NAS Pensacola, FL 32508
Phone #: 452-3094
Contact: Paul Semmes

Lab ID Number: 9407231B
Received Date: 20 Jul 94
Sample Site: Bronson Field
Job Order #: 120 6810

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 5093	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit
Naphthalene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
n-Propylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Styrene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,1,1,2-Tetrachloroethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,1,2,2-Tetrachloroethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Tetrachloroethene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Toluene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2,3-Trichlorobenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2,4-Trichlorobenzene	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2
1,1,1-Trichloroethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,1,2-Trichloroethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Trichloroethene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Trichlorofluoromethane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2,3-Trichloropropane	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,2,4-Trimethylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
1,3,5-Trimethylbenzene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
Vinyl Chloride	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
o-Xylene	EPA 8260	BDL	ug/kg	1		ug/kg	1		ug/kg	1		ug/kg	1
m,p-Xylene	EPA 8260	BDL	ug/kg	2		ug/kg	2		ug/kg	2		ug/kg	2

Surrogate Recoveries Compound	Acceptance Limits				
1,2-Dichloroethane-d4	70-121	101			
Toluene-d8	84-138	101			
Bromofluorobenzene	59-113	97			

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.

Approved by: Jerry Dees, Laboratory Director Date: 29-Jul-94 @ 08:55

PWC5090/14

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3691, Code 920
NAS Pensacola, Fl. 32508
Phone (904) 452-4728/3642
Autovon 922-4728/3642

Laboratory Report

Volatile Aromatics by Method 8260

Requester: NPWC Environmental
Address: Bldg. 3691
NAS Pensacola, Fl 32508
Phone #: 452-3094
Contact: Paul Semmes

Lab ID Number: 9506019 A
Sample Date: 30 May 95
Received Date: 31 May 95
Sample Site: Bronson Field
Job Order #: 168 4195

Sample ID#	Lab	1- 53096	2- 53097	3- 53098	4- 53099
Sample Name	Requester	MW10/1122	MW12/1140	MW16/1140	MW11/1121
Collector Name		JJ/DG	JJ/DG	JJ/DG	JJ/DG
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	30 May 95 @ 1635	30 May 95 @ 1650	30 May 95 @ 1705	30 May 95 @ 1727
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab
Analyst		J. Moore	J. Moore	J. Moore	J. Moore
Date of Analysis		31 May 95	31 May 95	31 May 95	31 May 95
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 53096	units	Limit	2- 53097	units	Limit	3-	units	Limit	4-	units	Limit
Benzene	EPA 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Ethylbenzene	EPA 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Toluene	EPA 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Xylenes (Total)	EPA 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Methyl-tert-butyl ether (MTBE)	EPA 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Total VOA	EPA 8260		ug/l	1		ug/l	1		ug/l	1		ug/l	1

Surrogate Recoveries Compound	Acceptance Limits				
1,2-Dichloroethane-d4	76-114	96	99	96	111
Toluene-d8	88-110	101	99	101	104
Bromofluorobenzene	86-115	106	88	88	88

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 09-Jun-95 @ 10:57
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PWC:509X/14

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Navy Public Works Center
Environmental Laboratory

Laboratory Report
PAH's by Method 8270A

Bldg. 3691, Code 920
NAS Pensacola, Fl. 32508
Phone (904) 452-4728/3642
Autovon 922-4728/3642

Requester: NPWC Environmental
Address: Bldg. 3691
NAS Pensacola, Fl 32508
Phone #: 452-3094
Contact: Paul Semmes

Lab ID Number: 9506019 B
Sample Date: 30 May 95
Received Date: 31 May 95
Sample Site: Bronson Field
Job Order #: 168 4195

Sample ID#	Lab	1- 53096	2- 53097	3- 53098	4- 53099
Sample Name	Requester	MW10/1122	MW12/1140	MW16/1140	MW11/1121
Collector Name		JJ/DG	JJ/DG	JJ/DG	JJ/DG
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	30 May 95 @ 1636	30 May 95 @ 1650	30 May 95 @ 1705	30 May 95 @ 1727
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab
Analyst		J. Moore	J. Moore	J. Moore	J. Moore
Date of Analysis		5 Jun 95	5 Jun 95	5 Jun 95	5 Jun 95
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Polynuclear Aromatics (PAH's)	METHOD #	1- 53096	units	Limit	2- 53097	units	Limit	3- 53098	units	Limit	4- 53099	units	Limit
Acenaphthene	SW 8270A	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
Acenaphthylene	SW 8270A	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
Anthracene	SW 8270A	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Benzo(a)anthracene	SW 8270A	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Benzo(a)pyrene	SW 8270A	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Benzo(b)fluoranthene	SW 8270A	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Benzo(g,h,i)perylene	SW 8270A	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Benzo(k)fluoranthene	SW 8270A	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Chrysene	SW 8270A	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Dibenzo(a,h)anthracene	SW 8270A	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Fluoranthene	SW 8270A	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Fluorene	SW 8270A	BDL	ug/l	4	10	ug/l	4	5	ug/l	4	BDL	ug/l	4
Indeno(1,2,3-cd)pyrene	SW 8270A	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Naphthalene	SW 8270A	BDL	ug/l	7	13	ug/l	7	BDL	ug/l	7	BDL	ug/l	7
Phenanthrene	SW 8270A	BDL	ug/l	3	5	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Pyrene	SW 8270A	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
1-Methylnaphthalene*	SW 8270A	BDL	ug/l	5	70	ug/l	5	20	ug/l	5	BDL	ug/l	5
2-Methylnaphthalene	SW 8270A	BDL	ug/l	7	90	ug/l	7	30	ug/l	7	BDL	ug/l	7

SURROGATE RECOVERIES Compound	Acceptance Limits				
Nitrobenzene-d5	35-114	60	62	57	64
2-Fluorobiphenyl	43-116	69	72	60	71
Terphenyl-d14	33-141	72	67	57	71

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.
* - HRS certification pending.

Approved by: Jerry Deen, Laboratory Director

Date/Time: 09-Jun-95 @ 10:25
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PWC 5090/14

Navy Public Works Center
Environmental Laboratory

Bldg 3887, Code 920
NAS Pensacola, FL 32508-5303
Phone (904) 452-4728
DSN 922-4728
FAX (904) 452-2387/2799

Laboratory Report
601/602 Volatiles by Method 8260

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Report Number: 9604023 B
Sample Date: 11 Apr 96
Received Date: 12 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NW
Job Order #: 130 5001

Sample ID#		1- 61483			2- 61484			3- 61485			4- 61486		
Sample Name		MW-2			MW-3			MW-4			MW-5		
Collector Name		P. J. B.			P. J. B.			P. J. B.			P. J. B.		
Date/Time	Comp start												
Collected	Comp stop												
(Military)	Grab	12 Apr 96	@	1030	11 Apr 96	@	1200	11 Apr 96	@	1100	11 Apr 96	@	1115
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab		
Analyst		J. Moore			J. Moore			J. Moore			J. Moore		
Date of Analysis		15 Apr 96			15 Apr 96			14 Apr 96			15 Apr 96		
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater		
Dilution		Dilution	X	1	Dilution	X	1	Dilution	X	1	Dilution	X	1
PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 61483	units	Limit	2- 61484	units	Limit	3- 61485	units	Limit	4- 61486	units	Limit
Benzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Bromodichloromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Bromoform	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Bromomethane	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Carbon Tetrachloride	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Chlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Chloroethane	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
2-Chloroethylvinyl ether	SW 8260	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Chloroform	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Chloromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Dibromochloromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,2-Dichlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,3-Dichlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,4-Dichlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Dichlorodifluoromethane	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
1,1-Dichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,2-Dichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1-Dichloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
trans-1,2-Dichloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,2-Dichloropropane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
cis-1,3-Dichloropropene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
trans-1,3-Dichloropropene	SW 8260	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Ethylbenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Methylene chloride	SW 8260	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
Methyl-tert-butyl Ether (MTBE)	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1,2,2-Tetrachloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Tetrachloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Toluene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1,1-Trichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1,2-Trichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Trichloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Trichlorofluoromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Vinyl Chloride	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Xylenes (Total)	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2

Surrogate Recoveries Compound	Acceptance Limits				
1,2-Dichloroethane-d4	76-114	106	108	109	101
Toluene-d8	88-110	97	99	98	98
Bromoflourobenzene	86-115	97	99	102	103

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-May-96 @ 12:08
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PWC 5090/14

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End of Report

Navy Public Works Center
Environmental Laboratory

Bldg 3887, Code 920
NAS Pensacola, FL 32508-5303
Phone (904) 452-4728
DSN 922-4728
FAX (904) 452-2387/2799

Laboratory Report
601/602 Volatiles by Method 8260

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Report Number: 9604024 B
Sample Date: 11 Apr 96
Received Date: 12 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NW
Job Order #: 130 5001

Sample ID#		1- 61487			2- 61488			3- 61489			4- 61490		
Sample Name		MW-6			Duplicate			Eq. Blank			Trip Blank		
Collector Name		P. J. B.			P. J. B.			P. J. B.			P. J. B.		
Date/Time	Comp start												
Collected	Comp stop												
(Military)	Grab	11 Apr 96	@	1130	N/S	@	N/S	11 Apr 96	@	1045	11 Apr 96	@	N/S
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab		
Analyst		J. Moore			J. Moore			J. Moore			J. Moore		
Date of Analysis		14 Apr 96			14 Apr 96			14 Apr 96			14 Apr 96		
Sample Matrix		Groundwater			Groundwater			Deionized Water			Deionized Water		
Dilution		Dilution	X	1	Dilution	X	1	Dilution	X	1	Dilution	X	1
PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 61487	units	Limit	2- 61488	units	Limit	3- 61489	units	Limit	4- 61490	units	Limit
Benzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Bromodichloromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Bromoform	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Bromomethane	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Carbon Tetrachloride	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Chlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Chloroethane	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
2-Chloroethylvinyl ether	SW 8260	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Chloroform	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Chloromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Dibromochloromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,2-Dichlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,3-Dichlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,4-Dichlorobenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Dichlorodifluoromethane	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
1,1-Dichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,2-Dichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1-Dichloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
trans-1,2-Dichloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,2-Dichloropropane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
cis-1,3-Dichloropropene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
trans-1,3-Dichloropropene	SW 8260	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Ethylbenzene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Methylene chloride	SW 8260	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
Methyl-tert-butyl Ether (MTBE)	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1,2,2-Tetrachloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Tetrachloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Toluene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1,1-Trichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
1,1,2-Trichloroethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Trichloroethene	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Trichlorofluoromethane	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Vinyl Chloride	SW 8260	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1	BDL	ug/l	1
Xylenes (Total)	SW 8260	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2

Surrogate Recoveries Compound	Acceptance Limits				
1,2-Dichloroethane-d4	76-114	111	108	105	105
Toluene-d8	88-110	98	97	97	97
Bromoflourobenzene	86-115	103	100	101	103

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.
N/S = Not Submitted.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-May-96 @ 12:02
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Navy Public Works Center
Environmental Laboratory

Laboratory Report
Total PAH's by Method 8270A

Bldg. 3887, Code 920
NAS Pensacola, FL 32508-5303
Phone (904) 452-4728
DSN 922-4728

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Report Number: 9604023 C
Sample Date: 11 Apr 96
Received Date: 12 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 61483	2- 61484	3- 61485	4- 61486
Sample Name	Requester	MW-2	MW-3	MW-4	MW-5
Collector Name		P. J. B.	P. J. B.	P. J. B.	P. J. B.
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	12 Apr 96 @ 1030	11 Apr 96 @ 1200	11 Apr 96 @ 1100	11 Apr 96 @ 1115
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab
Analyst		M. Chambers	M. Chambers	M. Chambers	M. Chambers
Date of Analysis		20 Apr 96	26 Apr 96	26 Apr 96	26 Apr 96
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER	ANALYSIS	ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Polynuclear Aromatics (PAH's)	METHOD #	1- 61483	units	Limit	2- 61484	units	Limit	3- 61485	units	Limit	4- 61486	units	Limit
Acenaphthene	SW846 8270	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
Acenaphthylene	SW846 8270	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
Anthracene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Benzo(a)anthracene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Benzo(a)pyrene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Benzo(b)fluoranthene	SW846 8270	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Benzo(g,h,i)perylene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Benzo(k)fluoranthene	SW846 8270	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Chrysene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Dibenzo(a,h)anthracene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Fluoranthene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Fluorene	SW846 8270	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4
Indeno(1,2,3-cd)pyrene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2
Naphthalene	SW846 8270	BDL	ug/l	7	190	ug/l	70	BDL	ug/l	7	BDL	ug/l	7
Phenanthrene	SW846 8270	BDL	ug/l	3	33	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
Pyrene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3
1-Methylnaphthalene	SW846 8270	BDL	ug/l	5	350	ug/l	50	BDL	ug/l	5	BDL	ug/l	5
2-Methylnaphthalene	SW846 8270	BDL	ug/l	7	520	ug/l	70	BDL	ug/l	7	BDL	ug/l	7

SURROGATE RECOVERIES Compound	Acceptance Limits				
Nitrobenzene-d5	35-114	66	111	89	101
2-Fluorobiphenyl	43-116	69	99	87	100
Terphenyl-d14	33-141	81	122	108	117

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.

Approved by: Jerry Deen, Laboratory Director

Date/Time: 03-May-96 @ 12:14
Report Generated

PWC 5090/14

End of Report

Navy Public Works Center
Environmental Laboratory

Laboratory Report
Total PAH's by Method 8270

Bldg. 3887, Code 920
NAS Pensacola, FL 32508-5303
Phone (904) 452-4728
DSN 922-4728

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Report Number: 9604024 C
Sample Date: 11 Apr 96
Received Date: 12 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 61487	2- 61488	3- 61489	4-
Sample Name	Requester	MW-6	Duplicate	Eq. Blank	
Collector Name		P. J. B.	P. J. B.	P. J. B.	
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	11 Apr 96 @ 1130	N/S @ N/S	11 Apr 96 @ 1045	
Sample Type	Comp/Grab	Grab	Grab	Grab	
Analyst		M. Chambers	M. Chambers	M. Chambers	
Date of Analysis		26 Apr 96	26 Apr 96	26 Apr 96	
Sample Matrix		Groundwater	Groundwater	Deionized Water	
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER	ANALYSIS	ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Polynuclear Aromatics (PAH's)	METHOD #	1- 61487	units	Limit	2- 61488	units	Limit	3- 61489	units	Limit	4-	units	Limit
Acenaphthene	SW846 8270	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5		ug/l	5
Acenaphthylene	SW846 8270	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5		ug/l	5
Anthracene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2		ug/l	2
Benzo(a)anthracene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3		ug/l	3
Benzo(a)pyrene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2		ug/l	2
Benzo(b)fluoranthene	SW846 8270	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4		ug/l	4
Benzo(g,h,i)perylene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3		ug/l	3
Benzo(k)fluoranthene	SW846 8270	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4		ug/l	4
Chrysene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3		ug/l	3
Dibenzo(a,h)anthracene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3		ug/l	3
Fluoranthene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2		ug/l	2
Fluorene	SW846 8270	BDL	ug/l	4	BDL	ug/l	4	BDL	ug/l	4		ug/l	4
Indeno(1,2,3-cd)pyrene	SW846 8270	BDL	ug/l	2	BDL	ug/l	2	BDL	ug/l	2		ug/l	2
Naphthalene	SW846 8270	BDL	ug/l	7	210	ug/l	70	BDL	ug/l	70		ug/l	7
Phenanthrene	SW846 8270	BDL	ug/l	3	25	ug/l	3	BDL	ug/l	30		ug/l	3
Pyrene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3		ug/l	3
1-Methylnaphthalene	SW846 8270	BDL	ug/l	5	340	ug/l	50	BDL	ug/l	50		ug/l	5
2-Methylnaphthalene	SW846 8270	BDL	ug/l	7	510	ug/l	70	BDL	ug/l	70		ug/l	7

SURROGATE RECOVERIES Compound	Acceptance Limits				
Nitrobenzene-d5	35-114	101	114	98	
2-Fluorobiphenyl	43-116	110	100	98	
Terphenyl-d14	33-141	121	115	124	

Comments: ug/l=micrograms per liter. ug/kg=micrograms per kilogram. BDL=Below Detection Limit.
N/S = Not Submitted.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 06-May-96 @ 12:49
Report Generated

PWC 5090/14

End of Report

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	604319
Client:	NAS, CO, PWC
Project Number:	CALL #9031
Project Name:	TPH BY FLPRO
Project Location:	BRONSON #1140
Department:	SEMI-VOLATILE FUELS

"FINAL REPORT FORMAT - SINGLE"

Accession: 604319
Client: NAS, CO, PWC
Project Number: CALL #9031
Project Name: TPH BY FLPRO
Project Location: BRONSON #1140
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 001 Sample Date/Time: 11-APR-96 1030
Client Sample Id: 61483 BRONSON 1140 MW2 Received Date: 16-APR-96

Batch: FPW033 Extraction Date: 17-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 20-APR-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	1900	100	
NONATRIACONTANE	%REC/SURR	73	42-193	
ORTHO TER PHENYL	%REC/SURR	134	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 604319
Client: NAS, CO, PWC
Project Number: CALL #9031
Project Name: TPH BY FLPRO
Project Location: BRONSON #1140
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 002 Sample Date/Time: 11-APR-96 1200
Client Sample Id: 61484 BRONSON 1140 MW3 Received Date: 16-APR-96

Batch: FPW033 Extraction Date: 17-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 20-APR-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	110000	5000	
NONATRIACONTANE	%REC/SURR	D	42-193	
ORTHO TER PHENYL	%REC/SURR	D	82-142	
ANALYST	INITIALS	KS		

Comments:
D = DILUTED OUT.

"FINAL REPORT FORMAT - SINGLE"

Accession: 604319
Client: NAS, CO, PWC
Project Number: CALL #9031
Project Name: TPH BY FLPRO
Project Location: BRONSON #1140
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 003 Sample Date/Time: 11-APR-96 1100
Client Sample Id: 61485 BRONSON 1140 MW4 Received Date: 16-APR-96

Batch: FPW033 Extraction Date: 17-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 20-APR-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	49	42-193	
ORTHO TER PHENYL	%REC/SURR	88	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 604319
Client: NAS, CO, PWC
Project Number: CALL #9031
Project Name: TPH BY FLPRO
Project Location: BRONSON #1140
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 004 Sample Date/Time: 11-APR-96 1115
Client Sample Id: 61486 BRONSON 1140 MW5 Received Date: 16-APR-96

Batch: FPW033 Extraction Date: 17-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 20-APR-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	49	42-193	
ORTHO TER PHENYL	%REC/SURR	88	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 604319
Client: NAS, CO, PWC
Project Number: CALL #9031
Project Name: TPH BY FLPRO
Project Location: BRONSON #1140
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 005 Sample Date/Time: 11-APR-96 1130
Client Sample Id: 61487 BRONSON 1140 MW6 Received Date: 16-APR-96

Batch: FPW033 Extraction Date: 17-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 20-APR-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	64	42-193	
ORTHO TER PHENYL	%REC/SURR	103	82-142	
ANALYST	INITIALS	KS		

Comments:

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508-5303
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Report
EDB by Method 504

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Report Number: 9604023 A
Sample Date: 11 Apr 96
Received Date: 12 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 61483	2- 61484	3- 61485	4- 61486
Sample Name	Requester	MW-2	MW-3	MW-4	MW-5
Collector Name		P. J. B.	P. J. B.	P. J. B.	P.J.B.
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	12 Apr 96 @ 1030	11 Apr 96 @ 1200	11 Apr 96 @ 1100	11 Apr 96 @ 1115
Sample Type	Comp/Grab	Grab	Grab	Grab	
Analyst		B. Jacquart	B. Jacquart	B. Jacquart	
Date of Analysis		14 Apr 96	14 Apr 96	14 Apr 96	14 Apr 96
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 61483	units	Limit	2- 61484	units	Limit	3- 61485	units	Limit	4- 61486	units	Limit
Ethylene Dibromide	EPA 504	0.12	ug/l	0.02	0.03	ug/l	0.02	0.11	ug/l	0.02	BDL	ug/l	0.02

SURROGATE RECOVERIES Compound	Acceptance Limits				
2,4,5,6-Tetrachloro-m-xylene	60-140	96	104	97	100

Comments: ug/l=micrograms per liter. BDL=Below Detection Limit.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-May-96 @ 12:10
Report Generated

PWC 5090/14

Page 1 of 1

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508-5303
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Report
EDB by Method 504

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Report Number: 9604024 A
Sample Date: 11 Apr 96
Received Date: 12 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 61487	2- 61488	3- 61489	4-
Sample Name	Requester	MW-6	Duplicate	Eq. Blank	
Collector Name		P. J. B.	P. J. B.	P. J. B.	
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	11 Apr 96 @ 1130	N/S @ N/S	11 Apr 96 @ 1045	
Sample Type	Comp/Grab	Grab	Grab	Grab	
Analyst		B. Jacquart	B. Jacquart	B. Jacquart	
Date of Analysis		14 Apr 96	14 Apr 96	14 Apr 96	
Sample Matrix		Groundwater	Groundwater	Deionized Water	
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Volatiles by GCMS (Capillary)	METHOD #	1- 61487	units	Limit	2- 61488	units	Limit	3- 61489	units	Limit	4-	units	Limit
Ethylene Dibromide	EPA 504	0.03	ug/l	0.02	0.04	ug/l	0.02	BDL	ug/l	0.02		ug/l	0.02

SURROGATE RECOVERIES Compound	Acceptance Limits				
2,4,5,6-Tetrachloro-m-xylene	60-140	90	85	118	

Comments: ug/l=micrograms per liter. BDL=Below Detection Limit.
N/S = Not Submitted.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-May-96 @ 11:29
Report Generated

PWC 5090/14

End of Report

"FINAL REPORT FORMAT - SINGLE"

Accession:	605504
Client:	NAS, CO, PWC
Project Number:	CALL #9038
Project Name:	J.N. #13005001
Project Location:	BRONSON FIELD
Test:	FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method:	PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method:	3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix:	GROUNDWATER
QC Level:	I

Lab Id:	005	Sample Date/Time:	22-MAY-96 1940
Client Sample Id:	MW-1 1140NW	Received Date:	23-MAY-96
Batch: FPW043		Extraction Date:	23-MAY-96
Blank: A	Dry Weight %: N/A	Analysis Date:	04-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	45	42-193	
ORTHO TER PHENYL	%REC/SURR	106	82-142	
ANALYST	INITIALS	KS		

