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CONTAMINATION ASSESSMENT REPORT FOR SITE 1140NE OUTLYING LANDING FIELD BRONSON NAS PENSACOLA FL

08/29/1997

NAVY PUBLIC WORKS CENTER

CONTAMINATION ASSESSMENT REPORT

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

PREPARED BY:

NAVY PUBLIC WORKS CENTER
BUILDING 458
PENSACOLA, FLORIDA 32508-6500

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AUGUST 1997

PREPARED FOR:

SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND
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DEPARTMENT OF THE NAVY
NAVY PUBLIC WORKS CENTER
310 JOHN TOWER ROAD
PENSACOLA, FLORIDA 32508-5303

IN REPLY REFER TO:

5090
Code 4231
29 August 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-NE, 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) 452-8587 or 452-4315.

Sincerely,

BILL CRISTEA
Director, Mechanical/Electrical Division
By direction of
the Commanding Officer

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

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

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Site 1140-NE
Pensacola, Florida

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Pensacola, Florida

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APPENDIX C:	Lithologic Logs
APPENDIX D:	Soil and Groundwater Analytical Results

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-NE, Pensacola Naval Air Station, Pensacola, Florida.

Petroleum contamination was discovered at the site on June 29, 1994 during the removal of one (l) 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-NE are presented herein.

1.2 SITE LOCATION AND AREA OF INVESTIGATION

Site 1140-NE 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 the 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-NE is located at latitude 30°23'05" N, longitude 87°25'33" 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 northeast corner of the remains of building 1140. North of the site is a guard shack, flag pole, MWR boat pier, and Country Store; to the east is a wooded area; to the south is concrete pavement and base campgrounds; and 350 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.

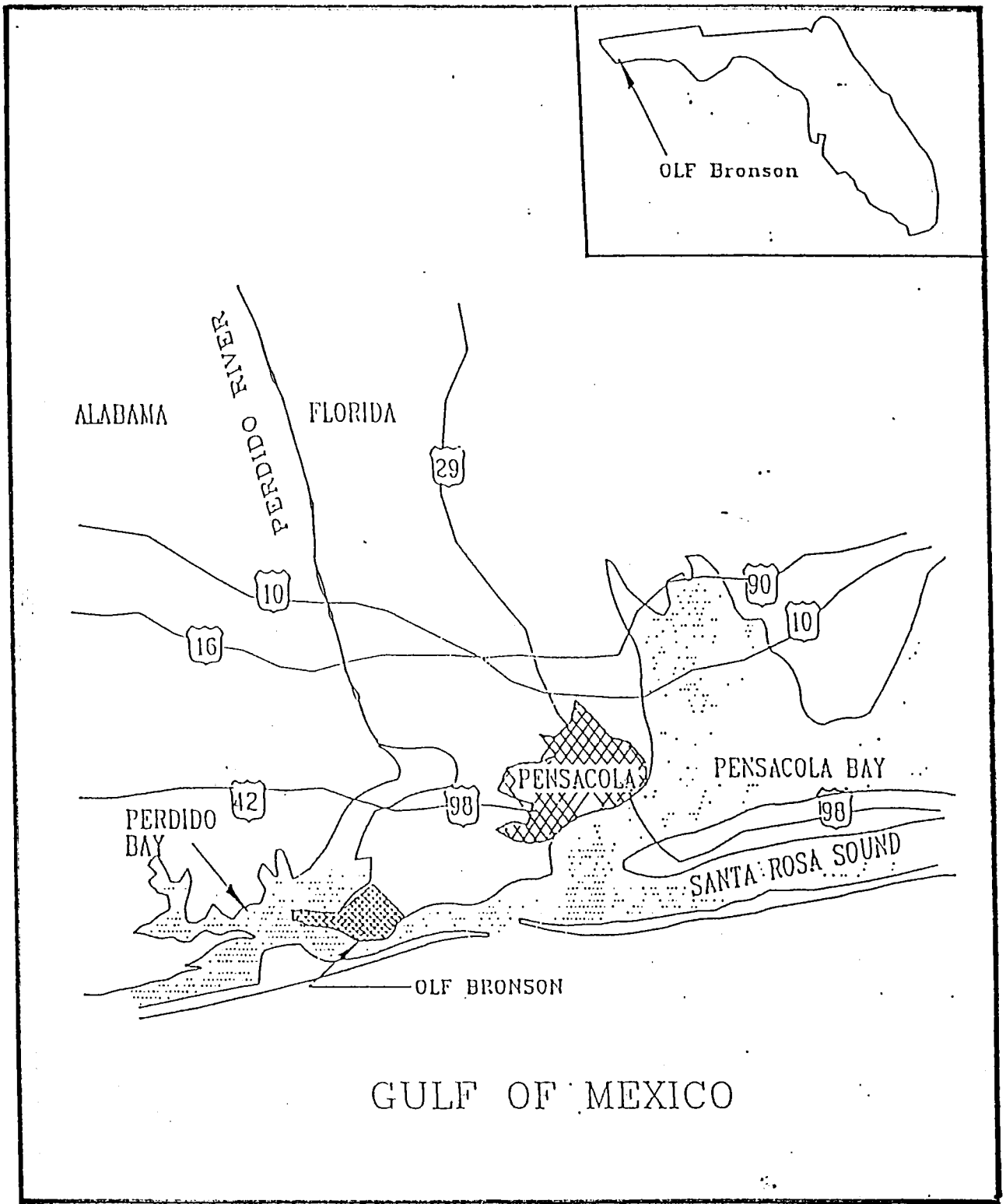


FIGURE 1-1.
OLF Bronson
VICINITY MAP

Key:

Highway 2

Water Way

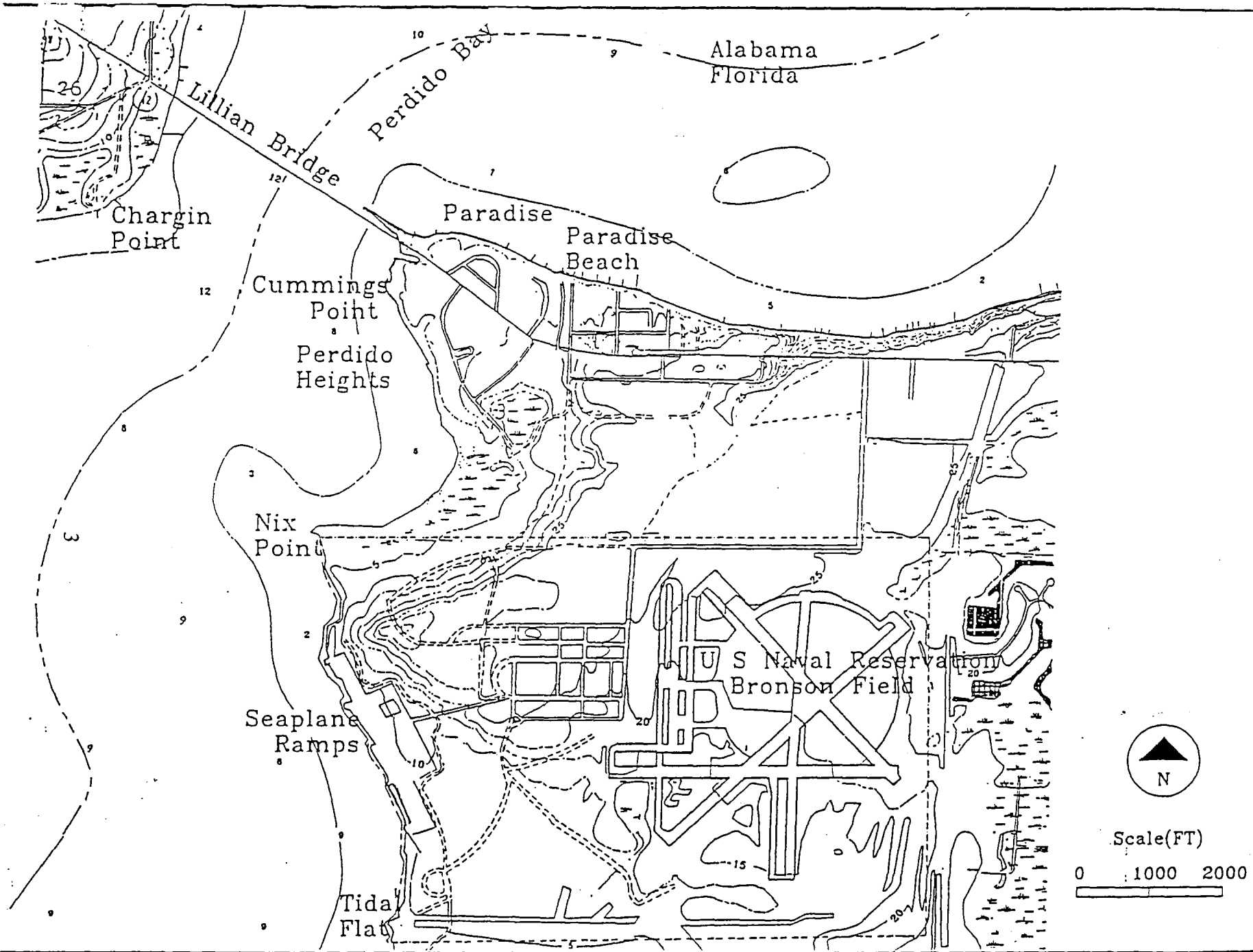


Figure 1-2
OLF Bronson
Topographic Map

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

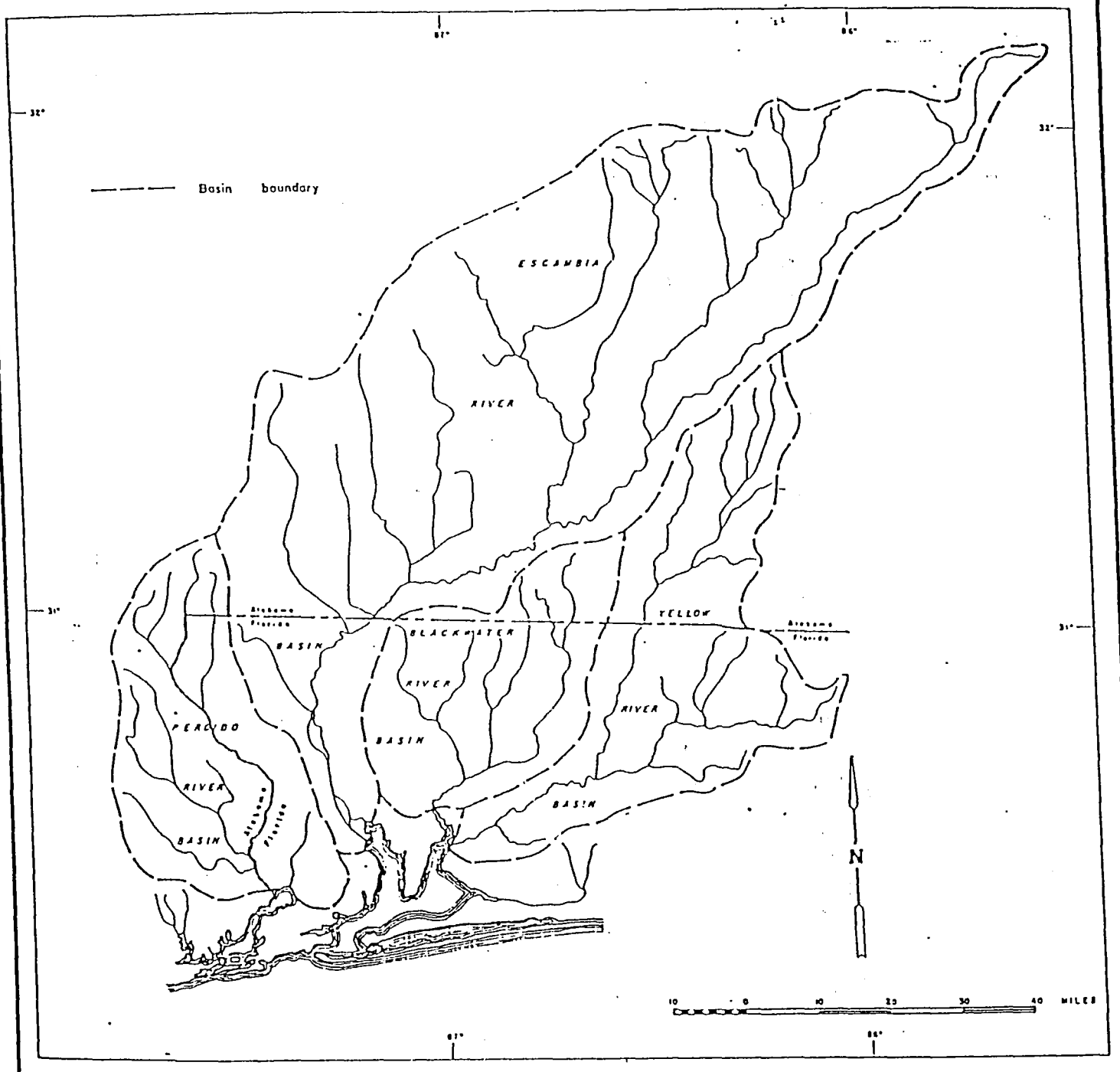


Figure 1-3
OLF BRONSON

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

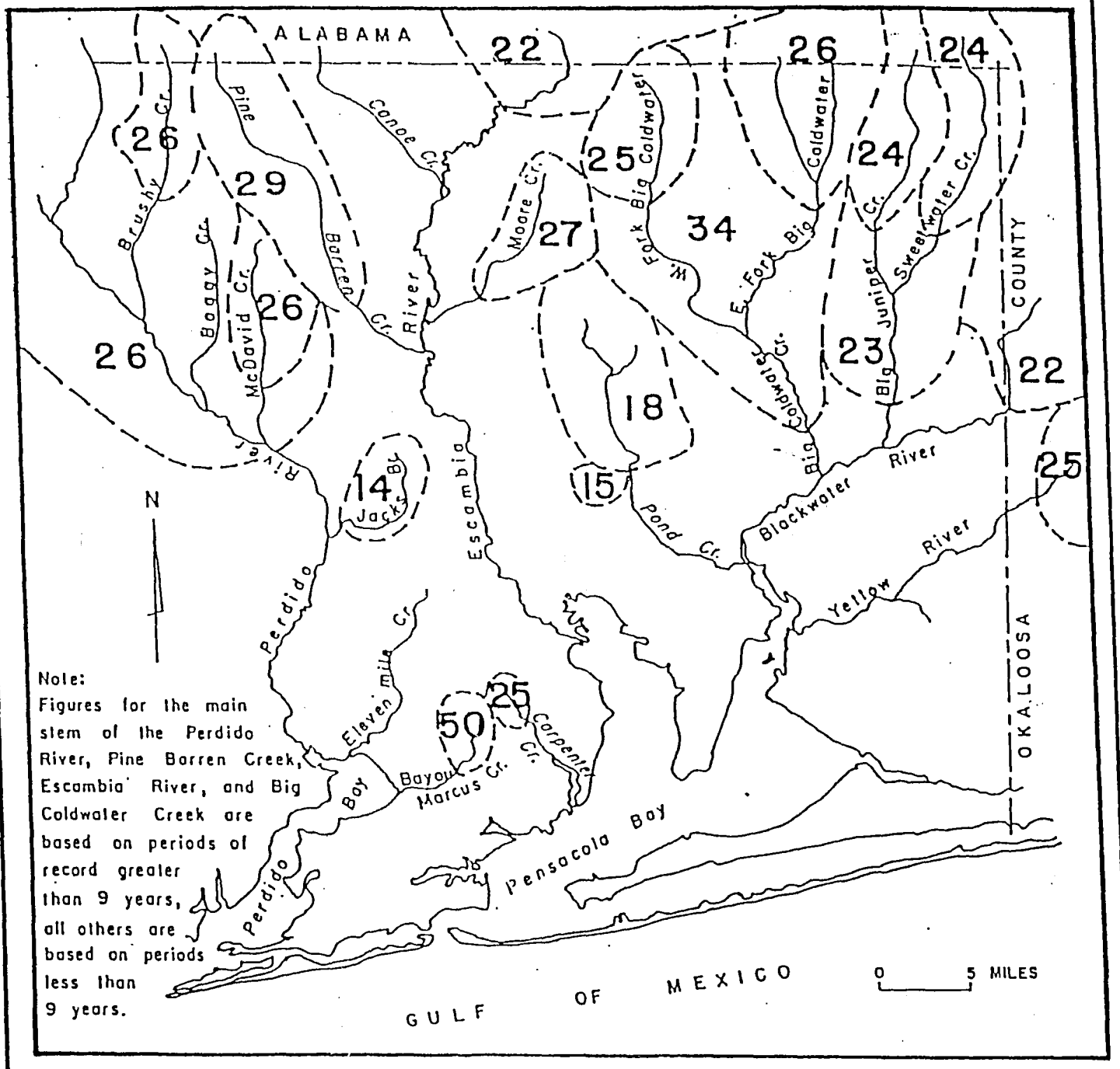


Figure 1-4
OLF BRONSON

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

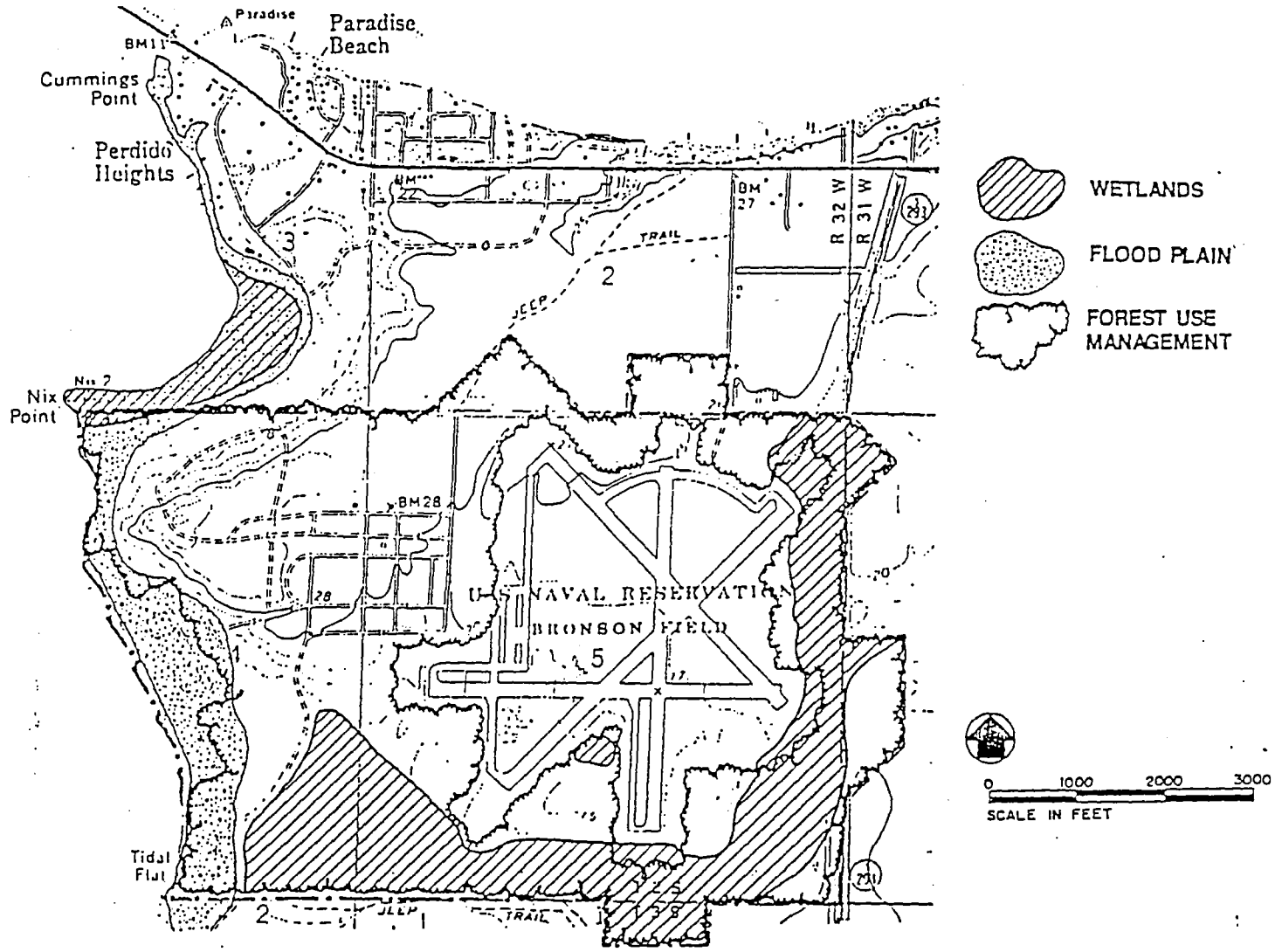


Figure 1-5
OLF Bronson
Flood Plain Area

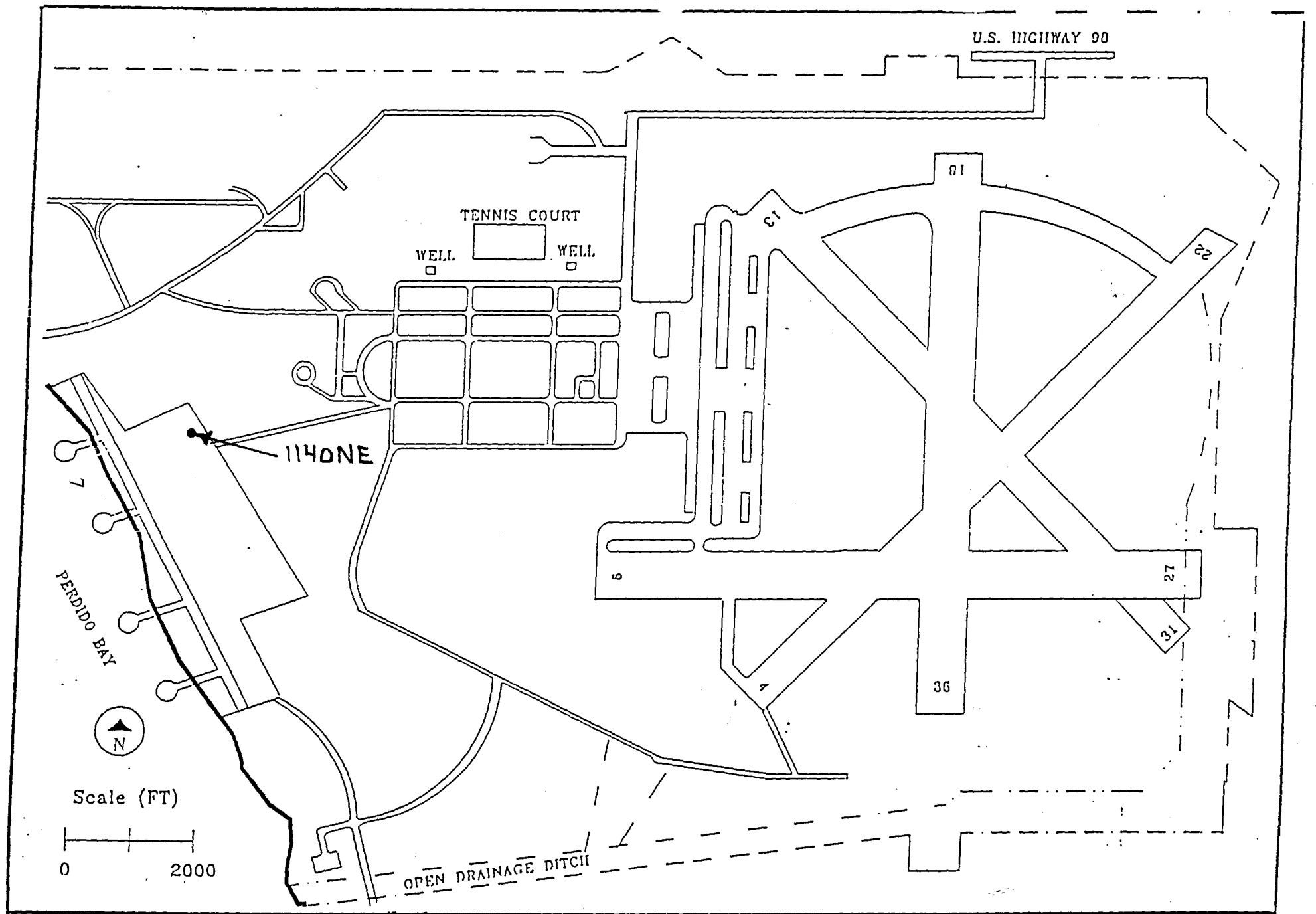


FIGURE 1-6
OLF BRONSON BASE MAP

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

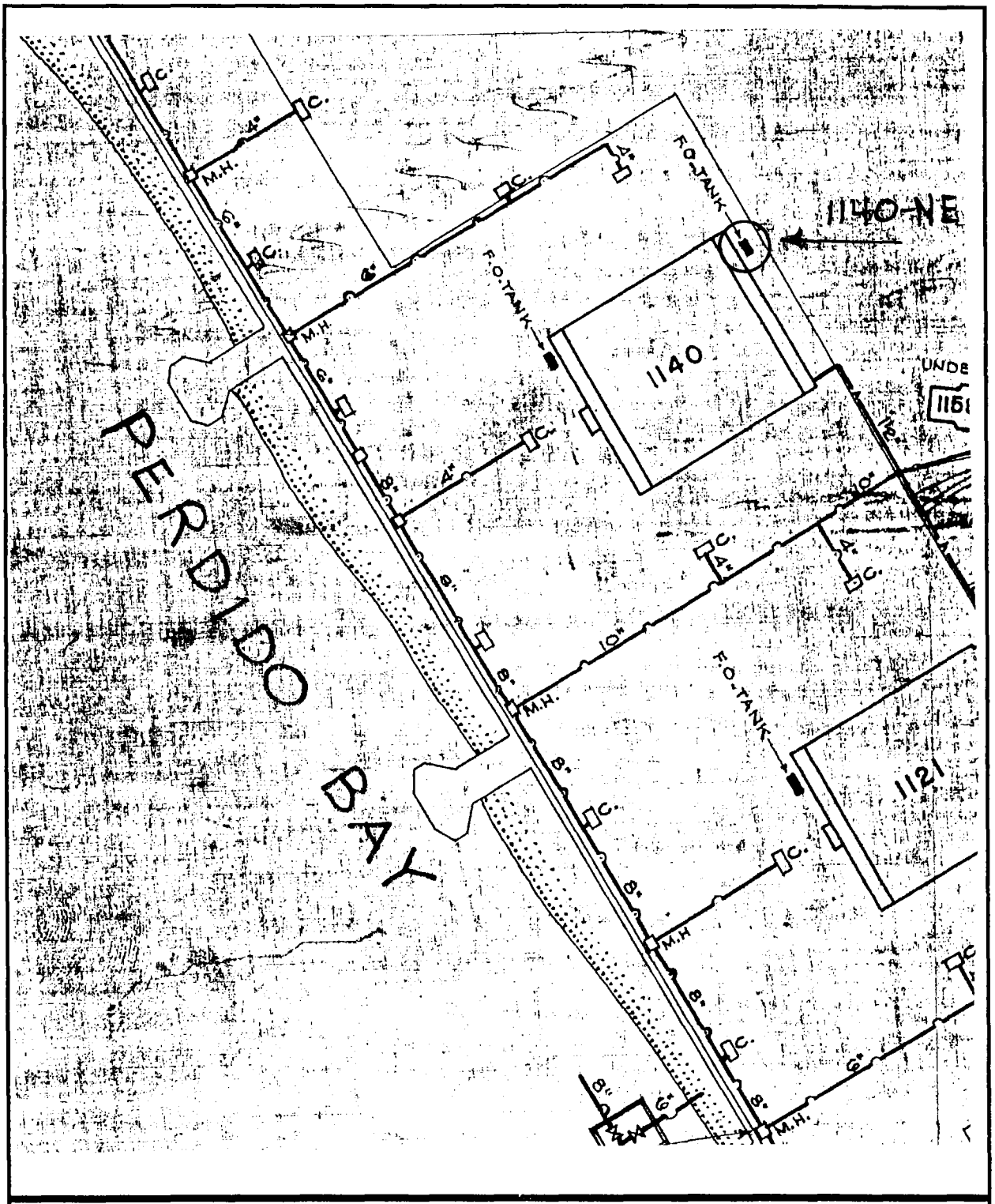


Figure 1-7
OLF Bronson
Site 1140-NE

N

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 indicate building 1140 was previously 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 (USTs) 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 24, 1994, Navy Public Works Center personnel observed petroleum soil contamination at Site 1140-NE during the removal of one (1) underground fuel oil storage tank. The contaminated soil (approximately 20 CY) was completely removed, stockpiled onsite, and eventually disposed of in a permitted thermal treatment facility. Clean soil was used to fill the excavation. Soil samples were collected at the bottom and sides of the excavation and analyzed using OVA screening techniques. No organic vapor contamination was detected in the soil samples collected.