Comments:

American Environmental Network, Inc.
11 East Olive Road • Pensacola, FL 32514 • (904) 474-1001

CHAIN OF CUSTODY

AEN ACCESSION #: 6005504

PART 1 - Bottle Shipment Information

CLIENT:

CLIENT PROJECT NUMBER:

QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE							PLASTIC CONTAINERS							GLASS CONTAINERS									NOTES
	H_2SO_4	HNO3	HCL	Zn Acetate	$Na_2S_2O_3$	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	½ gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)	1 liter (C)	40 ml Vial	4 oz. wm	8 oz. wm	16 oz. wm	32 oz. wm	D.I. Trip Blank	

Relinquished By:	Time	Date	Received By:	Time	Date

PART 2 - Sample/Project Information

SAMPLE MATRIX CODES

DW DRINKING WATER — AI AIR — SW SURFACE WATER
WW WASTEWATER — SO SOIL — SL SLUDGE
GW GROUNDWATER — OI OIL — ST STORMWATER

PARAMETERS AND PRESERVATIVES REQUESTED

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	FL PRD	418.1													TOTAL # OF BOTTLES
MW-1 1120	5-22-96	1425	GW	✓														3
MW-1 1162		1850	GW	✓														2
EQUIPMENT BLANK		1845	water	✓														2
MW-1 1159		1920	GW	✓														2
MW-1 1140NW		1940	GW	✓														2
MW-1 1140NE		2005	GW	✓														2
DUP-1 1140NW		1940	GW	✓														2
MW-1 1122	↓ ROH	2115	GW		✓													2

Total Number of Bottles/Containers: 17

Relinquished By	Date	Time	Received By	Date	Time
[illegible]	5-22-96	0915	Linda L. Kilt	5/22/96	0915

Client NAS			Purchase Order Number STUB # 6138-4908
Address			Project Number CALL # 9038
City	State	Zip	Project Name J.N. # 1305001
Phone Number (904) 452-2170	Fax Number ( )		Project Location BRONSON FIELD
Project Manager GREG CAMPBLE			Sampled By RICKY HAGENDORFER / BARRY HICKS

TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days	✓	
RUSH (must be approved in advance)		
48 hours - 2x standard price		
5-7 days - 1.5x standard price		
TCLP - 1 week rush 1.5x standard price		
QC Level none I II III IV (circle one)		Copies of report needed _____

FORM # 12694

D-20

WHITE — LAB CANARY — REPORT PINK — CLIENT

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

ATI/GC/FID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

ATI/GC/FIX
ATI GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

A[illegible]GC/FPD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

ATI/GC/PID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

ATI/GC/TCD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

LJT = LISA THOMASON
SW = STEVE WILHITE
KW = KAREN WADSWORTH
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
BV = BEN VAUGHN
BC = BETH COLEMAN
KS = KENDALL SMITH
KK = KERRY KUST
DWB = DAVID W. BOWERS
RP = ROB PEREZ

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"QC Report"

Title: Water Reagent
Batch: FPW043
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992

RS Date Analyzed: 03-JUN-96
RSD Date Analyzed: 03-JUN-96

RS Date Extracted: 23-MAY-96
RSD Date Extracted: 23-MAY-96

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
TOTAL PETROLEUM HYDROCARBON	4998	<100	5100	102	5459	109	7	30	57-122
Surrogates:									
ORTHO TER PHENYL				109		93			82-142
C-39				46		62			42-193

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Date 05-Jun-96

"QC Report"

Title: Water Blank
Batch: FPW043
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992

Blank Id: A Date Analyzed: 03-JUN-96 Date Extracted: 23-MAY-96

Parameters:	Units:	Results:	Reporting Limits:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100
ORTHO TER PHENYL	%REC/SURR	88	82-142
ANALYST	INITIALS	KS	
C-39	%REC/SURR	64	42-193

Comments:

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4726/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62547
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62547
Sample Name / Location	MW-7 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1445
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/11/96 / JM
Date of Analysis	06/11/96
Sample Matrix	GW
Dilution	X 1

Compound Name	1- 62547	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	101
Toluene-d8	86-119	106
Bromoflourobenzene	85-116	101

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated

 End of Report

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Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN -4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62547
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62547
Sample Name / Location	MW-7 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1445
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	6/11/96; JJ
Date of Analysis	6/14/96
Sample Matrix	GW
Dilution	X 1.1

COMPOUND NAME	1- 62547	units	Det. Limit
Acenaphthene	BDL	UG/L	6
Acenaphthylene	BDL	UG/L	6
Anthracene	BDL	UG/L	2
Benzo(a)anthracene	BDL	UG/L	3
Benzo(a)pyrene	BDL	UG/L	2
Benzo(b)flouranthene	BDL	UG/L	4
Benzo(g,h,i)perylene	BDL	UG/L	3
Benzo(k)flouranthene	BDL	UG/L	4
Chrysene	BDL	UG/L	3
Dibenz(a,h)anthracene	BDL	UG/L	3
Flo thene	BDL	UG/L	2
Flourene	BDL	UG/L	4
Indeno(1,2,3-cd)pyrene	BDL	UG/L	2
1-Methylnaphthalene *	BDL	UG/L	6
2-Methylnaphthalene	BDL	UG/L	8
Naphthalene	BDL	UG/L	8
Phenanthrene	BDL	UG/L	3
Pyrene	BDL	UG/L	3

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	79
2-Flourobiphenyl	43-116	83
Terphenyl -d14	33-141	94

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter. * = FL HRS certification pending

Approved by : Date/Time : 6/24/96 1520

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Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62547 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62547			
Sample Name / Location	MW-7 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1445			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/11/96 -BJ			
Date of Analysis	06/11/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62547	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	109 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
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Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory
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Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62548
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62548			
Sample Name / Location	MW-8 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1500			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	06/11/96 / JM			
Date of Analysis	06/11/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62548	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	100
Toluene-d8	86-119	105
Bromoflourobenzene	85-116	100

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated
Page 1 of 1 End of Report

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Navy Public Works Center
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Phone (904) 452-4728/3642
DSN :-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62548
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62548
Sample Name / Location	MW-8 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1500
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	6/11/96; JJ
Date of Analysis	6/14/96
Sample Matrix	GW
Dilution	X 1.1

COMPOUND NAME	1- 62548	units	Det. Limit
Acenaphthene	BDL	UG/L	6
Acenaphthylene	BDL	UG/L	6
Anthracene	BDL	UG/L	2
Benzo(a)anthracene	BDL	UG/L	3
Benzo(a)pyrene	BDL	UG/L	2
Benzo(b)flouranthene	BDL	UG/L	4
Benzo(g,h,i)perylene	BDL	UG/L	3
Benzo(k)flouranthene	BDL	UG/L	4
Chrysene	BDL	UG/L	3
Dibenz(a,h)anthracene	BDL	UG/L	3
Flc thene	BDL	UG/L	2
Flourene	BDL	UG/L	4
Indeno(1,2,3-cd)pyrene	BDL	UG/L	2
1-Methylnaphthalene *	8	UG/L	6
2-Methylnaphthalene	BDL	UG/L	8
Naphthalene	BDL	UG/L	8
Phenanthrene	BDL	UG/L	3
Pyrene	BDL	UG/L	3

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	80
2-Flourobiphenyl	43-116	79
Terphenyl -d14	33-141	94

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter. * = FL HRS certification pending

Approved by : Date/Time : 6/24/96 1520

Navy Public Works Center
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Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62548 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62548			
Sample Name / Location	MW-8 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1500			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/12/96 -BJ			
Date of Analysis	06/12/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62548	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	104 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Rees, Laboratory Director

Date: 6/24/96
Report Generated

 End of Report

Navy Public Works Center
Environmental Laboratory
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NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62549
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62549
Sample Name / Location	MW-9 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1515
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/11/96 / JM
Date of Analysis	06/11/96
Sample Matrix	GW
Dilution	X 1

Compound Name	1- 62549	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	102
Toluene-d8	86-119	104
Bromoflourobenzene	85-116	102

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated

D-30

Navy Public Works Center
Environmental Laboratory
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NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN [illegible]-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62549
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62549
Sample Name / Location	MW-9 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1515
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	6/11/96; JJ
Date of Analysis	6/14/96
Sample Matrix	GW
Dilution	X 1.2

COMPOUND NAME	1- 62549	units	Det. Limit
Acenaphthene	BDL	UG/L	6
Acenaphthylene	BDL	UG/L	6
Anthracene	BDL	UG/L	2
Benzo(a)anthracene	BDL	UG/L	4
Benzo(a)pyrene	BDL	UG/L	2
Benzo(b)flouranthene	BDL	UG/L	5
Benzo(g,h,i)perylene	BDL	UG/L	4
Benzo(k)flouranthene	BDL	UG/L	5
Chrysene	BDL	UG/L	4
Dibe[illegible](a,h)anthracene	BDL	UG/L	4
Flo[illegible]thene	BDL	UG/L	2
Flourene	BDL	UG/L	5
Indeno(1,2,3-cd)pyrene	BDL	UG/L	2
1-Methylnaphthalene *	BDL	UG/L	6
2-Methylnaphthalene	BDL	UG/L	8
Naphthalene	BDL	UG/L	8
Phenanthrene	BDL	UG/L	4
Pyrene	BDL	UG/L	4

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	64
2-Flourobiphenyl	43-116	69
Terphenyl -d14	33-141	85

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter. * = FL HRS certification pending

Approved by : [signature] Date/Time : 6/24/96 1520

D-31

Navy Public Works Center
Environmental Laboratory
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NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62549 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62549			
Sample Name / Location	MW-9 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1515			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/12/96 -BJ			
Date of Analysis	06/12/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62549	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	90 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated
Page 1 of 1 End of Report

Navy Public Works Center
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Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62542
Sample Date: 06/5/96
Received Date: 06/6/98
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62542			
Sample Name / Location	MW-10 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1530			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	06/7/96 / JM			
Date of Analysis	06/7/96			
Sample Matrix	GW			
Dilution		X	1	
Compound Name	1- 62542	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	82
Toluene-d8	86-119	102
Bromoflourobenzene	85-116	94

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated
Page 1 of 1 End of Report

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Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DS' 22-4728/3642

Client: NPWC Environmental
Addres Bldg 3887
NAS Pensacola, Fl 32508
Phone 452-4728
Contac Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62542
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62542		
Sample Name / Location	MW-10 BF-1140 NW		
Collector's Name	SC		
Date & Time Collected	6/5/96 @ 1530		
Sample Type (composite or grab)	Grab		
Analyst	M. Chambers		
Date of Extraction / Initials	6/10/96; JJ		
Date of Analysis	6/14/96		
Sample Matrix	GW		
Dilution	X 1.3		
COMPOUND NAME	1- 62542	units	Det. Limit
Acenaphthene	BDL	UG/L	7
Acenaphthylene	BDL	UG/L	7
Anthracene	BDL	UG/L	3
Benzo(a)anthracene	BDL	UG/L	4
Benzo(a)pyrene	BDL	UG/L	3
Benzo(b)flouranthene	BDL	UG/L	5
Benzo(g,h,i)perylene	BDL	UG/L	4
Benzo(k)flouranthene	BDL	UG/L	5
Chrysene	BDL	UG/L	4
Dibenz(a,h)anthracene	BDL	UG/L	4
Fl nthene	BDL	UG/L	3
Flourene	BDL	UG/L	5
Indeno(1,2,3-cd)pyrene	BDL	UG/L	3
1-Methylnaphthalene *	BDL	UG/L	7
2-Methylnaphthalene	BDL	UG/L	9
Naphthalene	BDL	UG/L	9
Phenanthrene	BDL	UG/L	4
Pyrene	BDL	UG/L	4

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	54
2-Flourobiphenyl	43-116	59
Terphenyl -d14	33-141	71

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter. * = FL HRS certification pending

Approved by : Date/Time : 6/24/96 1520

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Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62542 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62542			
Sample Name / Location	MW-10 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1530			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/11/96 -BJ			
Date of Analysis	06/11/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62542	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	106 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated
Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62543
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62543
Sample Name / Location	MW-11 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1545
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/7/96 / JM
Date of Analysis	06/7/96
Sample Matrix	GW
Dilution	X 1

Compound Name	1- 62543	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	83
Toluene-d8	86-119	100
Bromoflourobenzene	85-116	92

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated

 End of Report

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Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 2-4728/3642

Client: NPWC Environmental
Addres Bldg 3887
NAS Pensacola, Fl 32508
Phone 452-4728
Contac Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62543
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62543
Sample Name / Location	MW-11 BF-1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1545
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	6/10/96; JJ
Date of Analysis	6/14/96
Sample Matrix	GW
Dilution	X 1.4

COMPOUND NAME	1- 62543	units	Det. Limit
Acenaphthene	BDL	UG/L	7
Acenaphthylene	BDL	UG/L	7
Anthracene	BDL	UG/L	3
Benzo(a)anthracene	BDL	UG/L	4
Benzo(a)pyrene	BDL	UG/L	3
Benzo(b)flouranthene	BDL	UG/L	6
Benzo(g,h,i)perylene	BDL	UG/L	4
Benzo(k)flouranthene	BDL	UG/L	6
Chrysene	BDL	UG/L	4
Dibenz(a,h)anthracene	BDL	UG/L	4
Fl thene	BDL	UG/L	3
Flourene	BDL	UG/L	6
Indeno(1,2,3-cd)pyrene	BDL	UG/L	3
1-Methylnaphthalene *	BDL	UG/L	7
2-Methylnaphthalene	BDL	UG/L	10
Naphthalene	BDL	UG/L	10
Phenanthrene	BDL	UG/L	4
Pyrene	BDL	UG/L	4

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	55
2-Flourobiphenyl	43-116	60
Terphenyl -d14	33-141	70

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter. * = FL HRS certification pending

Approved by : Date/Time : 6/24/96 1520

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Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62543 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62543			
Sample Name / Location	MW-11 BF-1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1545			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/11/96 -BJ			
Date of Analysis	06/11/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62543	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	116 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
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Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62544
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62544
Sample Name / Location	Duplicate BF - 1140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ Not Submitted
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/11/96 / JM
Date of Analysis	06/11/96
Sample Matrix	GW
Dilution	X 1

Compound Name	1- 62544	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	102
Toluene-d8	86-119	101
Bromoflourobenzene	85-116	99

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
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Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Pho ' '904) 452-472B/3642
DSN .2-4728/3642

Client: NPWC Environmental
Addres Bldg 3887
NAS Pensacola, Fl 32508
Phone 452-4728
Contac Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62544
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62544		
Sample Name / Location	Duplicate BF - 1140 NW		
Collector's Name	SC		
Date & Time Collected	6/5/96 @ Not Submitted		
Sample Type (composite or grab)	Grab		
Analyst	M. Chambers		
Date of Extraction / Initials	6/10/96; JJ		
Date of Analysis	6/14/96		
Sample Matrix	GW		
Dilution	X 1.2		
COMPOUND NAME	1- 62544	units	Det. Limit
Acenaphthene	BDL	UG/L	6
Acenaphthylene	BDL	UG/L	6
Anthracene	BDL	UG/L	2
Benzo(a)anthracene	BDL	UG/L	4
Benzo(a)pyrene	BDL	UG/L	2
Benzo(b)flouranthene	BDL	UG/L	5
Benzo(g,h,i)perylene	BDL	UG/L	4
Benzo(k)flouranthene	BDL	UG/L	5
Chrysene	BDL	UG/L	4
Dib[illegible](a,h)anthracene	BDL	UG/L	4
Flo[illegible]thene	BDL	UG/L	2
Flourene	BDL	UG/L	5
Indeno(1,2,3-cd)pyrene	BDL	UG/L	2
1-Methylnaphthalene *	6	UG/L	6
2-Methylnaphthalene	BDL	UG/L	8
Naphthalene	BDL	UG/L	8
Phenanthrene	BDL	UG/L	4
Pyrene	BDL	UG/L	4

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
robenzene- d5	35-114	43
lourobiphenyl	43-116	44
henyl -d14	33-141	50

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter. * = FL HRS certification pending

Approved by : Date/Time : 6/24/96 1520

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Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62544 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62544			
Sample Name / Location	Duplicate BF - 1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ Not Submitted			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/11/96 -BJ			
Date of Analysis	06/11/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 62544	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	95 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
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Page 1 of 1 End of Report

Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

601/602 Volatiles by Method 8260

Lab Report Number: 62545
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62545
Sample Name / Location	Trip Blank BF-1140 NW
Collector's Name	PJB
Date & Time Collected	6/5/96 @ AM
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/7/96 / JM
Date of Analysis	06/7/96
Sample Matrix	DI Water
Dilution	X 1

Compound Name	1- Trip Blank	units	Det. Limit	Flags
Benzene	BDL	ug/L	#REF!	
Bromodichloromethane	BDL	ug/L	#REF!	
Bromoform	BDL	ug/L	#REF!	
Bromomethane	BDL	ug/L	#REF!	
Carbon Tetrachloride	BDL	ug/L	#REF!	
Chlorobenzene	BDL	ug/L	#REF!	
Chloroethane	BDL	ug/L	#REF!	
2-Chloroethylvinyl ether	BDL	ug/L	#REF!	
Chloroform	BDL	ug/L	#REF!	
Chloromethane	BDL	ug/L	#REF!	
Dibromochloromethane	BDL	ug/L	#REF!	
1,2-Dichlorobenzene	BDL	ug/L	#REF!	
1,3-Dichlorobenzene	BDL	ug/L	#REF!	
1,4-Dichlorobenzene	BDL	ug/L	#REF!	
Dichlorodiflouromethane	BDL	ug/L	#REF!	
1,1-Dichloroethane	BDL	ug/L	#REF!	
1,2-Dichloroethane	BDL	ug/L	#REF!	
1,1-Dichloroethene	BDL	ug/L	#REF!	
trans-1,2-Dichloroethene	BDL	ug/L	#REF!	
1,2-Dichloropropane	BDL	ug/L	#REF!	
cis-1,3-Dichloropropene	BDL	ug/L	#REF!	
trans-1,3-Dichloropropene	BDL	ug/L	#REF!	
Ethylbenzene	BDL	ug/L	#REF!	
Methylene Chloride	BDL	ug/L	#REF!	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	#REF!	
1,1,2,2-Tetrachloroethane	BDL	ug/L	#REF!	
Tetrachloroethene	BDL	ug/L	#REF!	
Toluene	BDL	ug/L	#REF!	
1,1,1-Trichloroethane	BDL	ug/L	#REF!	
1,1,2-Trichloroethane	BDL	ug/L	#REF!	
Trichloroethene	BDL	ug/L	#REF!	
Trichloroflouromethane	BDL	ug/L	#REF!	
Vinyl Chloride	BDL	ug/L	#REF!	
Xylenes (Total)	BDL	ug/L	#REF!	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	102
Toluene-d8	86-119	109
Bromoflourobenzene	85-116	105

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Deus Laboratory Director

Date: 6/24/96
Report Generated

 End of Report

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Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62546
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62546
Sample Name / Location	Equipment Blank BF - 140 NW
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1430
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/7/96 / JM
Date of Analysis	06/7/96
Sample Matrix	DI Water
Dilution	X 1

Compound Name	1- 62546	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
1,2-Dichloroethane-d4	75-133	106
Toluene-d8	86-119	106
Bromoflourobenzene	85-116	103

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated

 End of Report

D-43

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN ¹-4728/3642

Client: NPWC Environmental
Addres Bldg 3887
NAS Pensacola, Fl 32508
Phone 452-4728
Contac Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62546
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62546
Sample Name / Location	Equipment Blank
Collector's Name	SC
Date & Time Collected	6/5/96 @ 1430
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	6/11/96; JJ
Date of Analysis	6/14/96
Sample Matrix	DI Water
Dilution	X 1

COMPOUND NAME	1- 62546	units	Det. Limit
Acenaphthene	BDL	UG/L	5
Acenaphthylene	BDL	UG/L	5
Anthracene	BDL	UG/L	2
Benzo(a)anthracene	BDL	UG/L	3
Benzo(a)pyrene	BDL	UG/L	2
Benzo(b)flouranthene	BDL	UG/L	4
Benzo(g,h,i)perylene	BDL	UG/L	3
Benzo(k)flouranthene	BDL	UG/L	4
Chrysene	BDL	UG/L	3
Dibenz(a,h)anthracene	BDL	UG/L	3
Flo[illegible]hene	BDL	UG/L	2
Flourene	BDL	UG/L	4
Indeno(1,2,3-cd)pyrene	BDL	UG/L	2
1-Methylnaphthalene *	BDL	UG/L	5
2-Methylnaphthalene	BDL	UG/L	7
Naphthalene	BDL	UG/L	7
Phenanthrene	BDL	UG/L	3
Pyrene	BDL	UG/L	3

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	78
2-Flourobiphenyl	43-116	87
Terphenyl -d14	33-141	97

COMMENTS :

BDL = Below detection limit. UG/L = Microgram per liter * = FL HRS certification pending

Approved by : Date/Time : 6/24/96 1520

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report

Ethylene Dibromide by Method 504

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62546 A
Sample Date: 06/5/96
Received Date: 06/6/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62546			
Sample Name / Location	Equipment Blank BF - 1140 NW			
Collector's Name	SC			
Date & Time Collected	6/5/96 @ 1430			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	06/11/96 -BJ			
Date of Analysis	06/12/96			
Sample Matrix	DI Water			
Dilution	X 1			
Compound Name	1- 62546	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	113 %

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 6/24/96
Report Generated

D-45

American Environmental Network, Inc.

11 East Olive Road • Pensacola, FL 32514 • (904) 474-1001

file

June 18, 1996

INVOICE NUMBER 811310
LAB CODE 160

NAS, CO, PWC

DEFENSE FINANCE & ACCOUNTING SERVICE, OP
OAKLAND , CA 94623-3870

FILE COPY
Original Sent to Oakland, CA

Accession #: 606186
Client Name: NAS, CO, PWC
Office: NAS PENSACOLA, FLORIDA
Project Name: FL PRO
Project Num: CALL #9048
Project Location: BRONSON SITE #1140 NW & 1116
Report Sent To: JERRY DEES
P. O. Number: STUB #6162-9010
Billing Client: 514002

amples	Test	Matrix	Description	Actual Price	Extended Price
9	FLPRO	AQ	FLPRO\PETRO. HYDROCARBON RANGE C8-C40	150.00	1,350.00
				Total:	$1,350.00

STUB #6162-9010
CALL #9048
JOB #1305001
ITEM #016

ET 30 DAYS
1 1/2 % Finance Charge on Balance Due over 30 Days

****
* REMIT PAYMENT TO: *
* American Environmental Network (FL) Inc. *
* P.O. Box 5413 D-46 *
* Boston, MA 02206 *
**********INVOICE ORIGINAL COPY**********

American Environmental Network, Inc.

11 East Olive Road • Pensacola, FL 32514 • (904) 474-1001

SIGNATURE PAGE

Reviewed by: _____
AEN Project Manager

Client:	NAS, CO, PWC NAS PENSACOLA, FLORIDA
Project Name:	FL PRO
Project Number:	CALL #9048
Project Location:	BRONSON SITE #1140 NW & 1116
Accession Number:	606186
Project Manager:	JERRY DEES
Sampled By:	SC/PJB

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	606186
Client:	NAS, CO, PWC
Project Number:	CALL #9048
Project Name:	FL PRO
Project Location:	BRONSON SITE #1140 NW & 1116
Department:	SEMI-VOLATILE FUELS

"FINAL REPORT FORMAT - SINGLE"

Accession: 606186
Client: NAS, CO, PWC
Project Number: CALL #9048
Project Name: FL PRO
Project Location: BRONSON SITE #1140 NW & 1116
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 005
Client Sample Id: 62547 MW-7
Sample Date/Time: 05-JUN-96 1445
Received Date: 11-JUN-96

Batch: FPW051
Blank: A
Dry Weight %: N/A
Extraction Date: 11-JUN-96
Analysis Date: 16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	73	42-193	
ORTHO TER PHENYL	%REC/SURR	95	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 606186
Client: NAS, CO, PWC
Project Number: CALL #9048
Project Name: FL PRO
Project Location: BRONSON SITE #1140 NW & 1116
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 006
Client Sample Id: 62548 MW-8

Sample Date/Time: 05-JUN-96 1500
Received Date: 11-JUN-96

Batch: FPW051
Blank: A Dry Weight %: N/A

Extraction Date: 11-JUN-96
Analysis Date: 16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	71	42-193	
ORTHO TER PHENYL	%REC/SURR	89	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 606186
Client: NAS, CO, PWC
Project Number: CALL #9048
Project Name: FL PRO
Project Location: BRONSON SITE #1140 NW & 1116
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 007
Client Sample Id: 62549 MW-9

Sample Date/Time: 05-JUN-96 1515
Received Date: 11-JUN-96

Batch: FPW051
Blank: A Dry Weight %: N/A

Extraction Date: 11-JUN-96
Analysis Date: 16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	66	42-193	
ORTHO TER PHENYL	%REC/SURR	98	82-142	
ANALYST	INITIALS	KS		

Comments:

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 606186
Client: NAS, CO, PWC
Project Number: CALL #9048
Project Name: FL PRO
Project Location: BRONSON SITE #1140 NW & 1116
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix: GROUNDWATER
QC Level: I

Lab Id: 001
Client Sample Id: 62542 MW-10
Sample Date/Time: 05-JUN-96 1530
Received Date: 11-JUN-96

Batch: FPW051
Blank: A
Dry Weight %: N/A
Extraction Date: 11-JUN-96
Analysis Date: 16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	61	42-193	
ORTHO TER PHENYL	%REC/SURR	85	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	606186
Client:	NAS, CO, PWC
Project Number:	CALL #9048
Project Name:	FL PRO
Project Location:	BRONSON SITE #1140 NW & 1116
Test:	FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method:	PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method:	3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix:	GROUNDWATER
QC Level:	I

Lab Id:	002	Sample Date/Time:	05-JUN-96 1545
Client Sample Id:	62543 MW-11	Received Date:	11-JUN-96
Batch: FPW051		Extraction Date:	11-JUN-96
Blank: A	Dry Weight %: N/A	Analysis Date:	16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	55	42-193	
ORTHO TER PHENYL	%REC/SURR	90	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	606186
Client:	NAS, CO, PWC
Project Number:	CALL #9048
Project Name:	FL PRO
Project Location:	BRONSON SITE #1140 NW & 1116
Test:	FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method:	PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method:	3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix:	GROUNDWATER
QC Level:	I

Lab Id:	003	Sample Date/Time:	05-JUN-96 N/S
Client Sample Id:	62544 Duplicate	Received Date:	11-JUN-96
Batch: FPW051		Extraction Date:	11-JUN-96
Blank: A	Dry Weight %: N/A	Analysis Date:	16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	43	42-193	
ORTHO TER PHENYL	%REC/SURR	85	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	606186
Client:	NAS, CO, PWC
Project Number:	CALL #9048
Project Name:	FL PRO
Project Location:	BRONSON SITE #1140 NW & 1116
Test:	FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method:	PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method:	3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix:	GROUNDWATER
QC Level:	I

Lab Id:	004	Sample Date/Time:	05-JUN-96 1430
Client Sample Id:	62546 EqBlank	Received Date:	11-JUN-96
Batch: FPW051		Extraction Date:	11-JUN-96
Blank: A	Dry Weight %: N/A	Analysis Date:	16-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	66	42-193	
ORTHO TER PHENYL	%REC/SURR	113	82-142	
ANALYST	INITIALS	KS		

Comments:

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Quality Control Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	606186
Client:	NAS, CO, PWC
Project Number:	CALL #9048
Project Name:	FL PRO
Project Location:	BRONSON SITE #1140 NW & 1116
Department:	SEMI-VOLATILE FUELS

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"QC Report"

Title: Water Blank
Batch: FPW051
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992

Blank Id: A Date Analyzed: 15-JUN-96 Date Extracted: 11-JUN-96

Parameters:	Units:	Results:	Reporting Limits:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100
ORTHO TER PHENYL	%REC/SURR	88	82-142
ANALYST	INITIALS	KS	
C-39	%REC/SURR	47	42-193

Comments:

"QC Report"

Title: Water Reagent
Batch: FPW051
Analysis Method: PRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method: 3510 / SW-846, 3rd Edition, September 1986 and Revision 1, July 1992

RS Date Analyzed: 15-JUN-96
RSD Date Analyzed: 15-JUN-96

RS Date Extracted: 11-JUN-96
RSD Date Extracted: 11-JUN-96

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
TOTAL PETROLEUM HYDROCARBON	4998	<100	4498	90	4441	89	1	30	57-122
Surrogates:									
ORTHO TER PHENYL				83		87			82-142
C-39				62		59			42-193

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

ATI/GC/FID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

ATI/GC/FIX
ATI GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

./GC/FPD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

ATI/GC/PID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

ATI/GC/TCD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

LJT = LISA THOMASON
SW = STEVE WILHITE
KW = KAREN WADSWORTH
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
BV = BEN VAUGHN
BC = BETH COLEMAN
KS = KENDALL SMITH
KK = KERRY KUST
DWB = DAVID W. BOWERS
RP = ROB PEREZ

American Environmental Network, Inc.
11 East Olive Road • Pensacola, FL 32514 • (904) 474-1001

CHAIN OF CUSTODY

AEN ACCESSION #: 606186

PART 1 - Bottle Shipment Information

CLIENT: NPWC ENV LAB | CLIENT PROJECT NUMBER: STUB# 6162-9010

QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE							PLASTIC CONTAINERS							GLASS CONTAINERS								D.I. Trip Blank	NOTES
	H_2SO_4	HNO3	HCL	Zn Acetate	$Na_2S_2O_3$	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	½ gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)	1 liter (C)	40 ml Vial	4 oz. wm	8 oz. wm	16 oz. wm	32 oz. wm		

Relinquished By:	Time	Date	Received By:	Time	Date

PART 2 - Sample/Project Information

SAMPLE MATRIX CODES

DW DRINKING WATER | AI AIR | SW SURFACE WATER
WW WASTEWATER | SO SOIL | SL SLUDGE
GW GROUNDWATER | OI OIL | ST STORMWATER

PARAMETERS AND PRESERVATIVES REQUESTED

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	FL PRD	TOTAL # OF BOTTLES
62542	6/5/96	GW	1530	✓	2
62543			1545	✓	2
62544			NS	✓	2
62546			~~AIR~~ 0	✓	2
62547			1445	✓	2
62548			1500	✓	2
62549		↓	1515	✓	2
62540		DI	1345	✓	2
62539	↓	GW	1400	✓	2

Total Number of Bottles/Containers: 18

Relinquished By	Date	Time	Received By	Date	Time
[signature]	6/11/96	1210	L Lane	6/11/96	1216

Client NPWC ENV. LAB CODE 920			Purchase Order Number STUB # 6162-9010
Address B. 3297			Project Number CALL# 9048
City PENSACOLA	State FL	Zip 32508	Project Name FL PRD
Phone Number 904 452-3642	Fax Number 904 452-2799		Project Location BRONSON SITE # 1140 NW + 1/1
Project Manager JERRY DEES			Sampled By SC + PJB

TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days	✓	JON 1305001
RUSH (must be approved in advance)		ITEM # 016
<- 48 hours - 2x standard price		Verbal due 6/17/96
3-7 days - 1.5x standard price		Written due 6/24/96
TCLP - 1 week rush 1.5x standard price		
QC Level none / I II III IV (circle one)		Copies of report needed 1

FORM # 12694 D-60 WHITE — LAB CANARY — REPORT PINK — CLIENT

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg 3297, Code 820
NAS Pensacola, FL 32508-5500

Ph# -(904) 452-4728
Autovon-922-4728

Requester: NPWC Environmental Dept.
Address: Bldg. 3691, Code 910
NAS Pensacola, FL 32508
Phone #: (904) 452-3180
Contact: Greg Campbell
Job Order #: 130 5001

Report Required? Yes No DEP? Yes No
Lab ID Number:
Sample Date: 6.5.96
Received Date: 6.6.96
Sample Site: BF 1140 NW
Lab Due Date:

Sample ID #	Lab	#1-602546	#2-602547	#3-602548	#4-602549	Notes:
Sample Name or Location	----------	EQ Blank	MW-7	MW-8	MW-9	KAG
Sampled by	----------	SC	SC	SC	SC	
Composite Date/Time Collected	Begin					
	Frequency					
	End					
Grab Time	----------	1430	1445	1500	1515	
Sample Matrix	----------					

PARAMETER by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504	X	2 EDB	X	2 EDB	X	2 EDB	X	2 EDB	3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602	X	3 VOA	X	3 VOA	X	3 VOA	X	3 VOA	6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GC/MS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GC/MS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/TLx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/TLx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GC/MS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GC/MS-Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GC/MS-Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310	X	2 PAH	X	2 PAH	X	2 PAH	X	2 PAH		1Lx2/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1	X	2 TPH	X	2 TPH	X	2 TPH	X	2 TPH		Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various										Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW-846										Consult Lab	Consult Lab
Lead (Pb)	EPA 239.2										250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: [illegible] / WES, FL
Date/Time: 6.6.96 / 1:30

Received by: Kathy Bierlein
Date/Time: 6/6/96 1130

PWC 8510/8

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg 3297, Code 820
NAS Pensacola, FL 32508-5500
Ph #-(904) 452-4728
Autovon-922-4728

Report Required? Yes No DEP? Yes No

Requestor: NPWC Environmental Dept.
Address: Bldg. 3691, Code 910
NAS Pensacola, FL 32508
Phone #: (904) 452-3180
Contact: Greg Campbell
Job Order #: 1305001

Lab ID Number:
Sample Date: 6.5.96
Received Date: 6.6.96
Sample Site: BF 1140 NW
Lab Due Date:

Sample ID #	Lab	#1-62542	#2-62543	#3-62544	#4-62545
Sample Name or Location	----------	MW-10	MW-11	Duplicate	Trip blank
Sampled by	----------	SC	SC	SC	RTB
Composite Date/Time Collected	Begin				
	Frequency				
	End				
Grab Time	----------	1530	1545	—	AM
Sample Matrix	----------	GW	GW	GW	DI

Notes: KAG

PARAMETER by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504	X	2 EDB	X	2 EDB	X	2 EDB			3	120ml A VOA/4 oz	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602	X	3 VOA	X	3 VOA	X	3 VOA	X	2 VOA	6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GC/MS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GC/MS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40ml x2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40ml x2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GC/MS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GC/MS-Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GC/MS-Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310	X	2 PAH	X	2 PAH	X	2 PAH				1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1	X	2 TPH	X	2 TPH	X	2 TPH				Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various										Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW-846										Consult Lab	Consult Lab
Lead (Pb)	EPA 239.2										250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: [signature] / WES, Inc.
Date/Time: 6.6.96 / 1130

Received by: Kathy Bowles
Date/Time: 6/6/96 1130

PWC 3510/8

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report
601/602 Volatiles by Method 8260

Lab Report Number: 63667
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63667
Sample Name / Location	MW-13 BF-1140 NW
Collector's Name	P. Brown
Date & Time Collected	08/22/96 @ 1600
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	08/28/96 JM
Date of Analysis	08/28/96
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 63667	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	110
Toluene-d8	86-119	100
Bromoflourobenzene	85-116	100

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
Report Generated

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 63667
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63667			
Sample Name / Location	MW-13 BF-1140 NW			
Collector's Name	P. Brown			
Date & Time Collected	08/22/96 @ 1600			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	08/26/96 JJ			
Date of Analysis	08/28/96			
Sample Matrix	Groundwater			
Dilution	X 1			
Compound Name	1- 63667	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)flouranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)flouranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Flouranthene	BDL	ug/L	2	
Flourene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	7	ug/L	2	
2-Methylnaphthalene	5	ug/L	3	
Naphthalene	5	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	76
2-Flourobiphenyl	43-116	76
Terphenyl -d14	33-141	97

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
Report Generated

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 63667
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63667			
Sample Name / Location	MW-13 BF-1140 NW			
Collector's Name	P. Brown			
Date & Time Collected	08/22/96 @ 1600			
Sample Type (composite or grab)	Grab			
Analyst	B. Jacquart			
Date of Extraction / Initials	08/24/96 BJ			
Date of Analysis	08/24/96			
Sample Matrix	Groundwater			
Dilution	X 1			
Compound Name	1- 63667	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	85

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
Report Generated

Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory

Analytical Report
Petroleum Range Organics by FLPRO

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 63667
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63667		
Sample Name / Location	MW-13 BF-1140 NW		
Collector's Name	P. Brown		
Date & Time Collected	08/22/96 @ 1600		
Sample Type (composite or grab)	Grab		
Analyst	B. Jacquart		
Date of extraction / Initials	08/27/96 JJ		
Date of Analysis	09/05/96		
Sample Matrix	Groundwater		
Dilution		x	1
Parameter	1- 63667	units	Det. Limit
Petroleum Range Organics by FLPRO	0.24	mg/L	0.2

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	118
Nonatriacontane (C-39)	42-193 *	**

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.
** = The C-39 surrogate was not added to samples in this batch.

BDL = Below Detection Limit. mg/L = Millgram per liter. mg/Kg = Milligram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 63666
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63666
Sample Name / Location	Equipment Blank BF-1140 NW
Collector's Name	P. Brown
Date & Time Collected	08/22/96 @ 1545
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	08/28/96 JM
Date of Analysis	08/28/96
Sample Matrix	Deionized Water
Dilution	X 1

Compound Name	1- 63666	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	4.3	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofiouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	3.7	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	109
Toluene-d8	86-119	100
Bromoflourobenzene	85-116	97

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
Report Generated

D-67

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 63666
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63666
Sample Name / Location	Equipment Blank BF-1140 NW
Collector's Name	P. Brown
Date & Time Collected	08/22/96 @ 1545
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	08/26/96 JJ
Date of Analysis	08/27/96
Sample Matrix	Deionized Water
Dilution	X 1

Compound Name	1- 63666	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)flouranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)flouranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Flouranthene	BDL	ug/L	2	
Flourene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	71
2-Flourobiphenyl	43-116	72
Terphenyl -d14	33-141	108

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
Report Generated

Navy Public Works Center
Environmental Laboratory

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NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 63666
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63666
Sample Name / Location	Equipment Blank BF-1140 NW
Collector's Name	P. Brown
Date & Time Collected	08/22/96 @ 1545
Sample Type (composite or grab)	Grab
Analyst	B. Jacquart
Date of Extraction / Initials	08/24/96 BJ
Date of Analysis	08/24/96
Sample Matrix	Deionized Water
Dilution	X 1

Compound Name	1- 63666	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	100

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
Report Generated

Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory

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NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report
Petroleum Range Organics by FLPRO

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Lab Report Number: 63666
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63666		
Sample Name / Location	Equipment Blank BF-1140 NW		
Collector's Name	P. Brown		
Date & Time Collected	08/22/96 @ 1545		
Sample Type (composite or grab)	Grab		
Analyst	B. Jacquart		
Date of extraction / Initials	08/27/96 JJ		
Date of Analysis	09/04/96		
Sample Matrix	Deionized Water		
Dilution	x 1		
Parameter	1- 63666	units	Det. Limit
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	103
Nonatriacontane (C-39)	42-193 *	**

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.
** = The C-39 surrogate was not added to samples in this batch.

BDL = Below Detection Limit. mg/L = Millgram per liter. mg/Kg = Milligram per kilogram.

Approved by : Jerry Dees/-Laboratory Director

Date: 9/17/96

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg 3887
NAS Pensacola, Fl 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 63668
Sample Date: 08/22/96
Received Date: 08/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 63668
Sample Name / Location	Trip Blank BF-1140 NW
Collector's Name	P. Brown
Date & Time Collected	08/22/96 @ PM
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	08/28/96 JM
Date of Analysis	08/28/96
Sample Matrix	Deionized Water
Dilution	X 1

Compound Name	1- 63668	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	5	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	5	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	112
Toluene-d8	86-119	99
Bromoflourobenzene	85-116	98

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 9/17/96
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UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg.3297, Code 920
NAS Pensacola, FL 32508-5500

Ph#-(904)452-4726
Autovon-922-4726

Requester: NPWC Environmental Dept.
Address: Bldg. 3691, Code 910
NAS Pensacola, FL 32508
Phone #: (904) 452-3180
Contact: Greg Campbell
Job Order #: 1305 001

Report Required? Yes No DEP? Yes No
Lab ID Number:
Sample Date: 8-22-96
Received Date: 8-23-96
Sample Site: BF 1140 NW
Lab Due Date:

Sample ID #	Lab	#1-636666	#2-636667	#3-636668	#4-
Sample Name or Location	----------	EQ. BLANK	MW-13	Trip BLANK	
Sampled by	----------	FVB	FVB	FVB	
Composite	Begin				
Date/Time	Frequency				
Collected	End				
Grab Time	----------	1545	1600	PM	
Sample Matrix	----------	PI	GW	DI	

Notes: K.+U. (VECS PD)

PARAMETER by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504	X	2 EDB	X	2 EDB					3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602	X	4 VOA	X	4 VOA	X	3 VOA			6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS-Cap.	EPA SW 8260									8	40ml VOAx2/4 oz	HCl/4° C/None
Semivol. Org./GCMS-Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310	X	2 PAH	X	2 PAH						1Lx3/4 oz.	4° C/None
PARAMETER by Group Name	**METHOD SOURCE**	**X**	**Bottle ID #'s**	**X**	**Bottle ID #'s**	**X**	**Bottle ID #'s**	**X**	**Bottle ID #'s**	**Billing Units**	**Containers Required**	**Preservative(s) Used**
Gasoline Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1	X	2 TPH	X	2 TPH						Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various										Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW-846										Consult Lab	Consult Lab
Lead (Pb)	EPA 239.2										250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: Patrick J. Vom / WES, Inc.
Date/Time: 8-23-96 / 0945

Received by: Kathy Beccles
Date/Time: 8/23/96 0945

PWC 9510/6

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report
601/602 Volatiles by Method 8260

Lab Report Number: 64503
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- **64503**
Sample Name / Location	BF-1140 NW DMW-12
Collector's Name	PJB
Date & Time Collected	11/07/96 @ 1200
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	11/13/96 JM
Date of Analysis	11/13/96
Sample Matrix	GW
Dilution	X 1

Compound Name	1- 64503	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	2	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	105
Toluene-d8	86-119	98
Bromofluorobenzene	85-116	102

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

D-73

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 64503
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 64503			
Sample Name / Location	BF-1140 NW DMW-12			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/12/96 JJ			
Date of Analysis	11/13/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 64503	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	60
2-Fluorobiphenyl	43-116	63
Terphenyl -d14	33-141	104

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

D-74

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 64503
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 64503			
Sample Name / Location	BF-1140 NW DMW-12			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/20/96 MC			
Date of Analysis	11/20/96			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 64503	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	97

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by : _____
Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

D-75

End of Report

Navy Public Works Center
Environmental Laboratory

Analytical Report
Petroleum Range Organics by FLPRO

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Lab Report Number: 64503
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 64503			
Sample Name / Location	BF-1140 NW DMW-12			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1200			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	11/18/96 JM			
Date of Analysis	11/18/96			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 64503	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	39
Nonatriacontane (C-39)	42-193 *	35

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = millgram per Liter. mg/Kg = milligram per Kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96

D-76

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report
601/602 Volatiles by Method 8260

Lab Report Number: 64502
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 64502			
Sample Name / Location	BF-1140 NW Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/13/96 JM			
Date of Analysis	11/13/96			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 64502	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	104
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	98

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

D-77

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 64502
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 64502			
Sample Name / Location	BF-1140 NW Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/12/96 JJ			
Date of Analysis	11/13/96			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 64502	units	Det. Limit	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	64
2-Fluorobiphenyl	43-116	70
Terphenyl -d14	33-141	116

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

D-78

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report

Ethylene Dibromide by Method 504

Lab Report Number: 64502
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- 64502			
Sample Name / Location	BF-1140 NW Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/08/96 MC			
Date of Analysis	11/08/96			
Sample Matrix	DI			
Dilution	X 1			
Compound Name	1- 64502	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	112

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

D-79

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Analytical Report
Petroleum Range Organics by FLPRO

Client:	NPWC Environmental
Address:	Bldg. 3887, Code 910 NAS Pensacola, FL 32508
Phone #:	452-3180
Contact:	Greg Campbell

Lab Report Number:	64502
Sample Date:	11/07/96
Received Date:	11/07/96
Sample Site:	NAS Pensacola, FL
Job Order No.:	130 5001