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. One soil sample was analyzed for TCLP Organics (EPA Methods 8260 and 8270A) and TCLP Pesticides/Herbicides (EPA Method 8080A). 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 19, 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 19, 1994, a soil sample collected from Site 1140 Disposal Dirt was analyzed for

volatile and semi-volatile organics (EPA Method 8260), TCLP Organics (EPA Method 8260 and 8270A), and TCLP Pesticides/Herbicides (EPA 8080A). The soil sample exceeded the FDEP allowable regulatory limits for naphthalenes of 100 ppb which is considered to be excessively contaminated soil with kerosene. Laboratory results of the soil sample indicated contamination levels of n-butylbenzene, sec-butylbenzene, tert-butylbenzene, ethylbenzene, isopropylbenzene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and m,p-xylene at concentrations of 170 ppb, 130 ppb, 430 ppb, 14 ppb, 55 ppb, 1700 ppb, 110 ppb, 450 ppb, 1170 ppb, and 17 ppb, respectfully. A summary of the analytical results is included in Table 1-1. Laboratory analysis of the soil sample for TCLP Organics and TCLP Pesticides/Herbicides indicated contamination levels were below detection limits.

On May 24, 1995, a shallow groundwater monitoring well MW-12 (later renamed MW-1) was installed at Site 1140-NE 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-12 is included in Appendix A. A copy of the lithological log for monitoring well MW-12 is included in Appendix C.

On May 30, 1995, a groundwater sample was collected from monitoring well MW-12 and analyzed for volatile organic aromatics (VOAs) using EPA Method 8260 and polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270A. No VOAs were detected in the groundwater sample. Fluorene, naphthalene, phenanthrene, 1-methylnaphthalene, 2-methylnaphthalene, and total naphthalenes were detected in the groundwater sample at levels of 10 ppb, 13 ppb, 5 ppb, 70 ppb, 90 ppb, and 173 ppb, respectfully, which exceeded the FDEP regulatory limits for total naphthalenes of 100 ppb. A summary of the PAH analytical results for the groundwater sample is shown in Table 1-2.

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

TABLE 1-1
SUMMARY OF VOLATILE AND SEMI-VOLATILE ORGANICS ANALYTICAL RESULTS FOR SOIL SAMPLE COLLECTED FROM THE EXCAVATION DISPOSAL DIRT U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NE

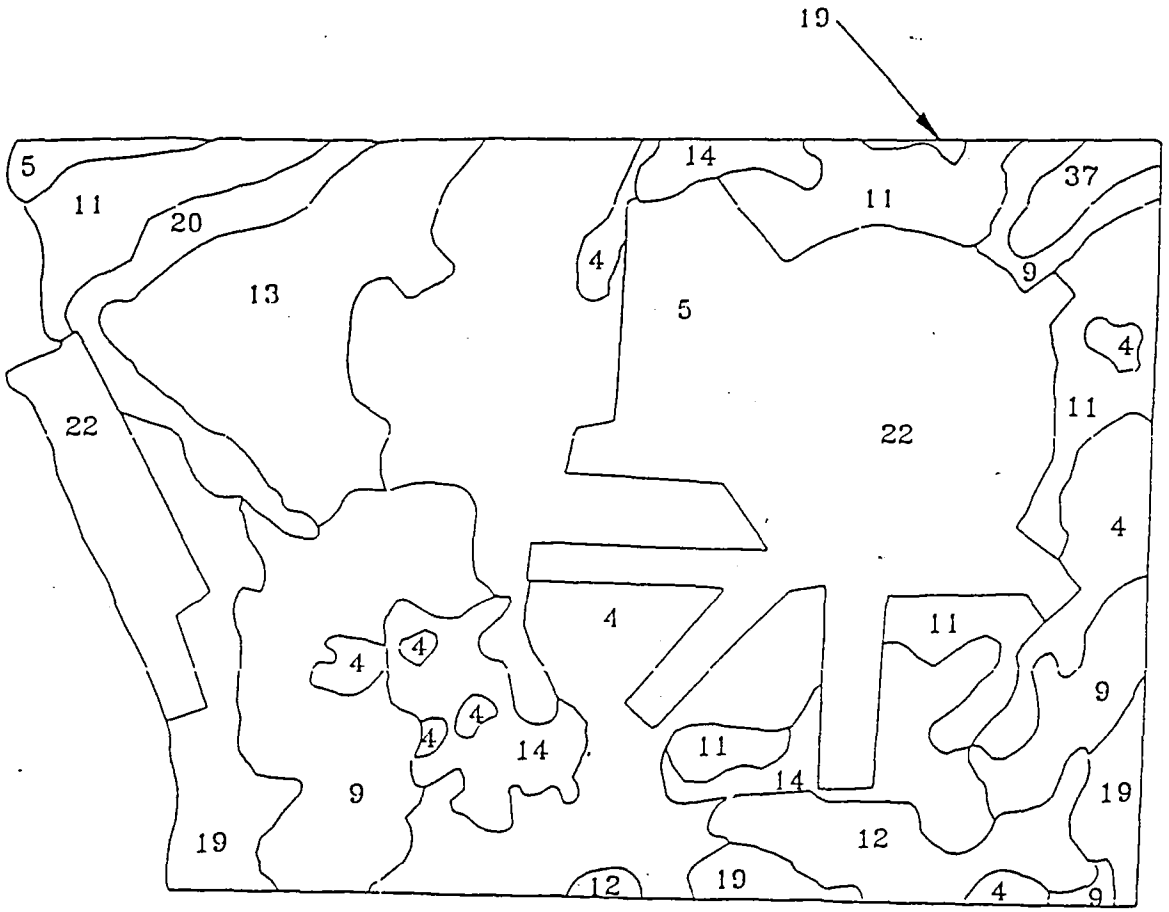
PARAMETER: VOLATILES BY GCMS	B1140-NE DISPOSAL DIRT
n-Butylbenzene	170
sec-Butylbenzene	130
tert-Butylbenzene	430
Ethylbenzene	14
Isopropylbenzene	55
Naphthalene	1700
n-Propylbenzene	110
1,2,4-Trimethylbenzene	450
1,3,5-Trimethylbenzene	1170
m,p-Xylene	17

NOTES: BDL = Below detection limits.
Soil samples were collected on July 19, 1994.
All results are reported in parts per billion (ppb) unless otherwise noted.

TABLE 1-2
SUMMARY OF PAHs
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLE
COLLECTED FROM MONITORING WELL MW-12
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NE

PARAMETER: PAHs	B1140-NE MW-12
Fluorene	10
Naphthalene	13
Phenanthrene	5
1-Methylnaphthalene	70
2-Methylnaphthalene	90
Total Naphthalene	173

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)

Embayment, which accounts for the characteristic southwestward dip of cretaceous and younger strata (Figures 1-9 thru 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 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