LAB Sample ID#	1- 64502			
Sample Name / Location	BF-1140 NW Eq. Blank			
Collector's Name	PJB			
Date & Time Collected	11/07/96 @ 1130			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	11/15/96 JM			
Date of Analysis	11/15/96			
Sample Matrix	DI			
Dilution	x 1			
Parameter	1- 64502	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	88
Nonatriacontane (C-39)	42-193 *	85

COMMENTS : * = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = millgram per Liter. mg/Kg = milligram per Kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 11/21/96

D-80

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-3180
Contact: Greg Campbell

Analytical Report
601/602 Volatiles by Method 8260

Lab Report Number: 64504
Sample Date: 11/07/96
Received Date: 11/07/96
Sample Site: NAS Pensacola, FL
Job Order No.: 130 5001

LAB Sample ID#	1- **64504**
Sample Name / Location	BF-1140 NW Trip Blank
Collector's Name	PJB
Date & Time Collected	11/07/96 @ AM
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	11/13/96 JM
Date of Analysis	11/13/96
Sample Matrix	DI
Dilution	X 1

Compound Name	1- 64504	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/l	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	105
Toluene-d8	86-119	103
Bromofluorobenzene	85-116	102

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : D-81
Jerry Dees, Laboratory Director

Date: 11/21/96
Report Generated

End of Report

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg.3297, Code 920
NAS Pensacola, FL 32508-6500

Ph#-(904)452-4728
Autovon-922-4728

Requester: NPWC Environmental Dept.
Address: Bldg. 3691, Code 910
NAS Pensacola, FL 32508
Phone #: (904) 452-3180
Contact: Greg Campbell
Job Order #: 1305001

Report Required? Yes No DEP? Yes No

Lab ID Number:
Sample Date: 11.7.96
Received Date: 11.7.96
Sample Site: BF 1140 NW
Lab Due Date:

Sample ID #	Lab	#1-6-4502	#2-6-4503	#3-6-4504	#4-
Sample Name or Location	----------	EQ. Blank	DMW-12	Trip Blank	
Sampled by	----------	PJB	PJB	PJB	
Composite Date/Time Collected	Begin				
	Frequency				
	End				
Grab Time	----------	1130	1200	AM	
Sample Matrix	----------	DI	GW	DF	

Notes: K.A.6. (Less Pb)

PARAMETER by Method Name	METHOD #	X	1-10 Bottle ID #'s	X	1-12 Bottle ID #'s	X	1-3 Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504	X	2 EDB	X	2 EDB					3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602	X	4 VOA	X	4 VOA	X	3 VOA			8	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS-Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS-Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310	X	2 PAH	X	3 PAH						1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846										Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL-PRO	X	2 TPH	X	3 TPH						Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various										Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW-846										Consult Lab	Consult Lab
Lead (Pb)	EPA 239.2										250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: Patil L. [illegible] / WES, Inc.
Date/Time: 11.7.96 / 1320

Received by: [illegible]
Date/Time: 11-7-96 [illegible]

PWC 9510/6

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Report
Total Lead

Requester: NPWC Environmental
Address: Bldg. 3887, NAS Pensacola, FL 32508
Phone #: 452-2107
Contact: Greg Campbell

Report Number: 9705006
Sample Date: 29 Apr 97
Received Date: 29 Apr 97
Sample Site: NAS Bronson Site 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 71866	2- 71867	3- 71868	4- 71869	Analyst(s):
Sample Name	Requester	Site 1140 NW MW #10	Site 1140 NW MW #4	Site 1140 NW MW #5	Site 1140 NW MW #6	Brian Nelson
Collector Name		P. Keane	P. Keane	P. Keane	P. Keane	
Date/Time Collected (Military)	Comp start					
	Comp stop					Date(s) of analysis:
	Grab	29 Apr 97 @ 1355	29 Apr 97 @ 1405	29 Apr 97 @ 1420	29 Apr 97 @ 1500	6 May 97
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab	
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater	

PARAMETER Metals:	METHOD #	ID# 1- 71866	units	Det. Limit	ID# 2- 71867	units	Det. Limit	ID# 3- 71868	units	Det. Limit	ID# 4- 71869	units	Det. Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X BDL	mg/l	0.003	X BDL	mg/l	0.003	X BDL	mg/l	0.003	X BDL	mg/l	0.003	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

D-83

Approved by: Jerry Dees, Laboratory Director

Date/Time: 08-May-97 13:31

End of Report

PWC 5090/14

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Report
Total Lead

Requester: NPWC Environmental
Address: Bldg. 3887
NAS Pensacola, FL 32508
Phone #: 452-2107
Contact: Greg Campbell

Report Number: 9705007
Sample Date: 29 Apr 97
Received Date: 29 Apr 97
Sample Site: NAS Bronson Site 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 71870	2- 71871	3- 71872	4- 71873	Analyst(s):
Sample Name	Requester	Site 1140 NW Duplicate	Site 1140 NW Equip. Blank	Site 1140 NW MW #1	Site 1140 NW MW #3	Brian Nelson
Collector Name		P. Keane	P. Keane	P. Keane	P. Keane	
Date/Time Collected (Military)	Comp start					
	Comp stop					Date(s) of analysis:
	Grab	29 Apr 97 @ N/S	29 Apr 97 @ 1530	29 Apr 97 @ 1535	29 Ap1545 @ 1545	6 May 97
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab	
Sample Matrix		Groundwater	Deionized Water	Groundwater	Groundwater	

PARAMETER		ID#			Det.	ID#			Det.	ID#			Det.	ID#			Det.	
Metals:	METHOD #	1-	71870	units	Limit	2-	71871	units	Limit	3-	71872	units	Limit	4-	71873	units	Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. N/S=Not Submitted.

D-84

Approved by: Jerry Dees, Laboratory Director

Date/Time: 08-May-97 13:33

End of Report

PWC 5090/14

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Report
Total Lead

Requester: NPWC Environmental
Address: Bldg. 3887
NAS Pensacola, FL 32508
Phone #: 452-2107
Contact: Greg Campbell

Report Number: 9705008
Sample Date: 29 Apr 97
Received Date: 29 Apr 97
Sample Site: NAS Bronson Site 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 71874	2-	3-	4-	Analyst(s):
Sample Name	Requester	Site 1140 NW MW #2				Brian Nelson
Collector Name		P. Keane				
Date/Time	Comp start					
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	29 Apr 97 @1625				6 May 97
Sample Type	Comp/Grab	Grab				
Sample Matrix		Groundwater				

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.	
Metals:	METHOD #	1- 71874	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X BDL	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

D-85

Approved by: Jerry Deen, Laboratory Director

Date/Time: 08-May-97 13:34

End of Report

PWC 5090/14

RUN 5/6/97
DET. LIMIT 0.003 mg/L
UNLESS NOTED OTHERWISE.

Bromide / gfz

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone – (904) 452–4728/3642
DSN 922–4728/3642
FAX (904) 452–2799/2387

Report Required: Yes No QC Required? Yes No

Requester: NPWC ENVIRONMENTAL
Address: B-3887 NAS PENSACOLA, Fl
Phone #: 452-2107
Contact: GREG CAMPBELL
Job Order #: 1305001

Lab ID Number:
Sample Date: 4/29/97
Received Date: 4/29/97
Sample Site: NAS BRONSON SITE 1140 N/W
Lab Due Date:

Sample ID #	Lab	#1-7-1866	#2-7-1867	#3-7-1868	#4-7-1869
Sample Name	----------	SITE 1140 N/W	SITE 1140 N/W	SITE 1140 N/W	SITE 1140 N/W
or Location	----------	MW#10	MW#4	MW#5	MW#6
Sampled by	----------	[illegible]	[illegible]	[illegible]	[illegible]
Composite	Begin				
Date/Time	Frequency				
Collected	End				
Grab Time	----------	1355	1405	1420	1500
Sample Matrix	----------	GW	GW	GW	GW

Notes: NAS BRONSON SITE 1140 N/W FLUORESCENT SAMPLES

PARAMETER by Method Name	METHOD #	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504									3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602									6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS-Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS-Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310									9	1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW-846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW-846									39	Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW-846									24	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1									2	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL-PRO									7	Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various									6	Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW-846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	BDL	X	BDL	X	BDL	X	BDL	1	250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: [signature]
Date/Time: 4/29/97 Departed Bronson 1635

Received by: [signature]
Date/Time: 4/29/97 LAB 1710

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2 of 3

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone – (904) 452–4728/3642
DSN 922–4728/3642
FAX (904) 452–2799/2387

Report Required? Yes No QC Required? Yes No

Requester: NAVAL ENVIRONMENTAL
Address: B-3887
NAS PENSACOLA, FL
Phone #: 452-2107
Contact: GREG CAMPBELL
Job Order #: 1305001

Lab ID Number:
Sample Date: 4/29/97
Received Date: 4/29/97
Sample Site: BRONSON FIELD 1140 N/W
Lab Due Date:

Sample ID #	Lab	#1-7-1870	#2-7-1871	#3-7-1872	#4-7-1873	Notes:
Sample Name	----------	SITE 1140 N/W	SITE 1140 N/W	SITE 1140 N/W	SITE 1140 N/W	
or Location	----------	DUPLICATE	EQ BLANK	MW #1	MW # 3	
Sampled by	----------	[illegible]	[illegible]	[illegible]	[illegible]	
Composite	Begin					
Date/Time	Frequency					
Collected	End					
Grab Time	----------	—	1530	1535	1545	
Sample Matrix	----------	GW	DI	GW	GW	

PARAMETER by Method Name	METHOD #	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504									3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602									6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non–Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS–Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS–Cap.	EPA SW 8270A									15	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310									9	1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW–846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW–846									39	Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW–846									24	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1									2	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL–PRO									7	Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various									8	Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW–846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	BAL	X	BAL	X	BAL	X	BAL	1	250ml/4 oz.	HNO3/None
Other:												

Comments:

Relinquished by: [illegible]
Date/Time: 4/29/97 Departed Bronson 1635

Received by: [illegible]
Date/Time: 4/29/97 LAB 1710

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CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone – (904) 452–4728/3642
DSN 922–4728/3642
FAX (904) 452–2799/2387

Report Required? Yes No QC Required? Yes No

Requester: NAVE ENVIRONMENTAL
Address: B-3887 NAS Pensacola, Fl
Phone #: 452-2107
Contact: GREGG CAMPBELL
Job Order #: 1305001

Lab ID Number:
Sample Date: 4/29/97
Received Date: 4/29/97
Sample Site: BEULSON 1140 N/W
Lab Due Date:

Sample ID #	Lab	#1- 7-1874	#2-	#3-	#4-	Notes:
Sample Name	----------	Site 1140 N/W				
or Location	----------	MW # 2				
Sampled by	----------	[illegible]				
Composite	Begin					
Date/Time	Frequency					
Collected	End					
Grab Time	----------	1625				
Sample Matrix	----------	GW				

PARAMETER by Method Name	METHOD #	X	Bottle ID #'s (1-1)	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504									3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602									6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non–Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS–Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS–Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310									9	1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW–846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW–846									39	Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW–846									24	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1									2	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL–PRO									7	Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various									8	Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW–846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	BDL							1	250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: [signature]
Date/Time: 4/29/97 Departed Beulson 1635

Received by: [signature]
Date/Time: 4/29/97 LAB 1710

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Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Report

Total Lead

Requester:	NPWC Environmental	Report Number:	9705009
Address:	Bldg. 3887	Sample Date:	30 Apr 97
	NAS Pensacola, FL 32508	Received Date:	30 Apr 97
Phone #:	452-2107	Sample Site:	NAS Bronson Site 1140 NW
Contact:	Greg Campbell	Job Order #:	130 5001

Sample ID#	Lab	1- 71883	2- 71884	3- 71885	4- 71886	Analyst(s):
Sample Name	Requester	Site 1140 NW MW #11	Site 1140 NW MW #7	Site 1140 NW MW #8	Site 1140 NW MW #9	Brian Nelson
Collector Name		P. Keane	P. Keane	P. Keane	P. Keane	
Date/Time	Comp start					
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	30 Apr 97 @ 1400	30 Apr 97 @ 1425	30 Apr 97 @ 1505	30 Apr 97 @ 1520	6 May 97
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab	
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater	

PARAMETER		ID#			ID#			ID#			ID#			
Metals:	METHOD #	1- 71883	units	Det. Limit	2- 71884	units	Det. Limit	3- 71885	units	Det. Limit	4- 71886	units	Det. Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X BDL	mg/l	0.003	X BDL	mg/l	0.003	X BDL	mg/l	0.003	X BDL	mg/l	0.003	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. N/S=Not Submitted.

D-89

Approved by: Jerry Dees, Laboratory Director

Date/Time: 08-May-97 13:27

End of Report

PWC 5090/14

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, FL 32508
Phone (904) 452-4728/3642
DSN 922-4728/3642

Laboratory Repc
Total Lead

Requester: NPWC Environmental
Address: Bldg. 3887
NAS Pensacola, FL 32508
Phone #: 452-2107
Contact: Greg Campbell

Report Number: 9705010
Sample Date: 30 Apr 97
Received Date: 30 Apr 97
Sample Site: NAS Bronson Site 1140 NW
Job Order #: 130 5001

Sample ID#	Lab	1- 71887	2- 71888	3-	4-	Analyst(s):
Sample Name	Requester	Site 1140 NW MW #13	Site 1140 NW MW #12			Brian Nelson
Collector Name		P. Keane	P. Keane			
Date/Time	Comp start					
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	30 Apr 97 @ 1550	30 Apr 97 @ 1625			6 May 97
Sample Type	Comp/Grab	Grab	Grab			
Sample Matrix		Groundwater	Groundwater			

PARAMETER		ID#			Det.	ID#			Det.	ID#			Det.	ID#			Det.	
Metals:	METHOD #	1-	71887	units	Limit	2-	71888	units	Limit	3-		units	Limit	4-		units	Limit	Preservative(s)
Lead(Pb)	EPA 239.2	X	BDL	mg/l	0.003	X	BDL	mg/l	0.003			mg/l	0.003			mg/l	0.003	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. N/S=Not Submitted.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 08-May-97 13:29

End of Report

PWC 5090/14

D-90

RON 5/6/97
Det. Limit 0.005 mg/l
unless noted otherwise.

Brenda
1 of 2

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone – (904) 452–4728/3642
DSN 922–4728/3642
FAX (904) 452–2799/2387

Report Required? Yes No QC Required? Yes No

Requester: NPWC ENVIRONMENTAL
Address: B-3887 NAS PENSACOLA, FL
Phone #: 452-2107
Contact: GREGG CAMBELL
Job Order #: 1305001

Lab ID Number:
Sample Date: 4/30/97
Received Date: 4/30/97
Sample Site: BRONSON 1140 N/W
Lab Due Date:

Sample ID #	Lab	#1- 7-1883	#2- 7-1884	#3- 7-1885	#4- 7-1886
Sample Name	----------	SITE 1140 N/W	SITE 1140 N/W	SITE 1140 N/W	SITE 1140 N/W
or Location	----------	MW # 11	MW # 7	MW # 8	MW # 9
Sampled by	----------	P Reame	P Reame	P Reame	P Reame
Composite	Begin				
Date/Time	Frequency				
Collected	End				
Grab Time	----------	1400	1425	1505	1520
Sample Matrix	----------	GW	GW	GW	GW

Notes: NAS BRONSON SITE 1140 N/W QUIESCENT SAMPLES

PARAMETER by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504									3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602									6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non–Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS–Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS–Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310									9	1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW–846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW–846									39	Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW–846									24	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1									2	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL–PRO									7	Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various									8	Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW–846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	BPC	X	BPC	X	BPC	X	BPC	1	250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: P Reame
Date/Time: 4/30/97 Departed Bronson 1640

Received by: P Reame
Date/Time: 4/30/97 1720
TO LAB

c:\123/24\forms\custody\ustR0.wk1 rev 0 8/28/96

2 of 2

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone – (904) 452–4728/3542
DSN 922–4728/3542
FAX (904) 452–2799/2387

Report Required? Yes No QC Required? Yes No

Requester: NPWC ENVIRONMENTAL
Address: B-3887
NAS PENSACOLA, FL
Phone #: 452-2107
Contact: GREG CAMPBELL
Job Order #: 1385001

Lab ID Number:
Sample Date: 4/30/97
Received Date: 4/30/97
Sample Site: BRONSON FIELD 1140 N/W
Lab Due Date:

Sample ID #	Lab	#1- 7-1887	#2- 7-1888	#3-	#4-
Sample Name	----------	SITE 1140 N/W	SITE 1140 N/W		
or Location	----------	MW# 13	MW# 12		
Sampled by	----------	P Reaux	P Reaux		
Composite	Begin				
Date/Time	Frequency				
Collected	End				
Grab Time	----------	1550	1625		
Sample Matrix	----------	GW	GW		

Notes: # 12 Deep Well at this site

PARAMETER by Method Name	METHOD #	X	Bottle ID #'s 1-1	X	Bottle ID #'s 1-1	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504									3	120ml A VOA/4 oz.	None/4° C
Purg. Halocarbons/GC	EPA 601									4	40 ml VOA Vial x 2	HCl/4° C
Purg. Aromatics/GC	EPA 602									3	40 ml VOA Vial x 2	HCl/4° C
Purg. Halo. & Aro./GC	EPA 601/602									6	40 ml VOA Vial x 2	HCl/4° C
Polynuclear Aromatics/HPLC	EPA 610									7	1L Amber x 2	4° C
Purgeables/GCMS	EPA 624									8	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									15	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/None
Non–Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/None
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/None
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/None
Polynuclear Aromatics/GC	EPA SW 8100									6	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									8	40ml VOAx2/4 oz.	HCl/4° C/None
VOC/GCMS–Cap.	EPA SW 8260									8	40ml VOAx2/4 oz.	HCl/4° C/None
Semivol. Org./GCMS–Cap.	EPA SW 8270A									16	1Lx3/4 oz.	4° C/None
Polynuclear Aromatics (PAH's)	EPA SW 8310									9	1Lx3/4 oz.	4° C/None

PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW–846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW–846									39	Consult Lab	Consult Lab
Mixed Product Analytical Group	EPA SW–846									24	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	EPA 418.1									2	Consult Lab	Consult Lab
Total Petroleum Hydrocarbons	FL–PRO									7	Consult Lab	Consult Lab
RCRA Metals (8)	EPA Various									8	Consult Lab	Consult Lab
TCLP Metals (8) w/extraction	EPA SW–846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	BDL	X	BDL					1	250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: P Reaux
Date/Time: 4/30/97 Departed Bronson 1640

Received by: P Reaux
Date/Time: 4/30/97 1720

To LAB

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APPENDIX E

TIDAL FLUCTUATION DATA

MEMORANDUM

March 7, 1997

From: Phil Keane (Code 923)
To: Greg Campbell (Code 911.4)

Subj: MONITORING WELL LOW/HIGH TIDAL ELEVATIONS

1. The attached tidal elevations were taken at Bronson Field, Site 1140 NW on 6 Mar 97.

2. If you need any more information, please call me at 2-3642/ 4758.

PHIL KEANE

Water Level Readings Taken on 3/6/97
For Tidal Evaluation

BRONSON FIELD
SITE 1140 N.W.

SO# 1305001

21Hrs BEFORE / AFTER → High Tides : 2107 : ___
Low Tides : ___ : ___

	WELL I.D. NUMBER								
TIME	#1	#2	#3	#4	#5	#6	#7	#8	#9
1907	7.11	7.26	7.24	7.26	7.08	7.22	7.22	7.26	7.22
1932	7.11	7.26	7.25	7.26	7.09	7.22	7.22	7.27	7.23
1957	7.12	7.27	7.26	7.27	7.10	7.22	7.22	7.28	7.24
2022	7.12	7.27	7.26	7.27	7.10	7.22	7.23	7.28	7.24
2047	7.13	7.27	7.26	7.27	7.10	7.23	7.24	7.28	7.25
HT. 2107	7.14	7.28	7.26	7.28	7.10	7.24	7.25	7.28	7.25
2132	7.14	7.28	7.26	7.28	7.11	7.25	7.25	7.28	7.25
2157	7.14	7.28	7.26	7.28	7.11	7.25	7.25	7.28	7.25
2222	7.15	7.28	7.26	7.28	7.11	7.26	7.25	7.28	7.25
2247	7.15	7.28	7.26	7.28	7.11	7.26	7.25	7.28	7.25
2307	7.15	7.28	7.26	7.28	7.11	7.26	7.25	7.28	7.25

* Data suspect, not included in maximum variance.

Water Level Readings Taken on 3/6/97
For Tidal Evaluation

BRONSON FIELD
SITE 1140 NW

2HRS BEFORE/AFTER → High Tides → 2107 : ___
Low Tides : ___ : ___

	WELL I.D. NUMBER								
TIME	# 10	# 11	# 12	# 13					
1907	7.14	7.09	7.19	7.38					
1932	7.15	7.09	7.19	7.38					
1957	7.15	7.10	7.20	7.38					
2022	7.15	7.10	7.20	7.38					
2047	7.15	7.10	7.20	7.39					
H/T 2107	7.15	7.11	7.21	7.39					
2132	7.16	7.11	7.21	7.39					
2157	7.16	7.11	7.21	7.39					
2222	7.16	7.11	7.21	7.39					
2247	7.16	7.11	7.21	7.39					
2307	7.16	7.11	7.21	7.39					

* Data suspect, not included in maximum variance.

Water Level Readings Taken on 3/6/97
For Tidal Evaluation

1 of 2

BRONSON Field
SITE 1140 MW

SO# 135001

High Tides
2 HRS BEFORE/AFTER → Low Tide → 0643

TIME	WELL I.D. NUMBER #1	#2	#3	#4	#5	#6	#7	#8	#9
0443	7.00'	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0508	7.00'	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0533	7.00'	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0558	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0623	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
HT 0643	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0708	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0733	7.00	7.11*	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0758	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0823	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06
0843	7.00	7.11	7.09	7.12	6.97	7.12	7.08	7.07	7.06

* Did not have access to MW 11, combination lock was changed from until 0733 reading

* Data suspect, not included in maximum variance.

* Very heavy North wind approx. 35 knots

Water Level Readings Taken on _____
For Tidal Evaluation

BROSEN FIELD
SITE 1140 NW

2 HR BEFORE/AFTER → High Tides - - ___
Low Tides - 0643 - ___

	WELL I.D. NUMBER								
TIME	#10	#11	#12	#13					
0443	7.00	—	7.07	7.16					
0508	7.00	—	7.07	7.16					
0533	7.00	—	7.07	7.16					
0558	7.00	—	7.07	7.16					
0623	7.00	—	7.07	7.16					
4/T 0643	7.00	—	7.07	7.16					
0708	7.00	—	7.07	7.16					
0733	7.00	7.00	7.07	7.16					
0758	7.00	7.00	7.07	7.16					
0823	7.00	7.00	7.07	7.16					
0843	7.00	7.00	7.07	7.16					

* Data suspect, not included in maximum variance.

Pensacola, Florida T.M. 90 W. 2650

Tide Predictions (High and Low Waters) March, 1997

Reference station is: 1 Pensacola, Florida T.M. 90 W.

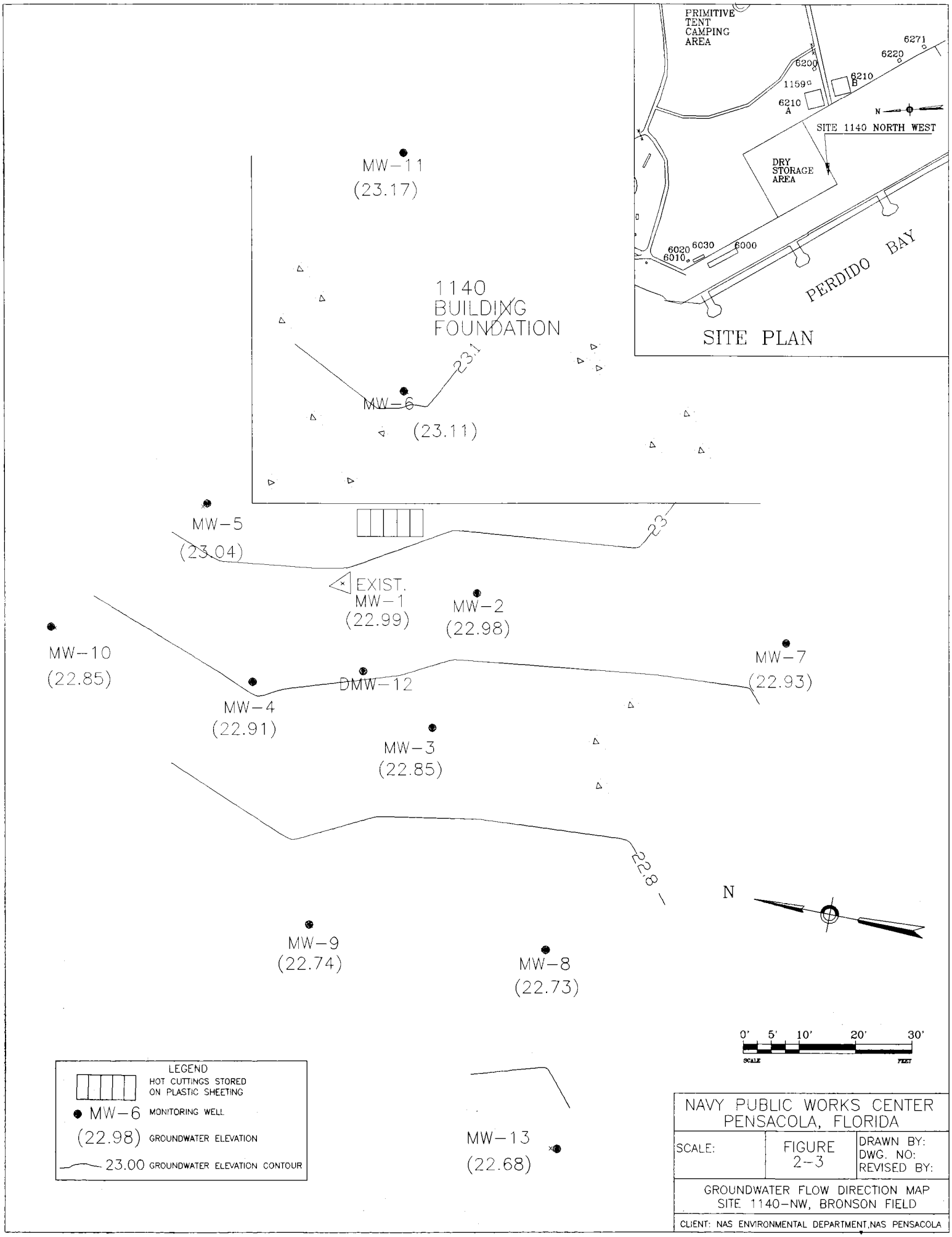
HWTIME = +0 HWHT = +0.00

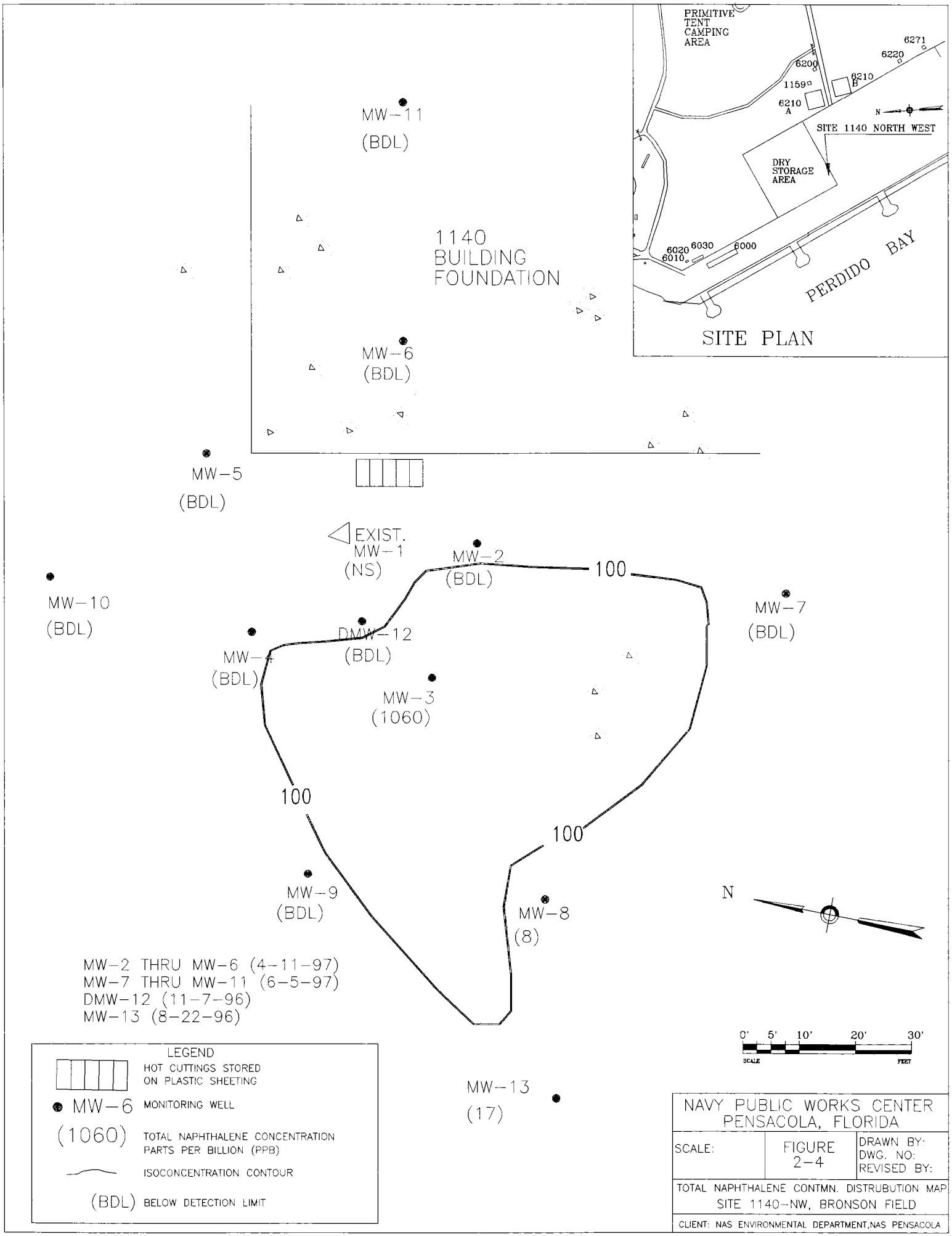
LWTIME = +0 LWHT = +0.00

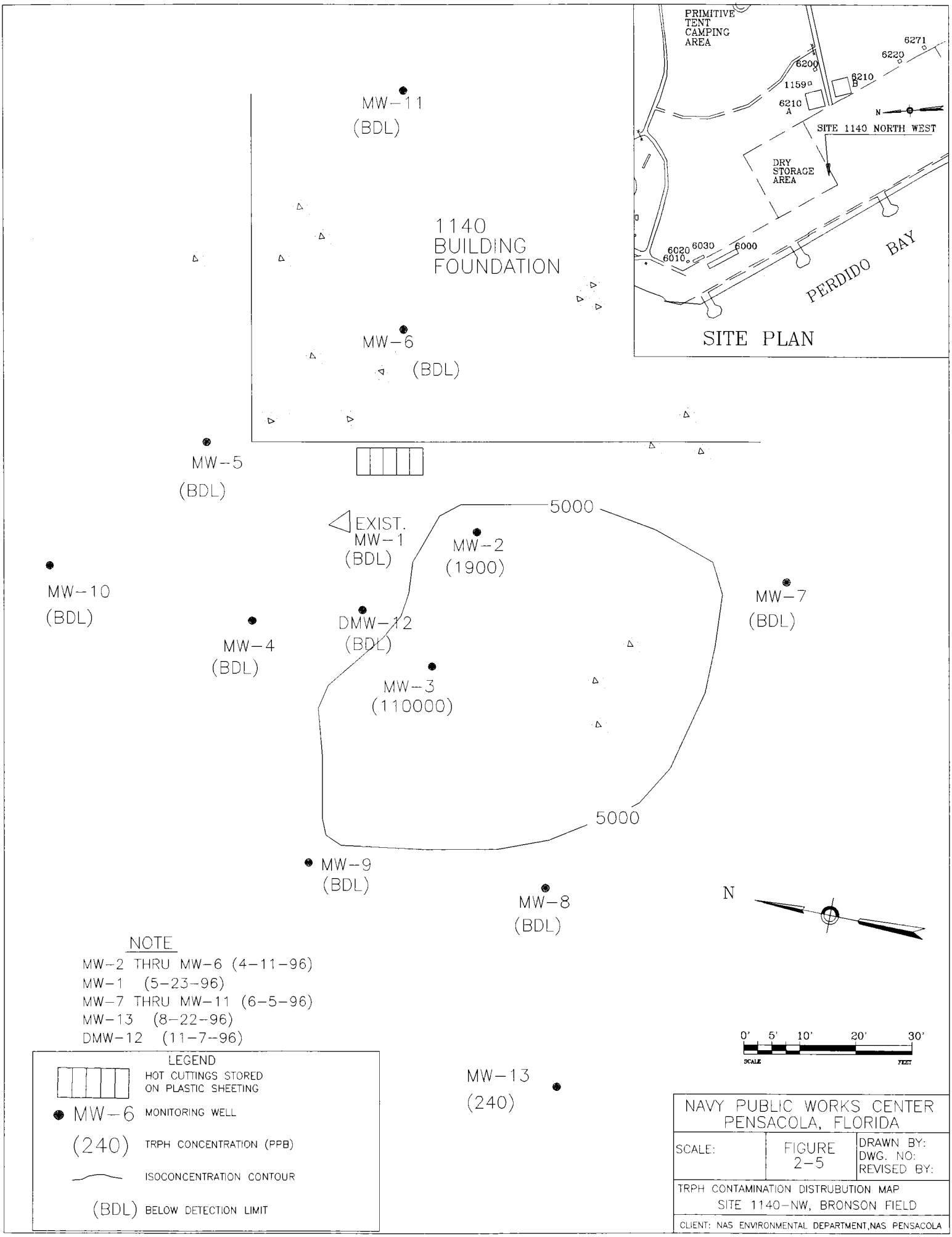
NOAA, National Ocean Service

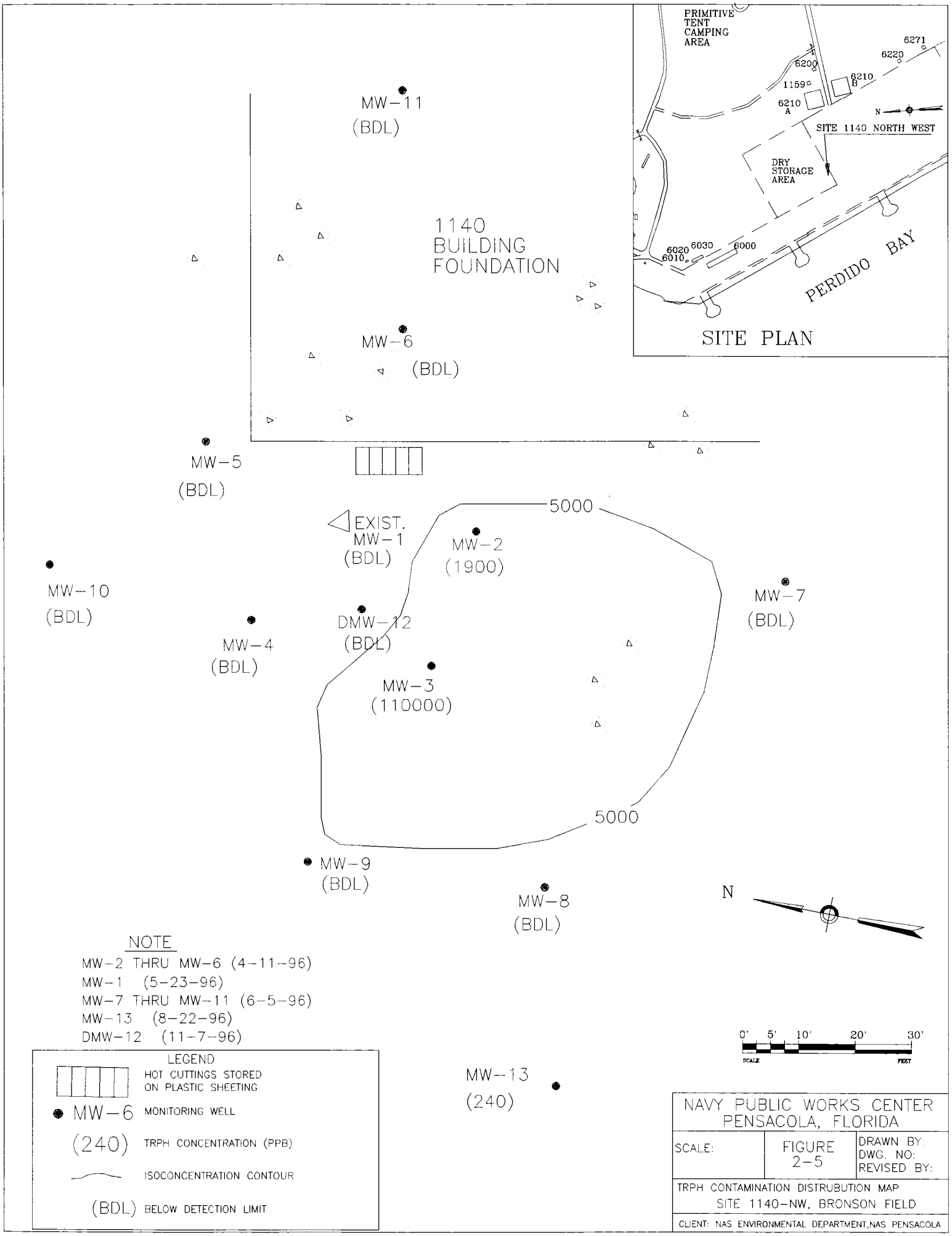
Standard Time

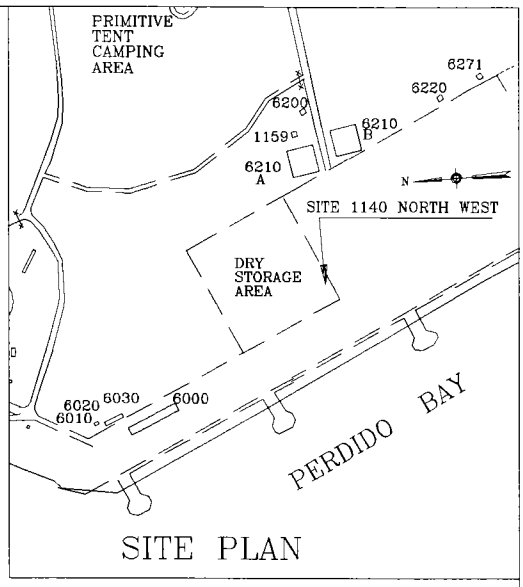
Day	Time	Ht.	Time	Ht.	Time	Ht.	Time	Ht.
1 Sa	204 L	-0.1	1556 H	0.9				
2 Su	307 L	-0.2	1652 H	1.0				
3 M	405 L	-0.3	1752 H	1.1				
4 Tu	500 L	-0.4	1856 H	1.2				
5 W	553 L	-0.4	2001 H	1.2				
6 Th	643 L	-0.3	2107 H	1.1				
7 F	726 L	-0.2	2215 H	1.0				
8 Sa	756 L	0.0	2329 H	0.8				
9 Su	757 L	0.2	1247 H	0.3	1712 L	0.2		
10 M	58 H	0.6	708 L	0.4	1220 H	0.5	1954 L	0.2
11 Tu	1243 H	0.7	2205 L	0.1				
12 W	1323 H	0.9	2355 L	-0.1				
13 Th	1411 H	1.0						
14 F	121 L	-0.1	1504 H	1.1				
15 Sa	232 L	-0.2	1602 H	1.1				
16 Su	334 L	-0.2	1704 H	1.1				
17 M	429 L	-0.2	1808 H	1.0				
18 Tu	519 L	-0.1	1912 H	1.0				
19 W	602 L	0.0	2014 H	0.9				
20 Th	638 L	0.1	2114 H	0.8				
21 F	702 L	0.2	2212 H	0.8				
22 Sa	707 L	0.3	2314 H	0.7				
23 Su	648 L	0.3	1117 H	0.4	1703 L	0.3		
24 M	28 H	0.6	605 L	0.5	1114 H	0.6	1843 L	0.3
25 Tu	1130 H	0.7	2010 L	0.2				
26 W	1157 H	0.8	2130 L	0.1				
27 Th	1231 H	0.9	2247 L	0.0				
28 F	1311 H	1.0	2359 L	-0.1				
29 Sa	1359 H	1.1						
30 Su	108 L	-0.2	1454 H	1.2				
31 M	212 L	-0.2	1555 H	1.2				


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(23.17)
1140 BUILDING FOUNDATION
23.1
MW-6
(23.11)
MW-5
(23.04)
23
EXIST. MW-1
(22.99)
MW-2
(22.98)
MW-10
(22.85)
MW-7
(22.93)
MW-4
(22.91)
DMW-12
MW-3
(22.85)
22.8
N
MW-9
(22.74)
MW-8
(22.73)
0' 5' 10' 20' 30'
SCALE FEET
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(22.98) GROUNDWATER ELEVATION
23.00 GROUNDWATER ELEVATION CONTOUR
MW-13
(22.68)
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-3
DRAWN BY:
DWG. NO:
REVISED BY:
GROUNDWATER FLOW DIRECTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(BDL)
1140 BUILDING FOUNDATION
MW-6
(BDL)
MW-5
(BDL)
EXIST. MW-1
(NS)
MW-2
(BDL)
100
MW-10
(BDL)
MW-7
(BDL)
DMW-12
(BDL)
MW-4
(BDL)
MW-3
(1060)
100
100
MW-9
(BDL)
MW-8
(8)
N
MW-2 THRU MW-6 (4-11-97)
MW-7 THRU MW-11 (6-5-97)
DMW-12 (11-7-96)
MW-13 (8-22-96)
0' 5' 10' 20' 30'
SCALE FEET
MW-13
(17)
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(1060) TOTAL NAPHTHALENE CONCENTRATION PARTS PER BILLION (PPB)
ISOCONCENTRATION CONTOUR
(BDL) BELOW DETECTION LIMIT
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-4
DRAWN BY:
DWG. NO:
REVISED BY:
TOTAL NAPHTHALENE CONTMN. DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159a
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(BDL)
1140 BUILDING FOUNDATION
MW-6
(BDL)
MW-5
(BDL)
5000
EXIST. MW-1
(BDL)
MW-2
(1900)
MW-10
(BDL)
MW-7
(BDL)
DMW-12
(BDL)
MW-4
(BDL)
MW-3
(110000)
5000
MW-9
(BDL)
MW-8
(BDL)
N
NOTE
MW-2 THRU MW-6 (4-11-96)
MW-1 (5-23-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)
0' 5' 10' 20' 30'
SCALE FEET
MW-13
(240)
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(240) TRPH CONCENTRATION (PPB)
ISOCONCENTRATION CONTOUR
(BDL) BELOW DETECTION LIMIT
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-5
DRAWN BY:
DWG. NO:
REVISED BY:
TRPH CONTAMINATION DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(BDL)
1140 BUILDING FOUNDATION
MW-6
(BDL)
MW-5
(BDL)
5000
EXIST. MW-1
(BDL)
MW-2
(1900)
MW-10
(BDL)
MW-7
(BDL)
DMW-12
(BDL)
MW-4
(BDL)
MW-3
(110000)
5000
MW-9
(BDL)
MW-8
(BDL)
N
NOTE
MW-2 THRU MW-6 (4-11-96)
MW-1 (5-23-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)
0' 5' 10' 20' 30'
SCALE FEET
MW-13
(240)
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(240) TRPH CONCENTRATION (PPB)
ISOCONCENTRATION CONTOUR
(BDL) BELOW DETECTION LIMIT
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-5
DRAWN BY:
DWG. NO:
REVISED BY:
TRPH CONTAMINATION DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(~~30~~) 0.03

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(~~120~~) 0.12

0.02

MW-10
(BDL)

MW-7
(BDL)

MW-4
(~~110~~)
0.11

DMW-12
(BDL)