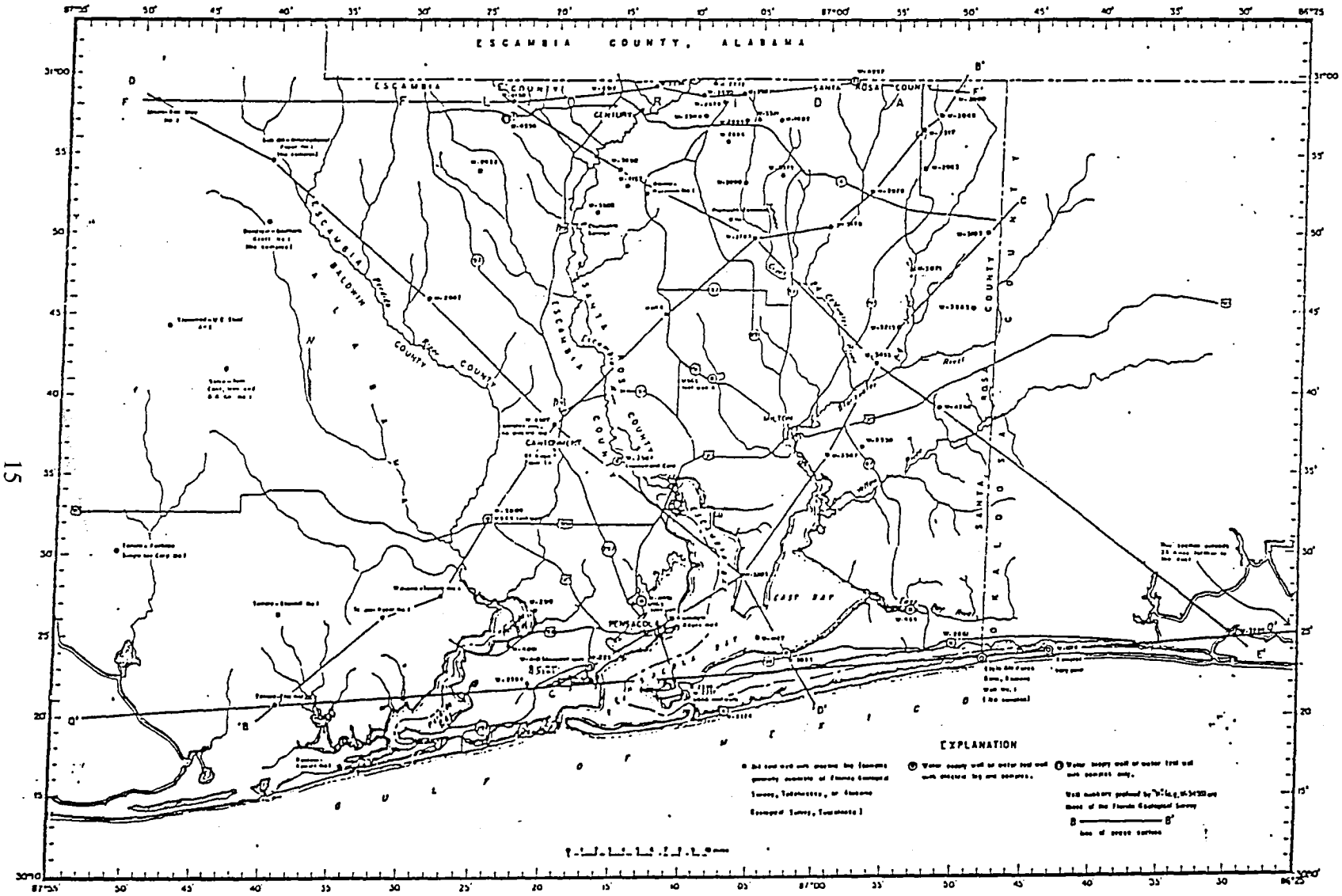


Figure 1-9
OLF Bronson

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

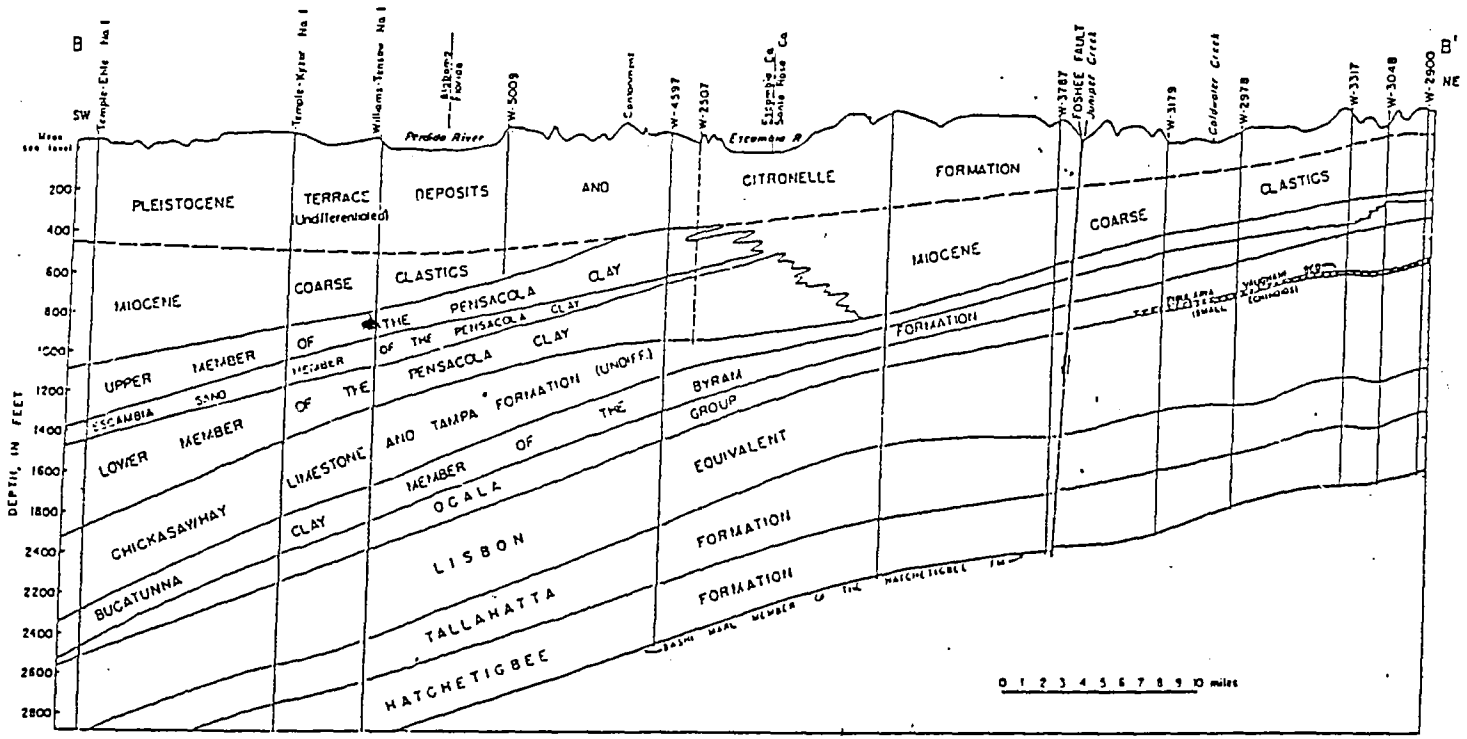


Figure 1-10
OLF Bronson

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

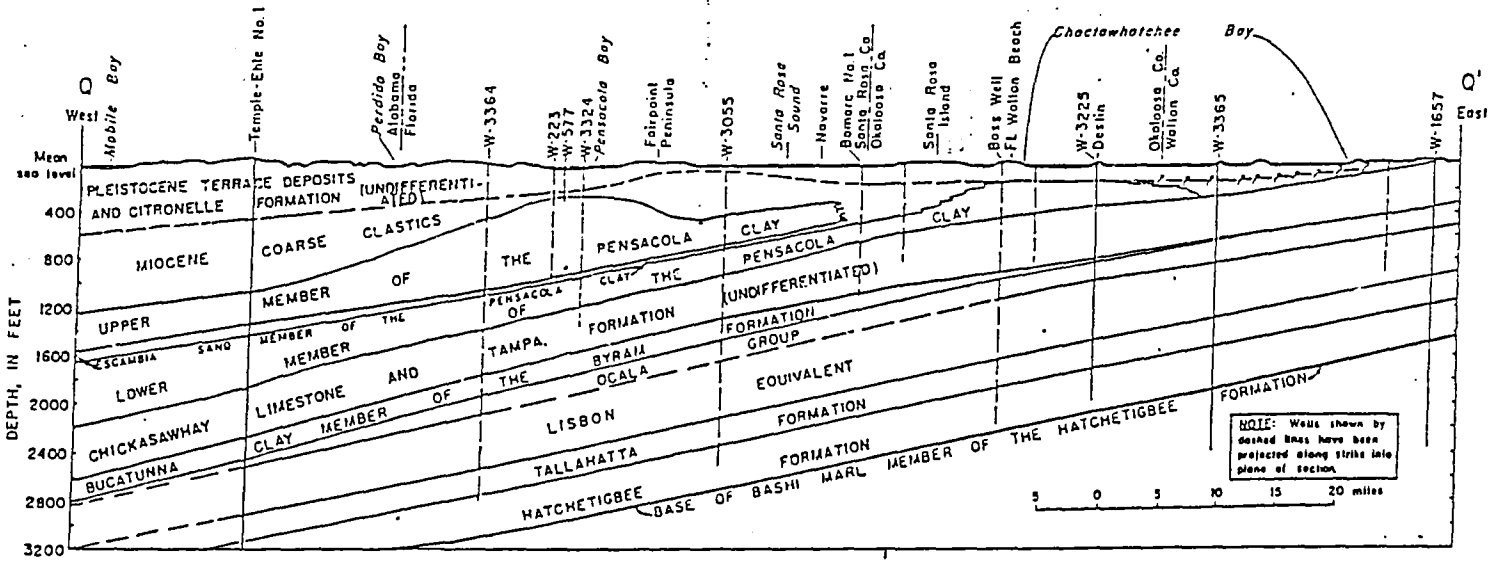


Figure 1-11
OLF Bronson

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).

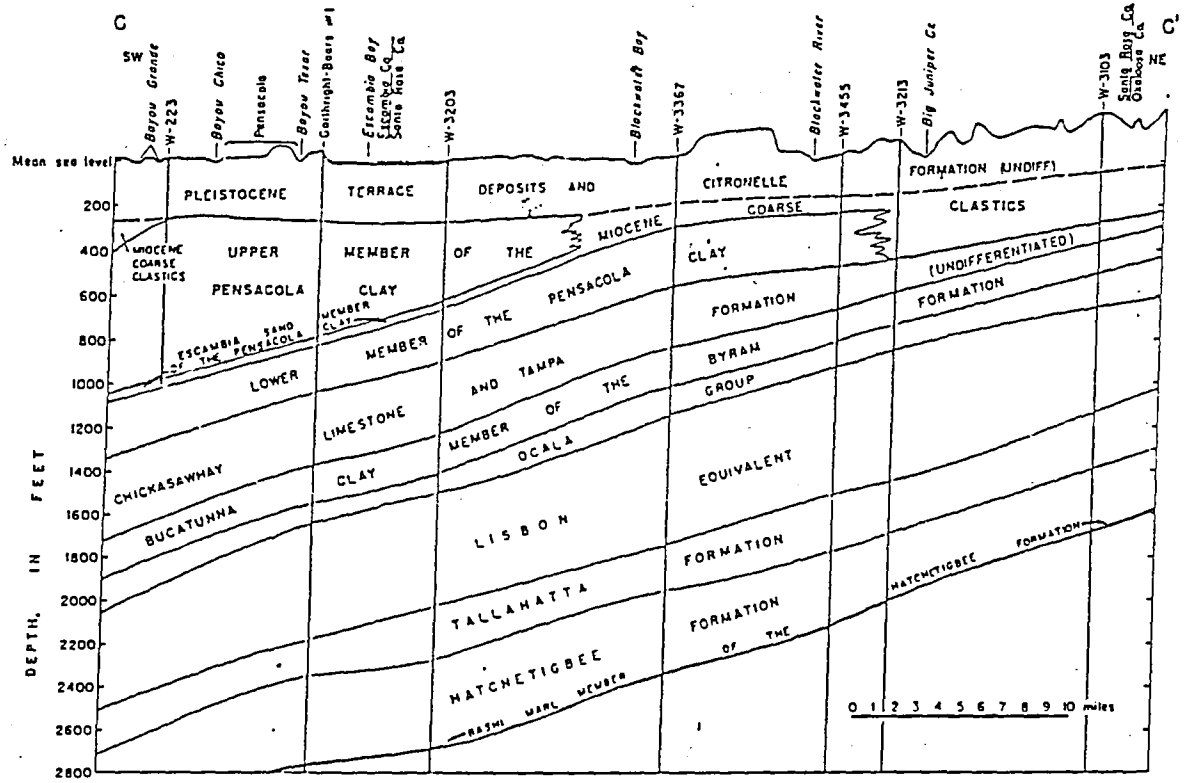


Figure 1-12
OLF Bronson

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

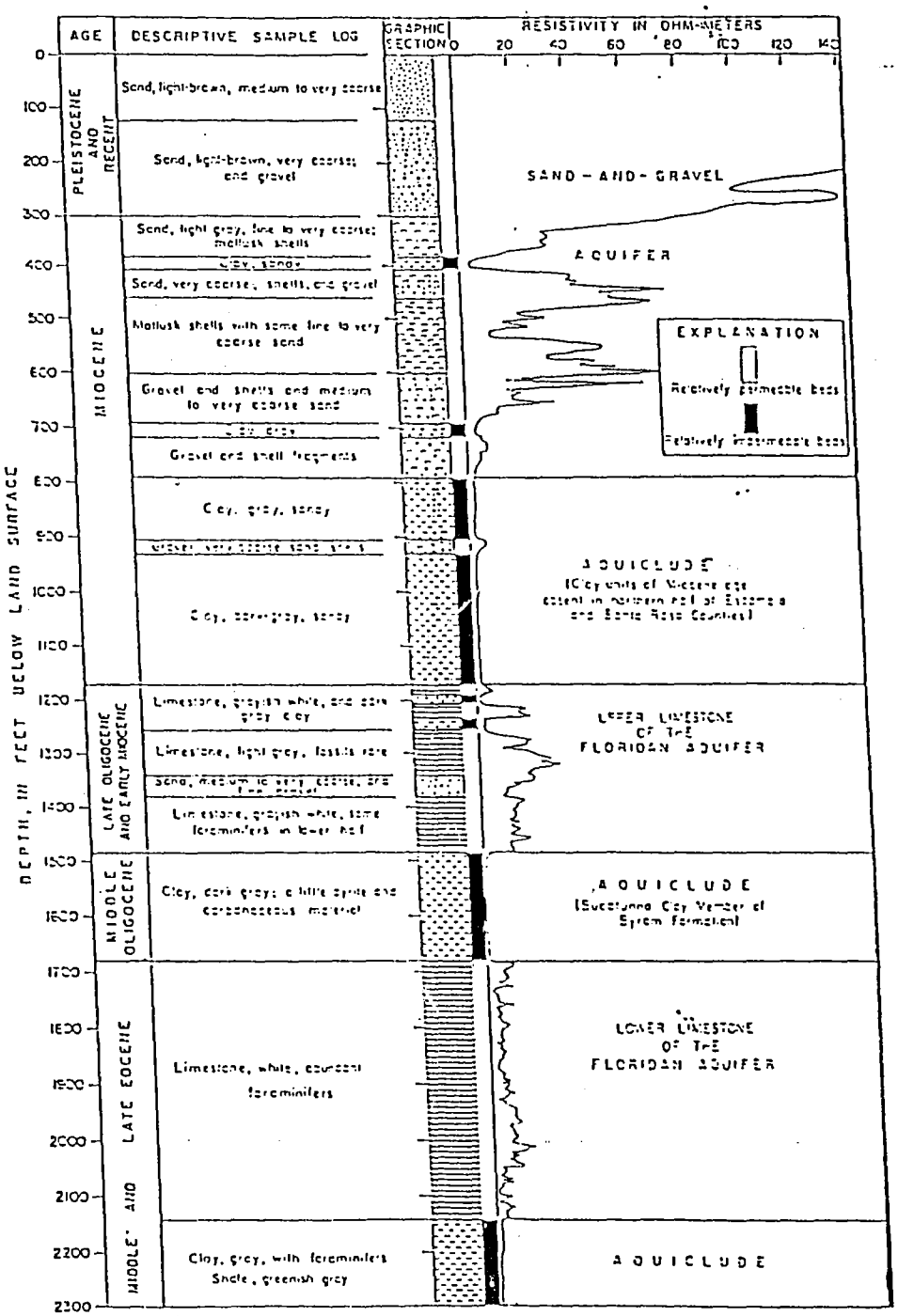


Figure 1-13
OLF Bronson

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

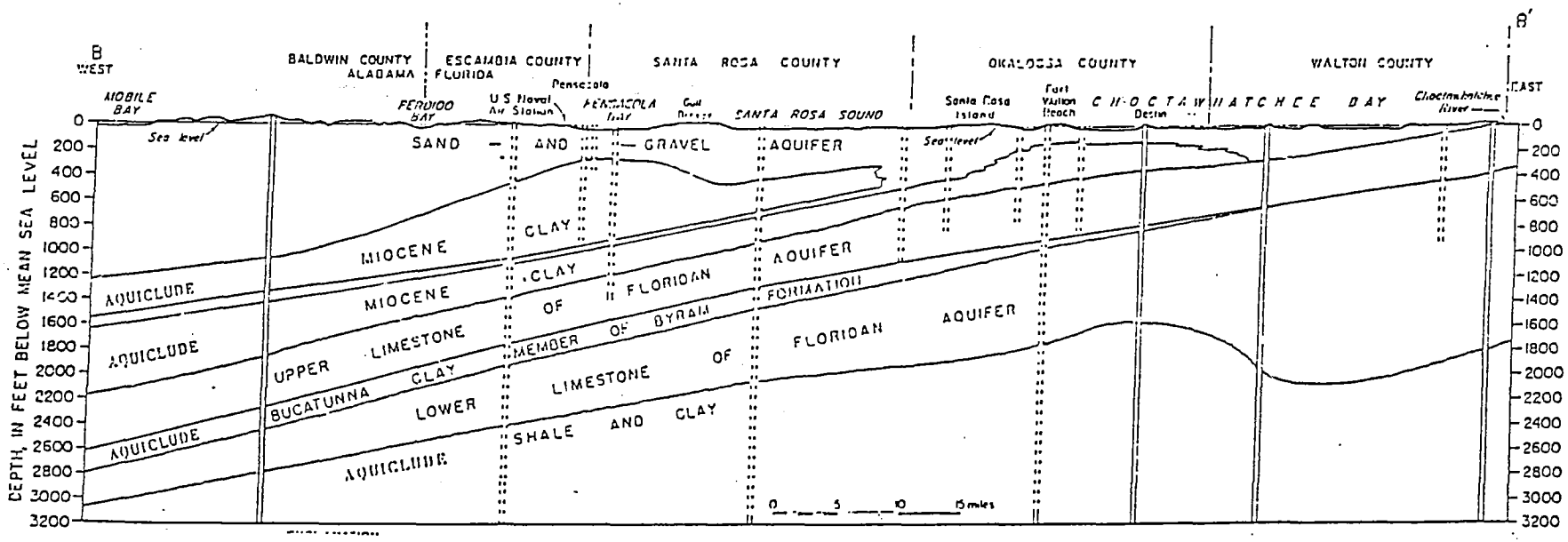


Figure 1-14
OLF Bronson

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

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 one potable water well (#2) located at OLF Bronson. The well is permitted by the Northwest Florida Water Management District and is used to supply potable water to the base and to ECUA customers in the Perdido Key Community. Former potable water well #1 was taken out of service in June 1995. 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 1-3.

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.

Monitoring well MW-1 (formerly MW-12) was installed by Grady Swann Inc. on May 24, 1995 to complete the closure assessment of the tank.