MW-3
(~~30~~)
0.03

0.02

0.02

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

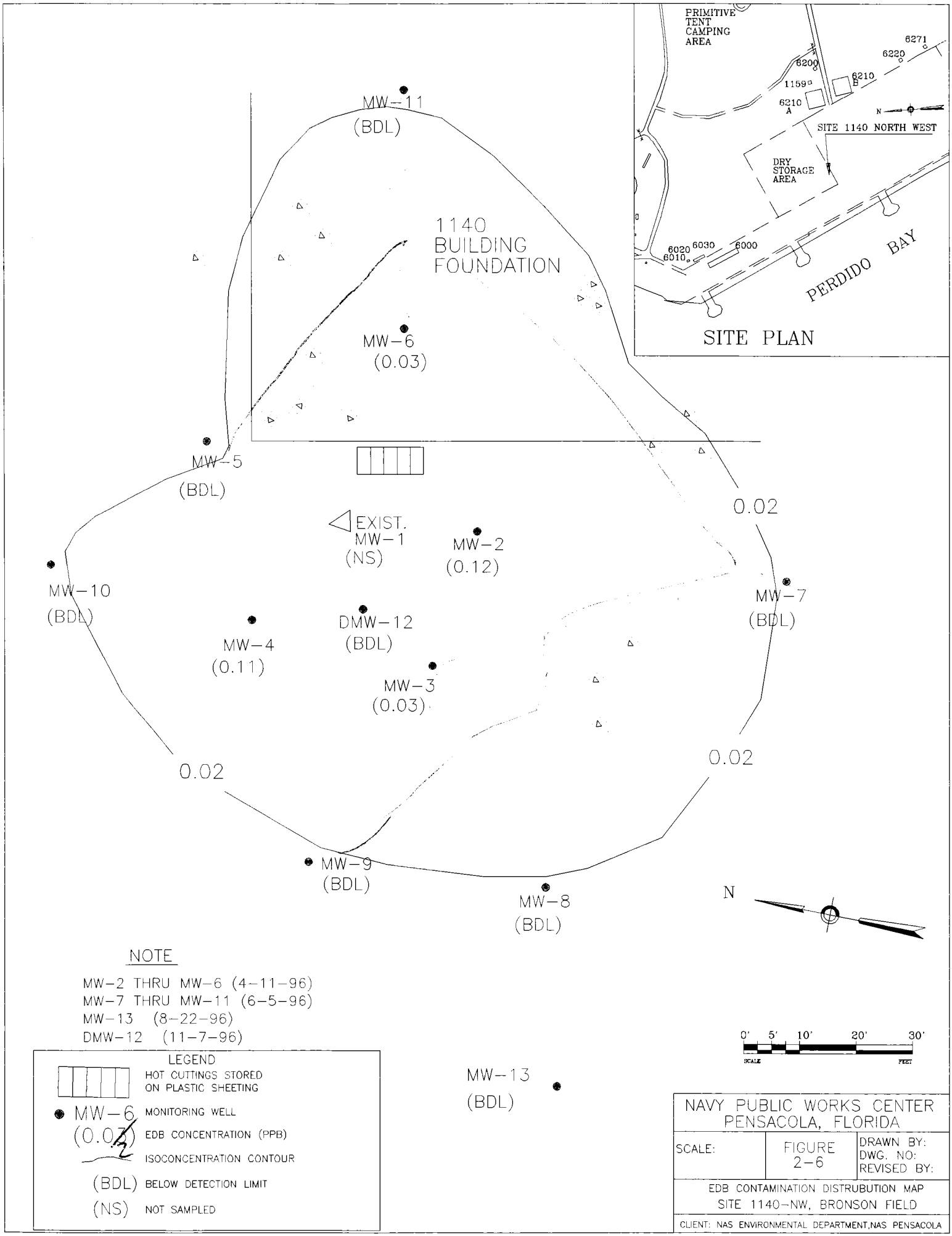
LEGEND

	HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6	MONITORING WELL
(~~140~~)	EDB CONCENTRATION (PPB)
0.03	ISOCONCENTRATION CONTOUR
(BDL)	BELOW DETECTION LIMIT
(NS)	NOT SAMPLED

MW-13
(BDL)

0' 5' 10' 20' 30'
SCALE FEET

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

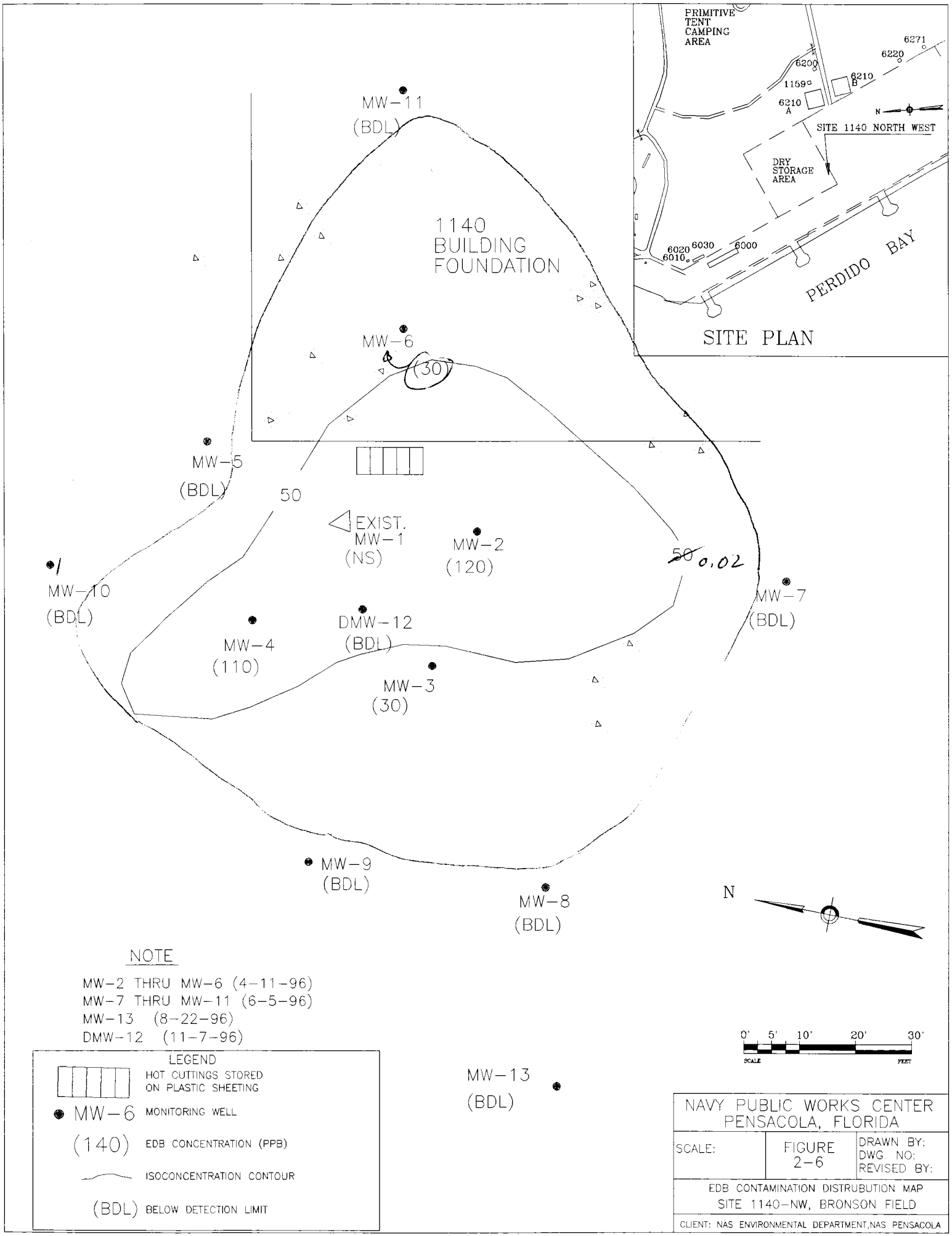
(0.02) EDB CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

(NS) NOT SAMPLED

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

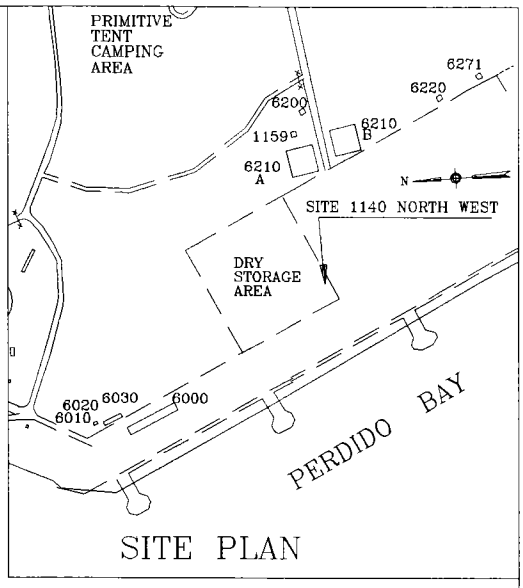
	HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6	MONITORING WELL
(140)	EDB CONCENTRATION (PPB)
	ISOCONCENTRATION CONTOUR
(BDL)	BELOW DETECTION LIMIT

NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

SCALE:	FIGURE 2-6	DRAWN BY: DWG NO: REVISED BY:

EDB CONTAMINATION DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD

CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(0.03)

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(0.12)

0.02

MW-10
(BDL)

MW-7
(BDL)

MW-4
(0.11)

DMW-12
(BDL)

MW-3
(0.03)

0.02

0.02

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

0' 5' 10' 20' 30'
SCALE FEET

MW-13
(BDL)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

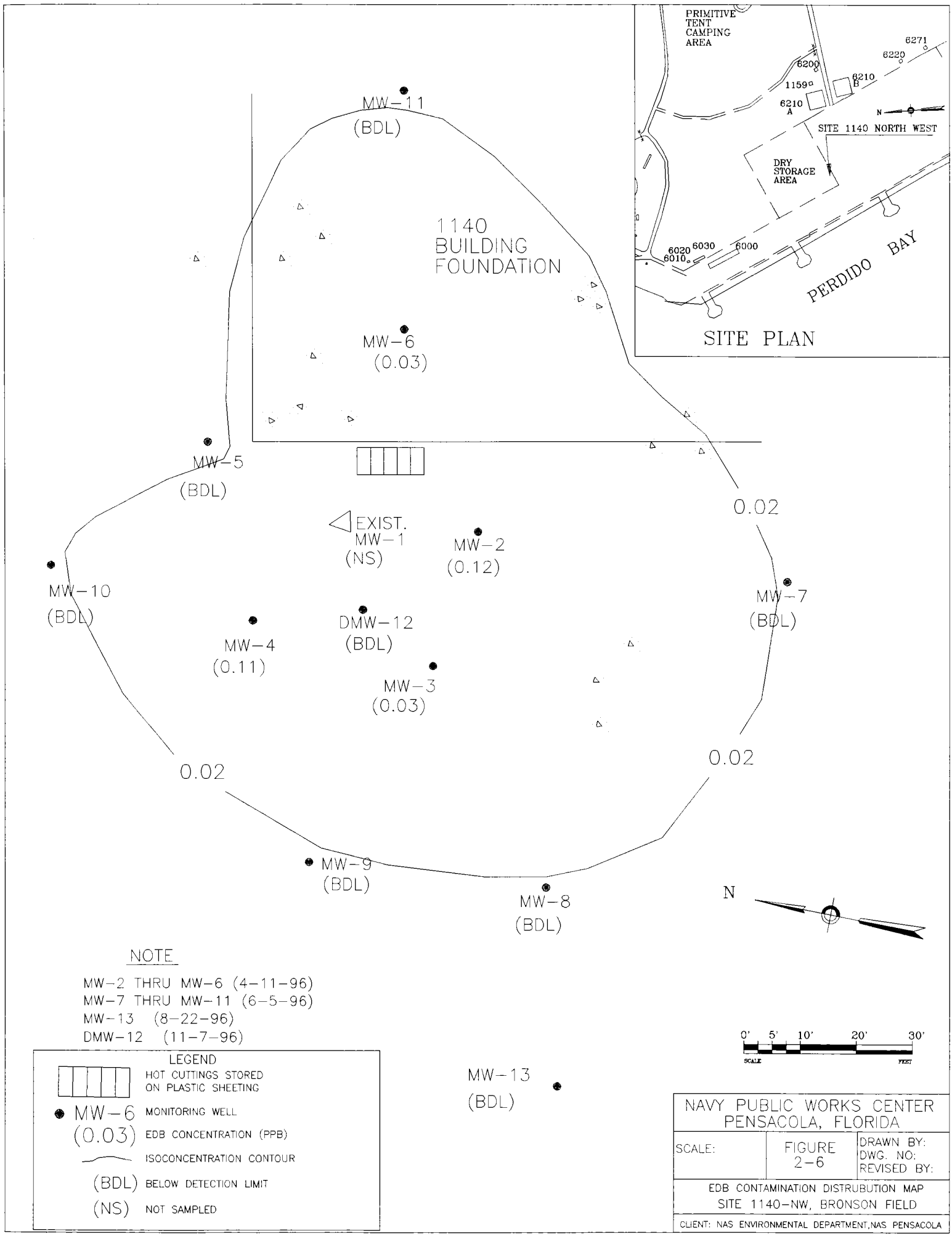
(0.03) EDB CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

(NS) NOT SAMPLED

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

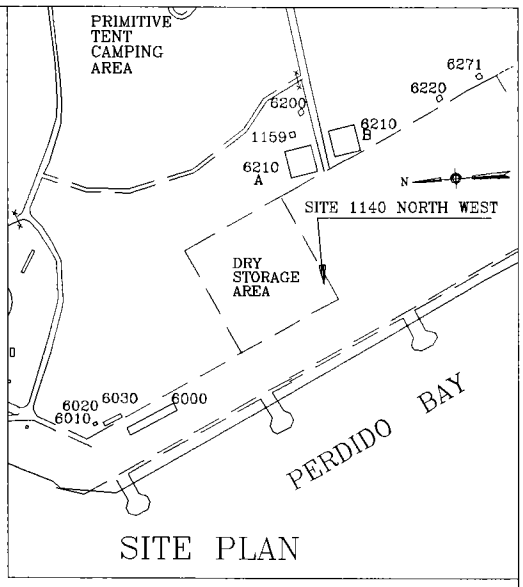
	HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6	MONITORING WELL
(0.03)	EDB CONCENTRATION (PPB)
	ISOCONCENTRATION CONTOUR
(BDL)	BELOW DETECTION LIMIT
(NS)	NOT SAMPLED

NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:

EDB CONTAMINATION DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD

CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(0.03)

0.02

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(0.12)

MW-10
(BDL)

MW-7
(BDL)

MW-4
(0.11)

DMW-12
(BDL)

MW-3
(0.03)

0.02

0.02

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

(0.02) EDB CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

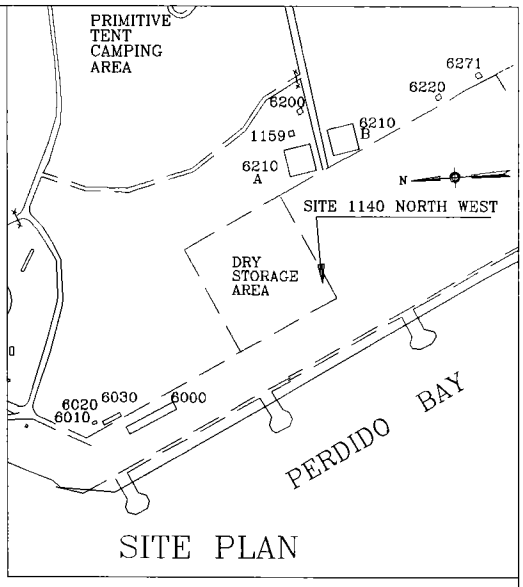
(BDL) BELOW DETECTION LIMIT

(NS) NOT SAMPLED

MW-13
(BDL)

0' 5' 10' 20' 30'
SCALE FEET

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(0.03)

0.02

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(0.12)

MW-10
(BDL)

MW-7
(BDL)

MW-4
(0.11)

DMW-12
(BDL)

MW-3
(0.03)

0.02

0.02

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

0' 5' 10' 20' 30'
SCALE FEET

MW-13
(BDL)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

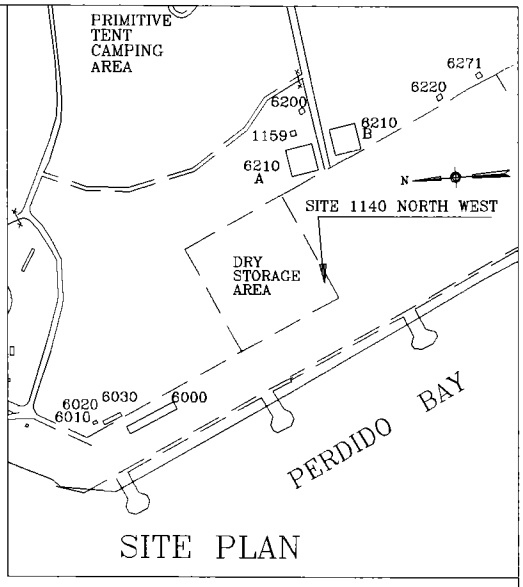
(0.02) EDB CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

(NS) NOT SAMPLED

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(0.03)

0.02

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(0.12)

MW-10
(BDL)

MW-7
(BDL)

MW-4
(0.11)

DMW-12
(BDL)

MW-3
(0.03)

0.02

0.02

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

(0.02) EDB CONCENTRATION (PPB)

ISOCONCENTRATION CONTOUR

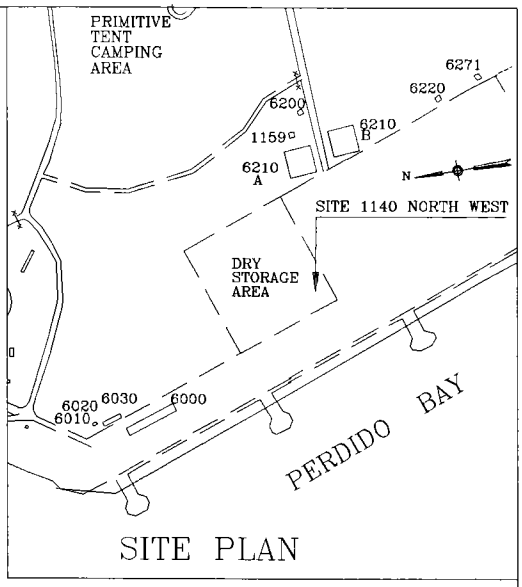
(BDL) BELOW DETECTION LIMIT

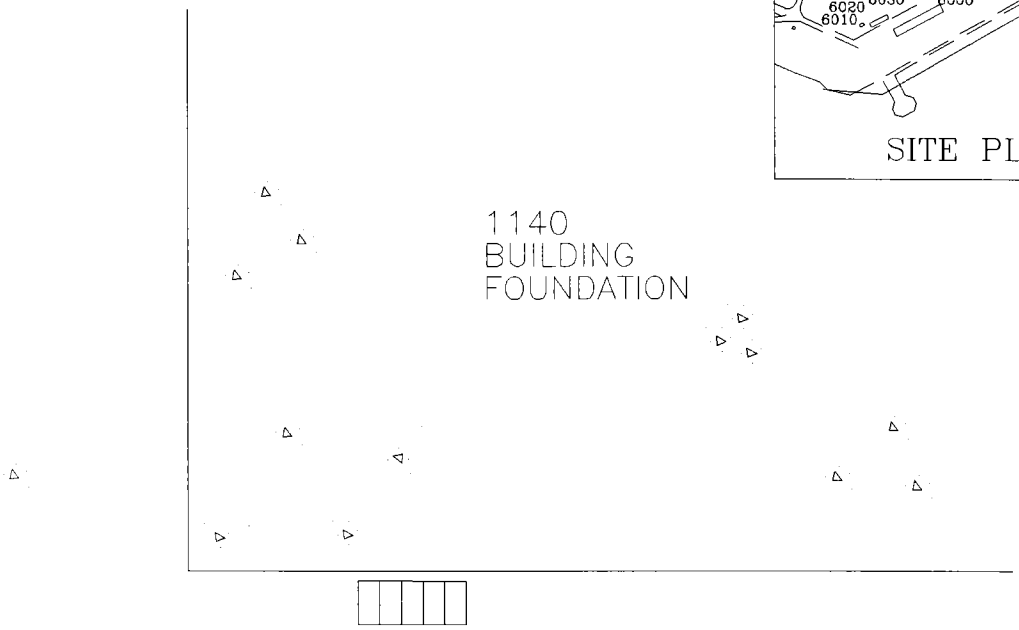
(NS) NOT SAMPLED

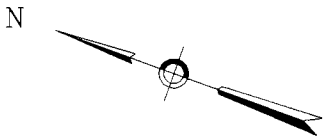
MW-13
(BDL)