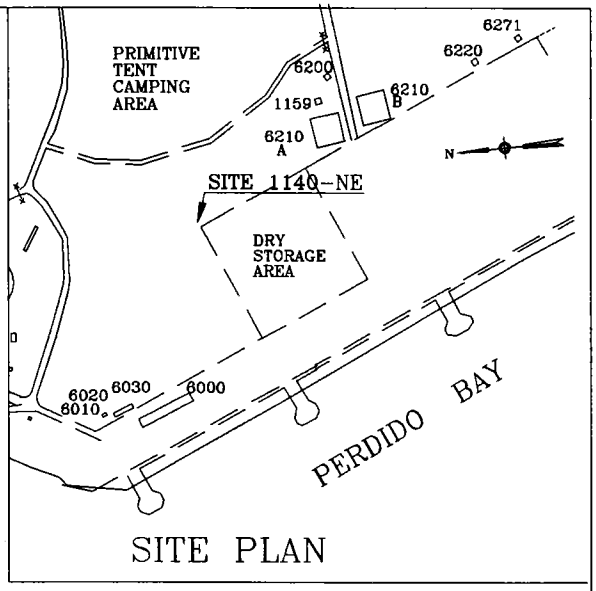
Shallow monitoring wells MW-2 thru MW-6 and a vertical extent monitoring well, designated DMW-7, were installed at the site by W.E.S., Inc. on April 3 and June 17, 1996, respectfully.

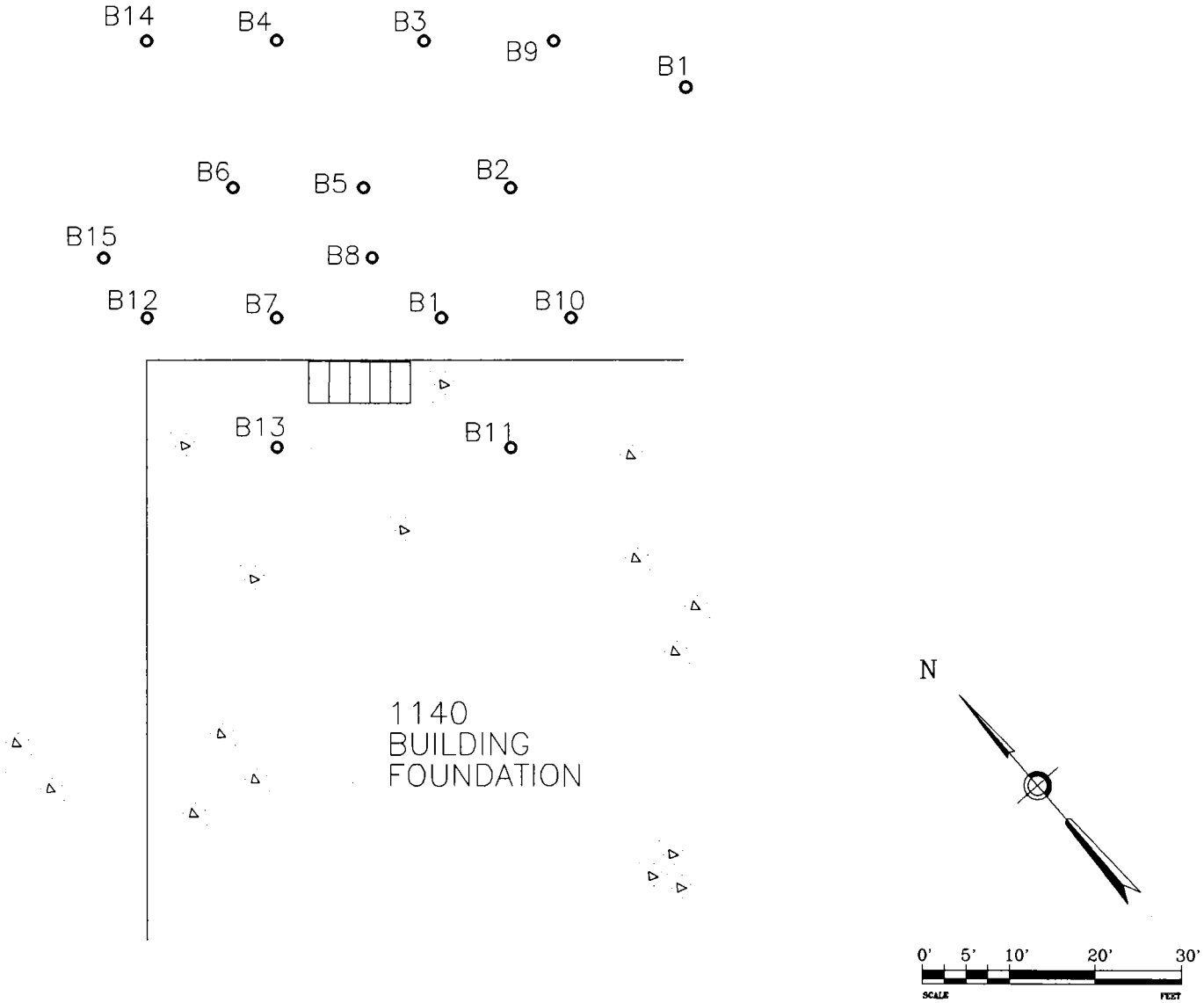
TABLE 1-3

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 BORING HOLE NUMBER

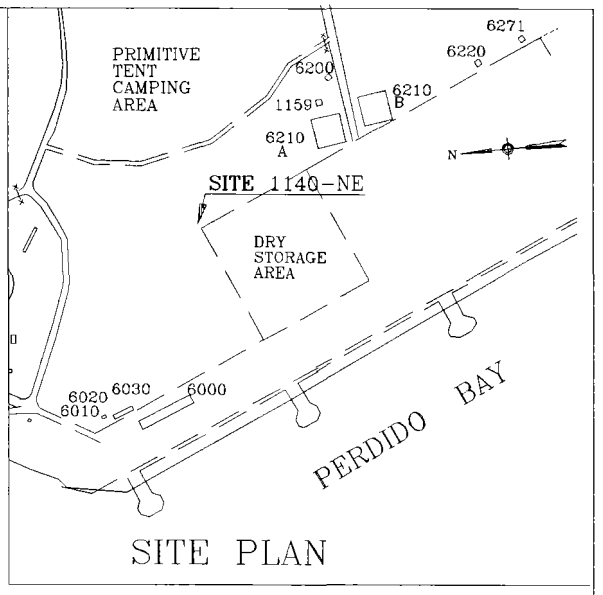
NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-1	DRAWN BY: DWG. NO: REVISED BY:
SOIL BORING LOCATION MAP SITE 1140-NE, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT,NAS PENSACOLA		

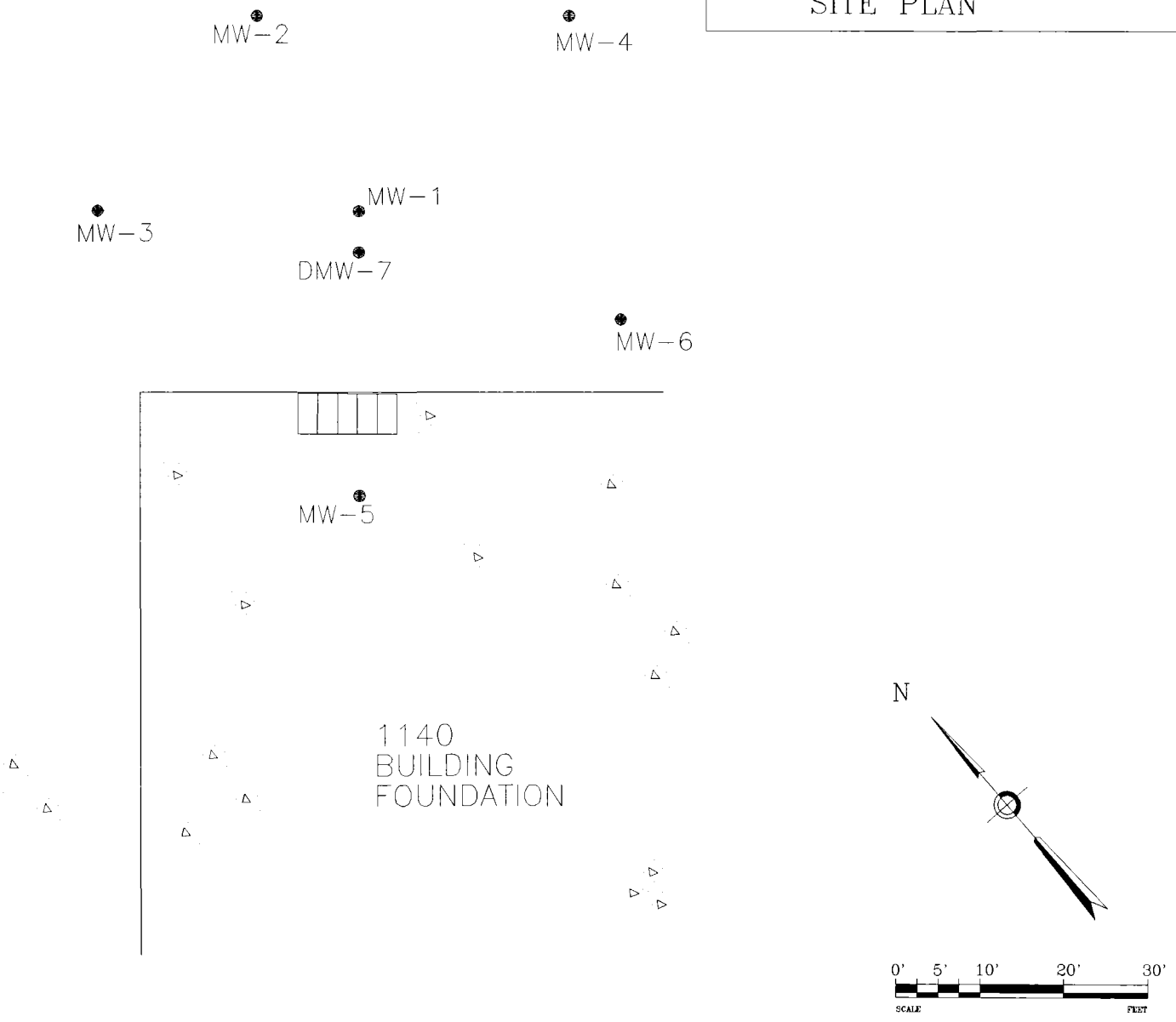
Figure 2-2 shows the locations of monitoring wells MW-1 thru DMW-7. Monitoring wells MW-2 thru MW-6 were installed approximately 13.5 feet BLS using a hollow stem auger with an inside diameter of approximately 4.0 inches. The monitoring wells consist of a 2-inch diameter by 10 feet of 0.010-inch slotted schedule 40 PVC screen, threaded to 3.5 feet of solid schedule 40 PVC riser casing. The filter sand pack consisting of course silica sand (sand pack mesh size 20-30) was extended approximately one foot above the top of the well screen. A one foot bentonite seal (Wyoming Bentonite) was placed above the sand pack with the remaining annular space filled with neat cement grout. The PVC casing was brought up to 0.2 feet below ground level. A steel manhole casing (8-inches diameter x 4-inches deep) 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 6-inch thick concrete encasement (4,000 psi) was installed around the outside of the manhole and flush to the land surface. Monitoring well locations are shown in Figure 2-2. Monitoring well construction diagrams for MW-1 thru MW-6 are shown in Appendix A. Lithological logs for monitoring wells MW-1 thru MW-6 are shown in Appendix C.