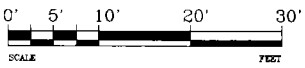
0' 5' 10' 20' 30'
SCALE FEET

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



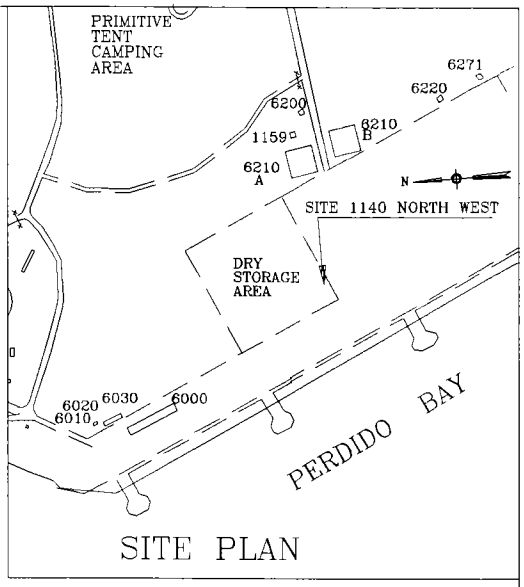


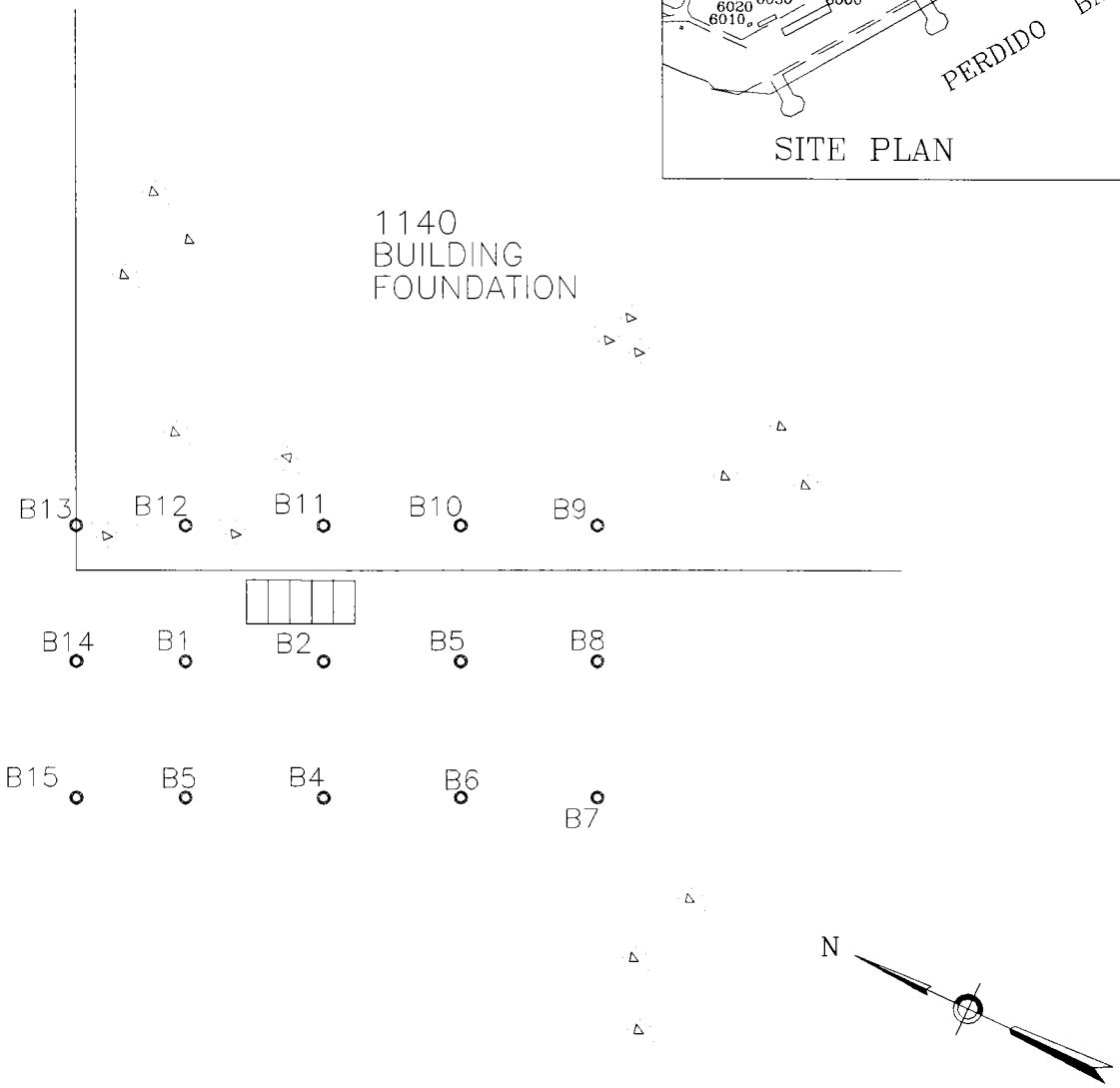


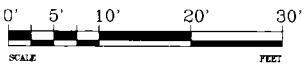


LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 1-3	DRAWN BY: DWG NO: REVISED BY:
SITE LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		





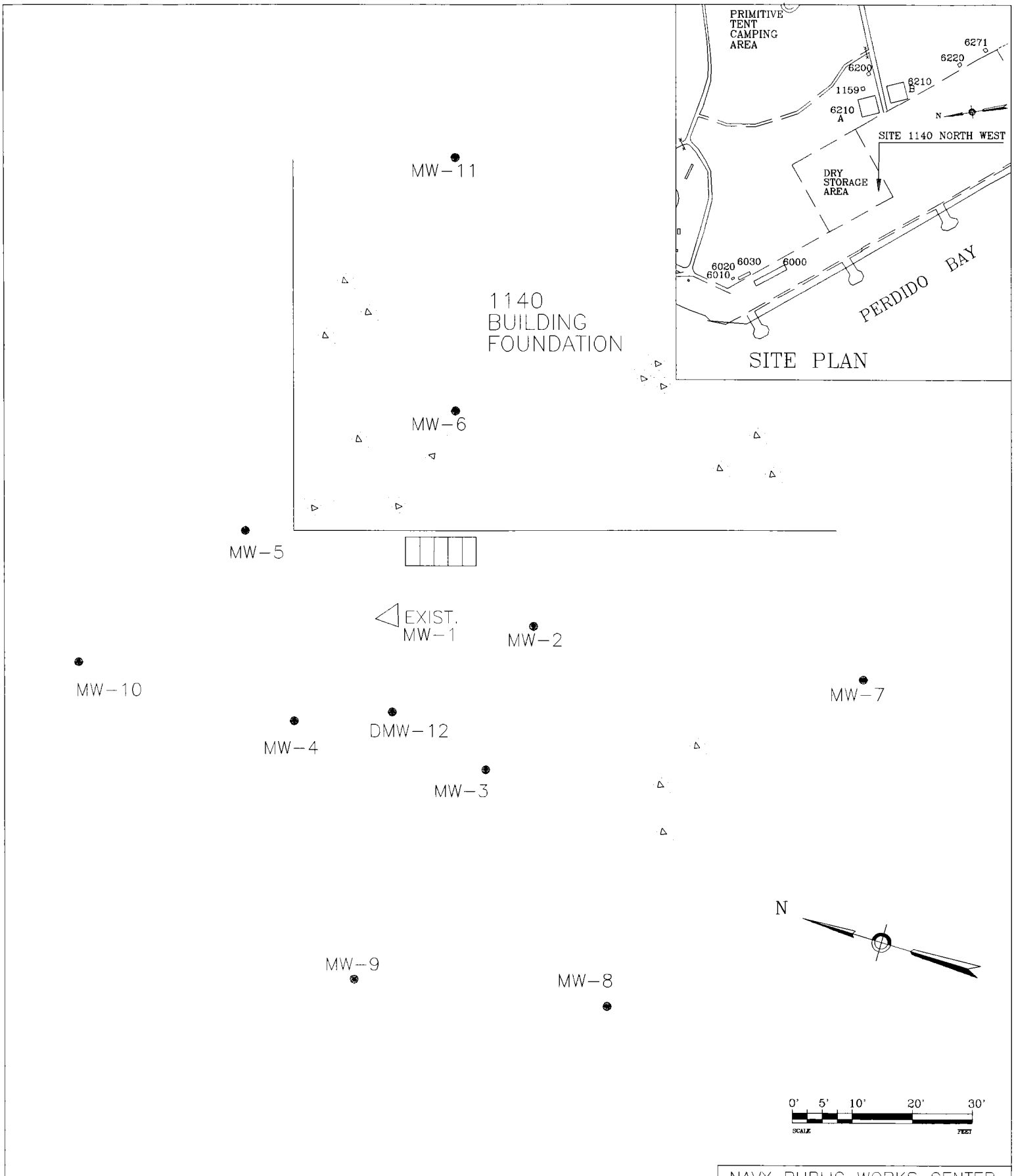


LEGEND

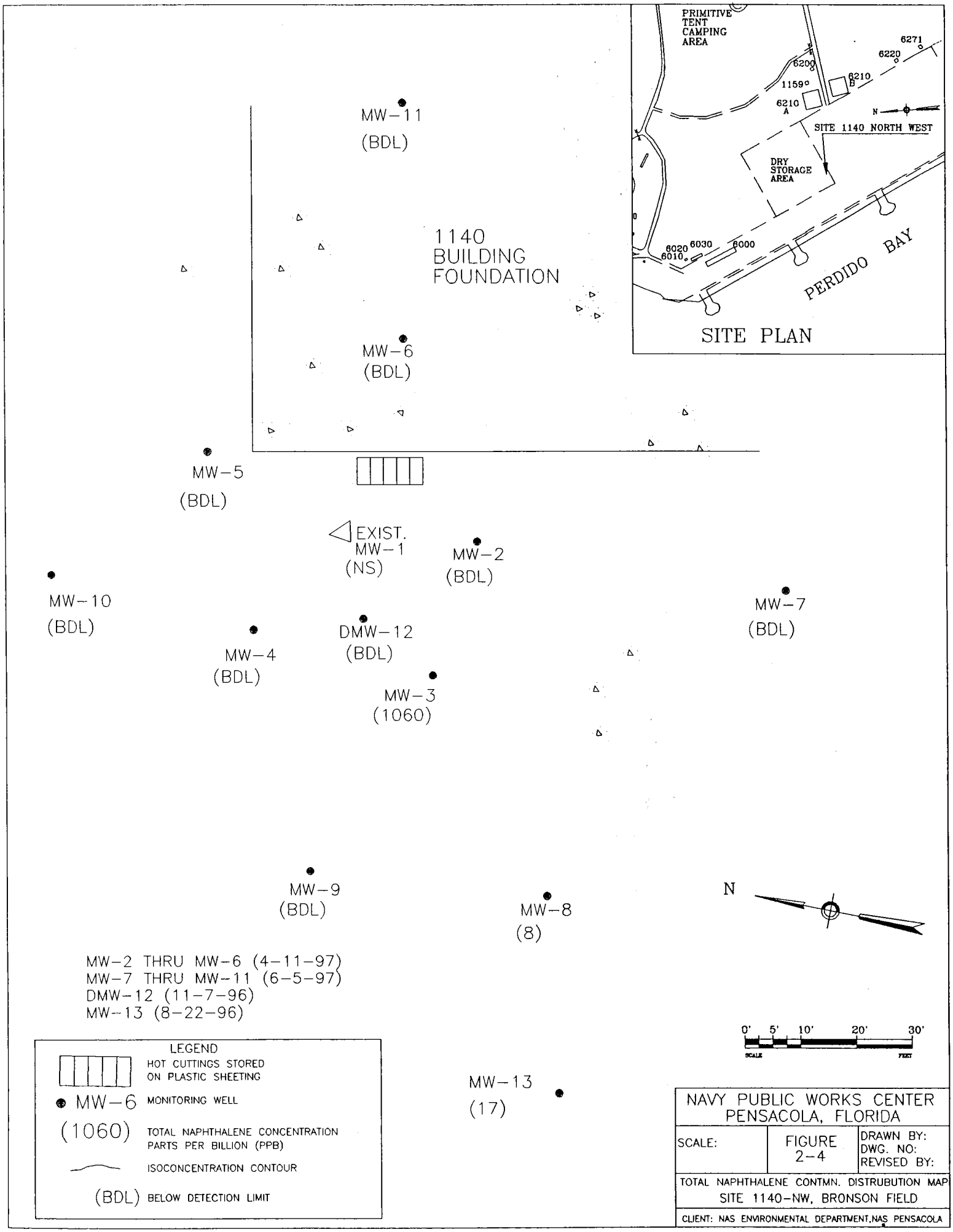
HOT CUTTINGS STORED ON PLASTIC SHEETING

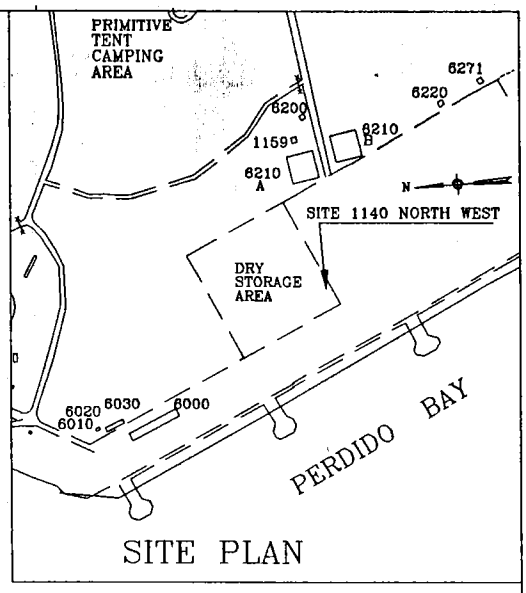
B14 SOIL BORING LOCATION

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY:
SOIL BORING LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-2	DRAWN BY: DWG. NO: REVISED BY:
MONITORING WELL LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11 (BDL)
1140 BUILDING FOUNDATION
MW-6 (BDL)
MW-5 (BDL)
EXIST. MW-1 (NS)
MW-2 (BDL)
MW-10 (BDL)
MW-7 (BDL)
MW-4 (BDL)
DMW-12 (BDL)
MW-3 (1060)
MW-9 (BDL)
MW-8 (8)
N
MW-2 THRU MW-6 (4-11-97)
MW-7 THRU MW-11 (6-5-97)
DMW-12 (11-7-96)
MW-13 (8-22-96)
0' 5' 10' 20' 30'
SCALE FEET
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(1060) TOTAL NAPHTHALENE CONCENTRATION PARTS PER BILLION (PPB)
ISOCONCENTRATION CONTOUR
(BDL) BELOW DETECTION LIMIT
MW-13 (17)
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-4
DRAWN BY:
DWG. NO:
REVISED BY:
TOTAL NAPHTHALENE CONTMN. DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA



MW-11
(23.17)

1140
BUILDING
FOUNDATION

MW-6
(23.11)

MW-5
(23.04)

EXIST.
MW-1
(22.99)

MW-2
(22.98)

MW-10
(22.85)

MW-7
(22.93)

DMW-12

MW-4
(22.91)

MW-3
(22.85)

N

MW-9
(22.74)

MW-8
(22.73)

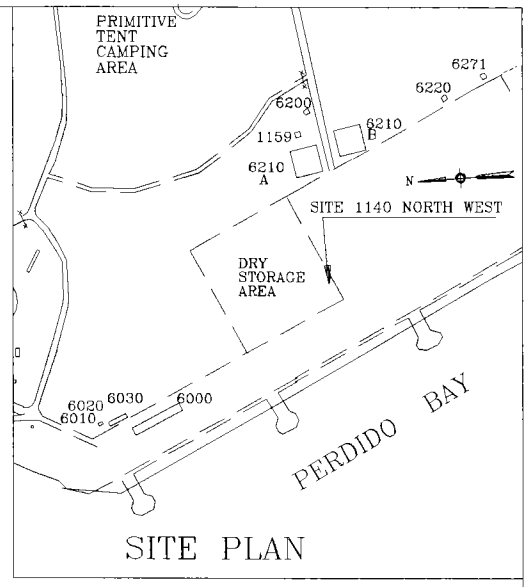
0' 5' 10' 20' 30'
SCALE FEET

MW-13
(22.68)

LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(22.98) GROUNDWATER ELEVATION
23.00 GROUNDWATER ELEVATION CONTOUR

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-3	DRAWN BY: DWG. NO: REVISED BY:
GROUNDWATER FLOW DIRECTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		

Greg -
Does this site need this map?



MW-11

1140 BUILDING FOUNDATION

MW-6

MW-5

EXIST. MW-1

MW-2

MW-10

MW-7

MW-4

MW-3

MW-9

MW-8

MW-13

N

0' 5' 10' 20' 30'
SCALE FEET

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

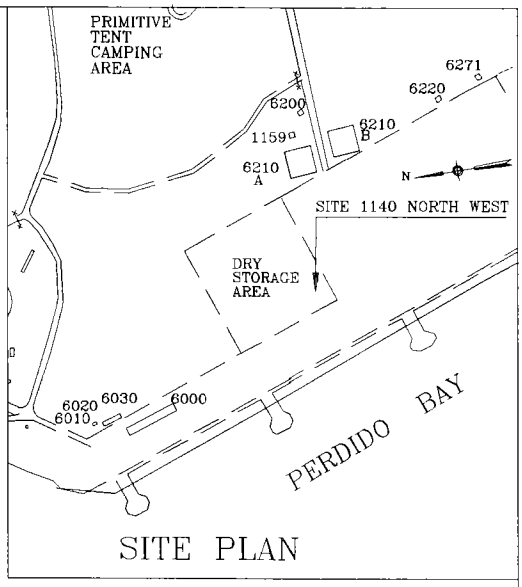
MW-3 MONITORING WELL NUMBER

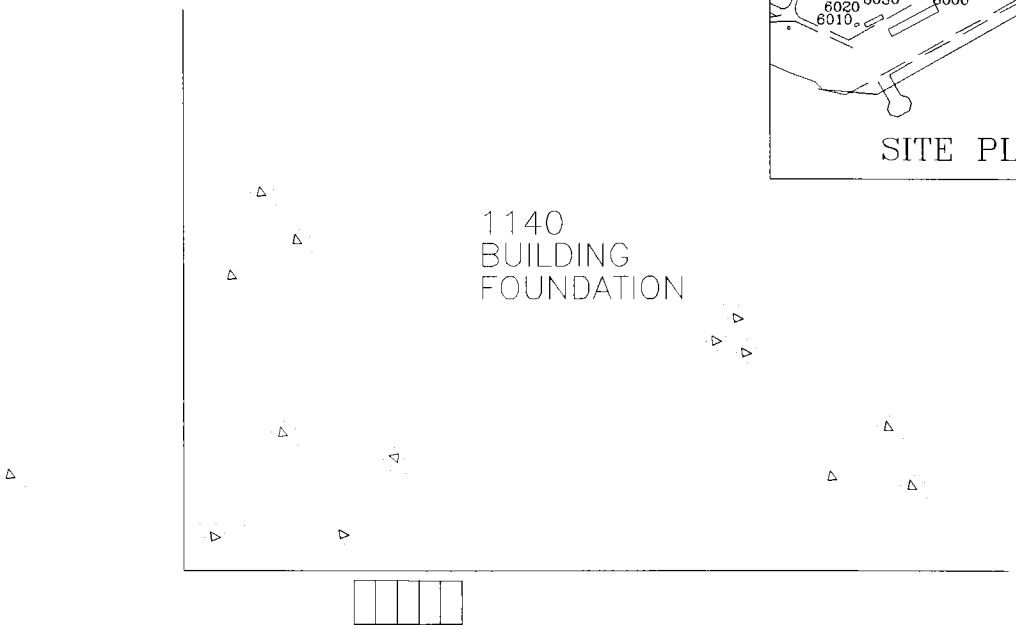
0 OVA READING @ BORING DEPTH 1 TO 1.5'
0 OVA READING @ BORING DEPTH 3 TO 3.5'
0 OVA READING @ BORING DEPTH 5 TO 5.5' OR 6' TO 6.5'

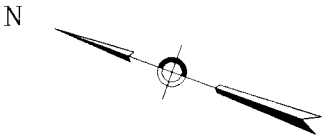
NM OVA READING NOT MEASURED

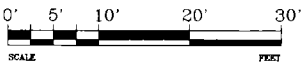
-50- ISOCONCENTRATION LINE

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-4	DRAWN BY: DWG. NO. REVISED BY:
SOIL CONTAMINATION DISTRIBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



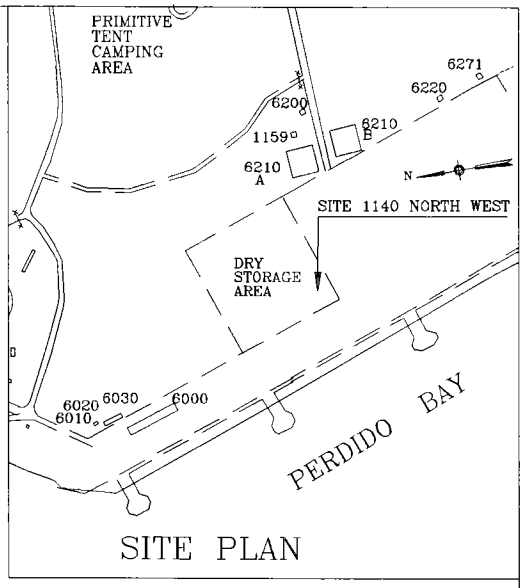


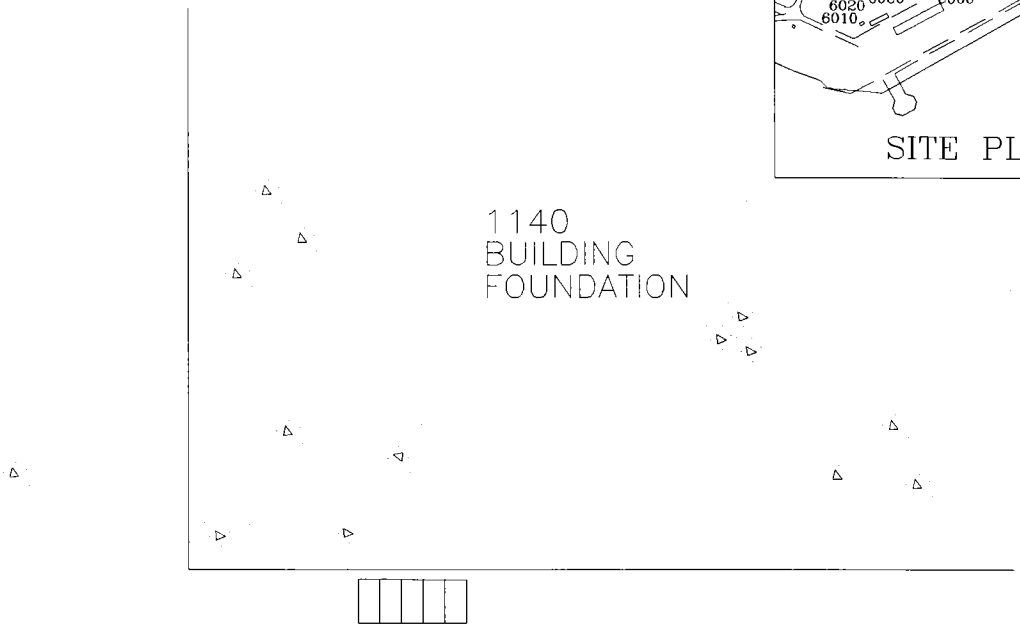


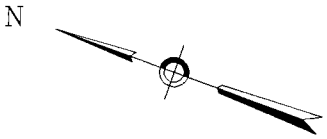


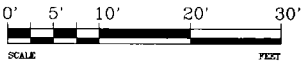
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 1-3	DRAWN BY: DWG. NO: REVISED BY:
SITE LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



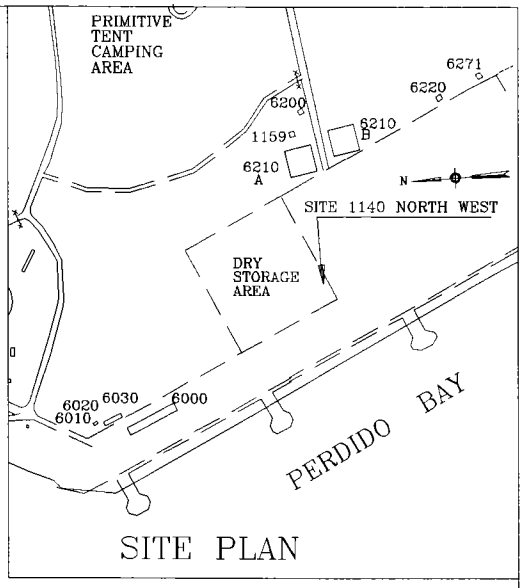


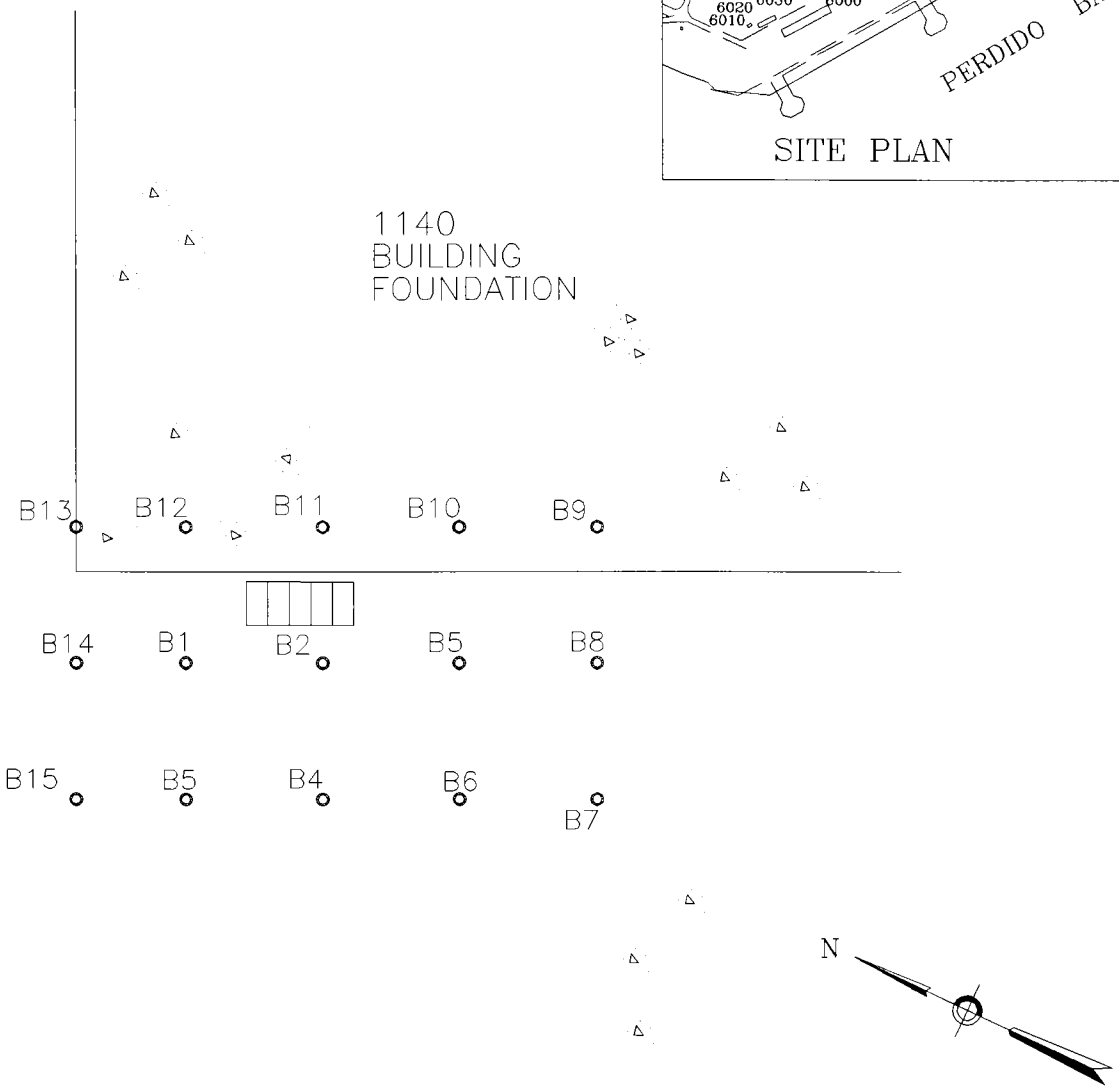




LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 1-3	DRAWN BY: DWG. NO: REVISED BY:
SITE LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		

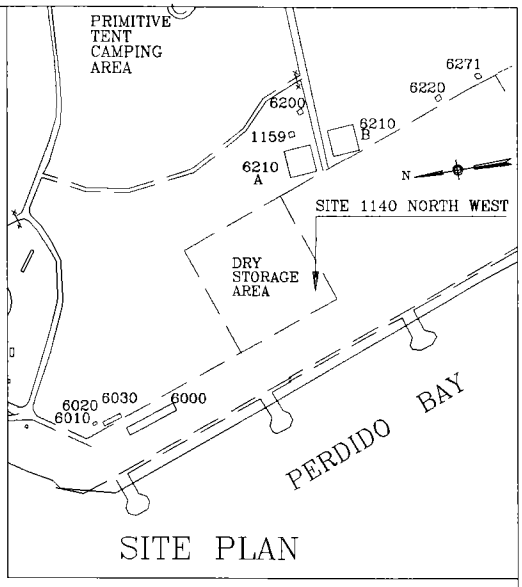




0' 5' 10' 20' 30'
SCALE FEET

LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
B14 SOIL BORING LOCATION MAP

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY:
SOIL BORING LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11

1140
BUILDING
FOUNDATION

MW-6

MW-5

EXIST.
MW-1

MW-2

MW-10

MW-7

MW-4

DMW-12

MW-3

N

MW-9

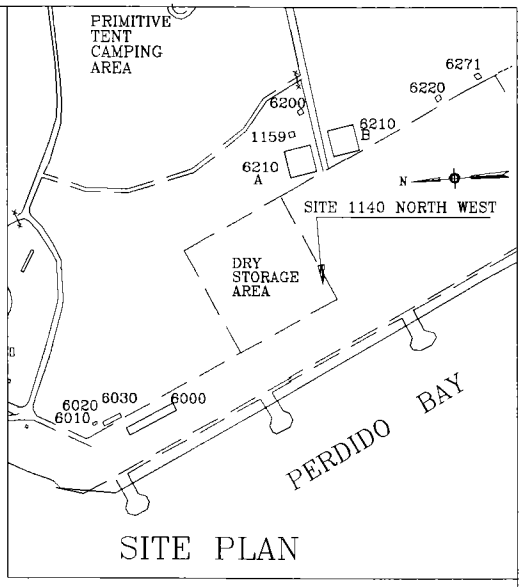
MW-8

0' 5' 10' 20' 30'
SCALE FEET

MW-13

LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-2	DRAWN BY: DWG. NO: REVISED BY:
MONITORING WELL LOCATION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11
(23.17)

1140
BUILDING
FOUNDATION

MW-6
(23.11)

MW-5
(23.04)

EXIST.
MW-1
(22.99)

MW-2
(22.98)

MW-10
(22.85)

MW-7
(22.93)

DMW-12

MW-4
(22.91)

MW-3
(22.85)

N

MW-9
(22.74)

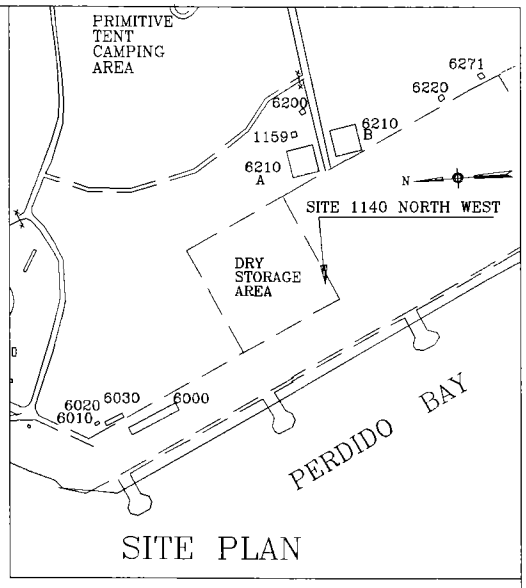
MW-8
(22.73)

0' 5' 10' 20' 30'
SCALE FEET

MW-13
(22.68)

LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(22.98) GROUNDWATER ELEVATION
23.00 ELEVATION CONTOUR

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-3	DRAWN BY: DWG. NO: REVISED BY:
GROUNDWATER FLOW DIRECTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11

1140
BUILDING
FOUNDATION

MW-6

MW-5

EXIST.
MW-1

MW-2

MW-10

MW-7

MW-4

MW-3

MW-9

MW-8

N

0' 5' 10' 20' 30'
SCALE FEET

MW-13

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

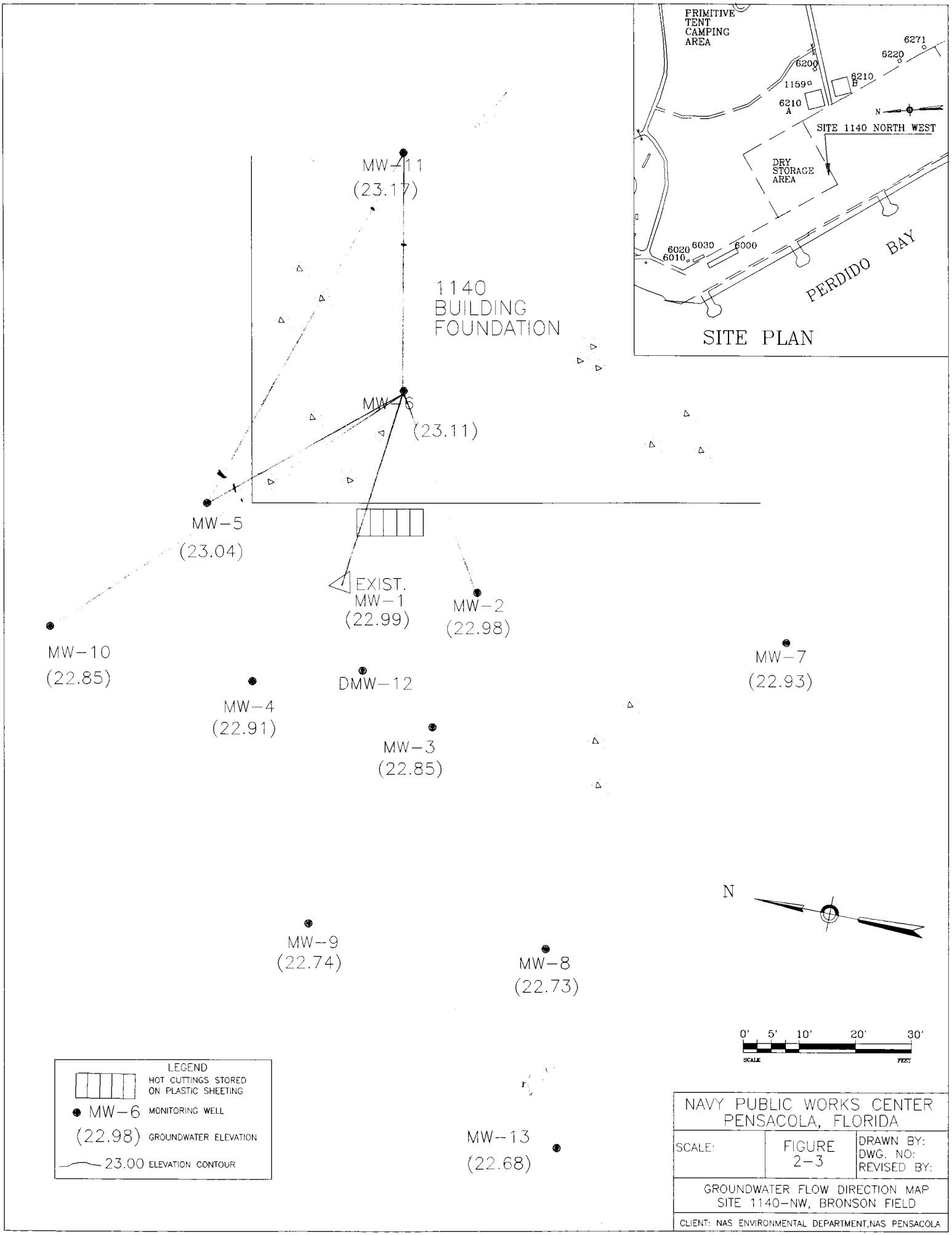
MW-3 MONITORING WELL NUMBER

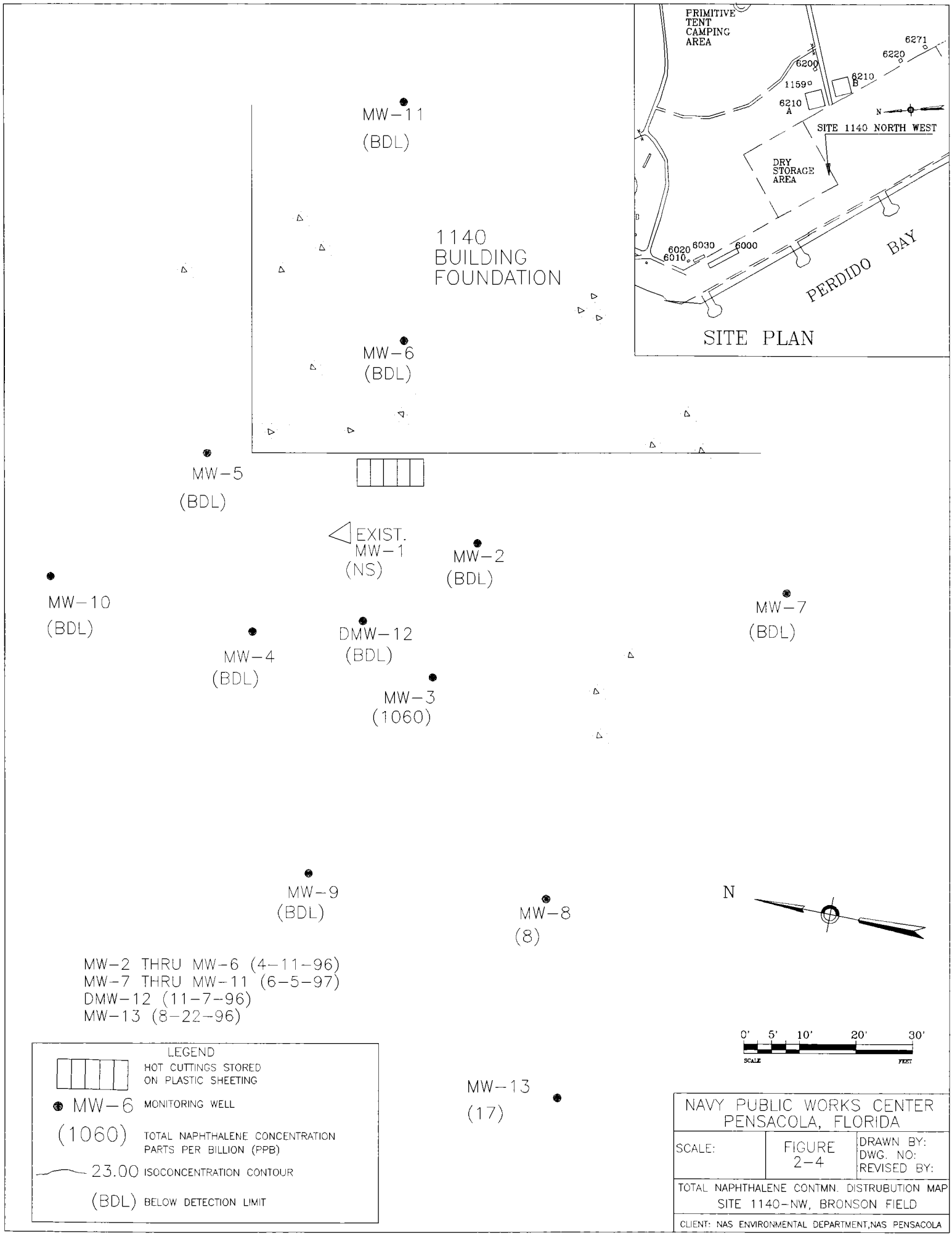
0 OVA READING @ BORING DEPTH 1 TO 1.5'
0 OVA READING @ BORING DEPTH 3 TO 3.5'
0 OVA READING @ BORING DEPTH 5 TO 5.5' OR 6' TO 6.5'

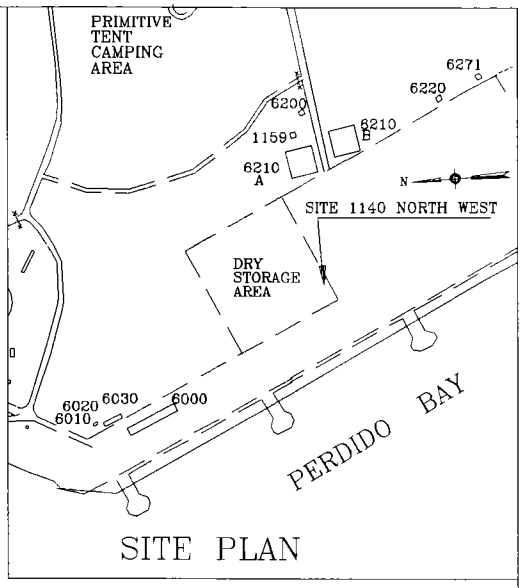
NM OVA READING NOT MEASURED

-50- ISOCONCENTRATION LINE

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-4	DRAWN BY: DWG NO: REVISED BY:
SOIL CONTAMINATION DISTRIBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		


PRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(23.17)
1140 BUILDING FOUNDATION
MW-6
(23.11)
MW-5
(23.04)
EXIST. MW-1
(22.99)
MW-2
(22.98)
MW-10
(22.85)
MW-7
(22.93)
DMW-12
MW-4
(22.91)
MW-3
(22.85)
N
MW-9
(22.74)
MW-8
(22.73)
0' 5' 10' 20' 30'
SCALE FEET
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(22.98) GROUNDWATER ELEVATION
23.00 ELEVATION CONTOUR
MW-13
(22.68)
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-3
DRAWN BY:
DWG. NO:
REVISED BY:
GROUNDWATER FLOW DIRECTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA


FRIMITIVE TENT CAMPING AREA
6271
6220
6200
6210 B
1159
6210 A
N
SITE 1140 NORTH WEST
DRY STORAGE AREA
6020
6010
6030
6000
PERDIDO BAY
SITE PLAN
MW-11
(BDL)
1140 BUILDING FOUNDATION
MW-6
(BDL)
MW-5
(BDL)
EXIST. MW-1
(NS)
MW-2
(BDL)
MW-10
(BDL)
MW-7
(BDL)
MW-4
(BDL)
DMW-12
(BDL)
MW-3
(1060)
MW-9
(BDL)
MW-8
(8)
N
MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-97)
DMW-12 (11-7-96)
MW-13 (8-22-96)
0' 5' 10' 20' 30'
SCALE
FEET
MW-13
(17)
LEGEND
HOT CUTTINGS STORED ON PLASTIC SHEETING
MW-6 MONITORING WELL
(1060) TOTAL NAPHTHALENE CONCENTRATION PARTS PER BILLION (PPB)
23.00 ISOCONCENTRATION CONTOUR
(BDL) BELOW DETECTION LIMIT
NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA
SCALE:
FIGURE 2-4
DRAWN BY:
DWG. NO:
REVISED BY:
TOTAL NAPHTHALENE CONTMN. DISTRUBUTION MAP
SITE 1140-NW, BRONSON FIELD
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(BDL)

MW-5
(BDL)

EXIST.
MW-1
(BDL)

MW-2
(1900)

MW-10
(BDL)

MW-7
(BDL)

MW-4
(BDL)

DMW-12
(BDL)

MW-3
(110000)

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-1 (5-23-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

(240) TRPH CONCENTRATION (PPB)

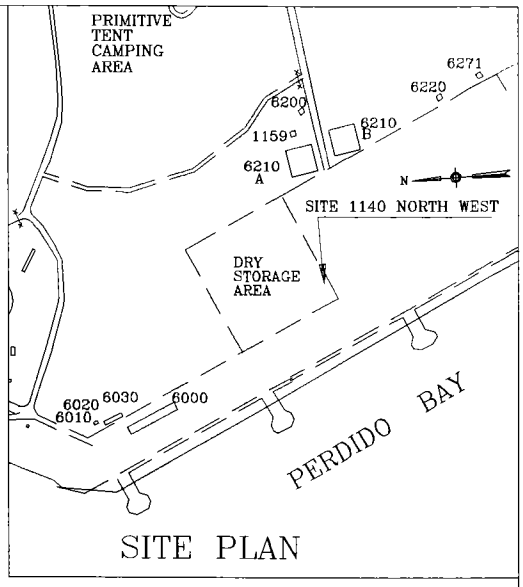
23.00 ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

MW-13
(240)

0' 5' 10' 20' 30'
SCALE FEET

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-5	DRAWN BY: DWG. NO: REVISED BY:
TRPH CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		



MW-11
(BDL)

1140
BUILDING
FOUNDATION

MW-6
(30)

MW-5
(BDL)

EXIST.
MW-1
(NS)

MW-2
(120)

MW-10
(BDL)

MW-7
(BDL)

DMW-12
(BDL)

MW-4
(110)

MW-3
(30)

MW-9
(BDL)

MW-8
(BDL)

N

NOTE

MW-2 THRU MW-6 (4-11-96)
MW-7 THRU MW-11 (6-5-96)
MW-13 (8-22-96)
DMW-12 (11-7-96)

0' 5' 10' 20' 30'
SCALE FEET

MW-13
(BDL)

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

MW-6 MONITORING WELL

(240) TRPH CONCENTRATION (PPB)

23.00 ISOCONCENTRATION CONTOUR

(BDL) BELOW DETECTION LIMIT

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-6	DRAWN BY: DWG. NO: REVISED BY:
EDB CONTAMINATION DISTRUBUTION MAP SITE 1140-NW, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		