A vertical extent monitoring well, designated DMW-7, was installed by W.E.S., Inc., on June 17, 1996. The monitoring well was set at 24 feet BLS with 5 feet of 2-inch diameter 0.010-inch slotted schedule 40 PVC screen, threaded to 19 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. The location of vertical extent groundwater monitoring well DMW-7 is shown in Figure 2-2. The monitoring well construction diagram for DMW-7 is shown in Appendix A. The lithological log for DMW-7 is shown in Appendix C.

2.2 GROUNDWATER FLOW DIRECTION

The top of casing (TOC) elevations for shallow monitoring wells MW-1 thru MW-6 were surveyed by Charlotte Engineering and Surveying, Inc. on April 23, 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 of existing monitoring well MW-1. Groundwater elevations for the groundwater level measurements taken on July 1, 1997 are shown in Table 2-1. A groundwater flow direction map for the groundwater level measurements taken on July 1, 1997 is shown in Figure 2-3. The groundwater flow direction map indicates the groundwater flow at the site is toward the southwest.





LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

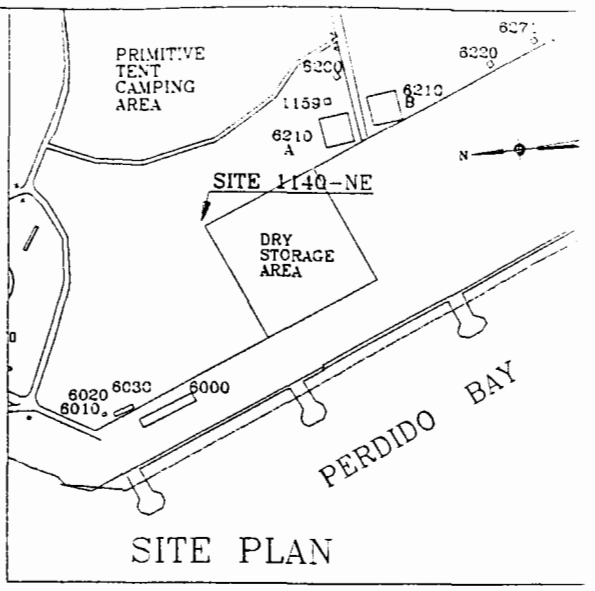
MW-6 MONITORING WELL

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

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

WELL NUMBER	TOC FT. M.S.L.	DTW (FT) 7/1/97	GROUNDWATER ELEVATION 7/1/97
MW-1	30.00	6.36	23.64
MW-2	30.02	6.32	23.70
MW-3	29.85	6.21	23.64
MW-4	30.24	6.48	23.76
MW-5	30.40	6.85	23.55
MW-6	30.41	6.78	23.63

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.



23.70

MW-2
(23.70)

MW-4
(23.76)

23.65

MW-3
(23.64)

MW-1
(23.64)

DMW-7

23.70

23.65

MW-6
(23.63)

23.60

23.60

MW-5
(23.55)

1140
BUILDING
FOUNDATION

N

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

LEGEND

HOT CUTTINGS STORED ON PLASTIC SHEETING

● MW-6 MONITORING WELL

(23.63) GROUNDWATER ELEVATION

GW FLOW DIRECTION

GROUNDWATER ELEVATION CONTOUR

NAVY PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

SCALE:	FIGURE 2-3	DRAWN BY: DWG. NO: REVISED BY:

GROUNDWATER FLOW DIRECTION MAP (7-1-
SITE 1140-NE, BRONSON FIELD

CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSA

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. Procedures for conducting the slug tests, slug test data graphs and calculations 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 and vertical extent monitoring well DMW-7 at 1, 4, and 6 foot intervals BLS and analyzed with an OVA for volatile organic compounds (See Figure 2-1 for locations). No VOCs were detected in the soil samples collected from boreholes B1 thru B15 or monitoring wells MW-2 thru DMW-7.

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 feet during this investigation. The lithology at the site was found to be consistent and is generally composed of: (1) fine to medium to coarse grained silty sand, brown in color, from 0 to 5 feet BLS; (2) fine to medium to coarse grained silty sand, trace of clay, light brown in color, from 5 to 6.5 feet BLS; and (3) fine to medium to coarse grained silty sand, trace of clay, 6.5 to 13.5 feet BLS. The lithology found at deep vertical extent monitoring well was somewhat inconsistent with that found at shallow monitoring wells MW-2 thru MW-6 and was composed of: (1) medium grained sand, brown in color, from 0 to 5 feet BLS; (2) medium grained sand, grey in color from 5 to 20 feet BLS; and (3) fine to medium grained sand, white in color, from 20 to 24 feet BLS. The groundwater table at the site was encountered at approximately 6-7 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 directly on the site and therefore no surface water assessment was performed for this report. Perdido Bay is located approximately 675 feet west of the site,

however the contaminant plume was found to not have migrated to the Bay.

2.7 GROUNDWATER QUALITY ASSESSMENT

Groundwater samples were extracted from shallow groundwater monitoring wells MW-1 thru MW-6 and vertical extent monitoring well DMW-7 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 were sampled on April 23, 1996 and analyzed for the kerosene analytical group (with the exception of lead) outlined in FDEP Rule 62-770. Monitoring wells MW-2 thru MW-6 were sampled on May 17, 1996 using the quiescent sampling technique and analyzed for total lead. Monitoring wells MW-1 and DMW-7 were sampled on May 22 and June 20, 1996, respectfully, and analyzed for the kerosene analytical group (with the exception of lead). The kerosene analytical group included analysis of groundwater samples for volatile organic aromatics (VOAs), polynuclear aromatic hydrocarbons (PAHs), ethylene dibromide (EDB), total petroleum hydrocarbons (TPHs), and total lead utilizing EPA Methods 8260, 8270A, 504, FLPRO and SW6010, respectively. Analytical results for groundwater samples collected from monitoring wells MW-1 thru DMW-7 are included in Appendix D.

No kerosene analytical group parameters were detected in the groundwater samples collected from monitoring wells MW-1, MW-2, MW-4 or MW-6.

Xylenes (total) and total BTEX (benzene, toluene, ethylbenzene, xylene) were both detected in the groundwater sample collected from deep vertical extent monitoring well DMW-7 on June 20, 1996 at a concentration of 5 ppb each which is well below the FDEP target level of 50 ppb for BTEX. No VOAs were detected in the groundwater samples collected from monitoring well MW-1 on May 22, 1996 or MW-2 thru MW-6 on April 23, 1996. A summary of the analytical results is included in Table 2-2.

2-methylnaphthlanene and total naphthalene were both detected in the groundwater sample collected from monitoring well MW-5 on April 23, 1996 at a concentration of 11 ppb each 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-1 (May 22, 1996), MW-2 thru MW-4 and MW-6 (April 23, 1996), or DMW-7 (June 29, 1996). A summary of the analytical results is included in Table 2-3.

Total petroleum hydrocarbons (TPHs) were detected in groundwater samples collected from monitoring wells MW-3 (4/23/96), MW-5 (4/23/96), and DMW-7 (6/20/96) at concentration levels of 260 ppb, 280 ppb, and 150 ppb, respectfully, which is well below the FDEP allowable limits for TPH of 5000 ppb. No TPHs were detected in the groundwater samples collected from monitoring wells MW-1 (5/22/96), MW-2 (4/23/96), MW-4 (4/23/96), or MW-6 (4/23/96). No lead was detected in the groundwater samples collected from monitoring wells MW-2 thru MW-6 (May 17, 1996) or in MW-1 (7/1/97), however lead was detected in vertical extent groundwater monitoring well DMW-7 (7/1/97) at a concentration level of 4 ppb, which is well below the FDEP allowable limits for lead of 50 ppb. No EDBs were detected in the groundwater samples

TABLE 2-2
SUMMARY OF VOAs
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS MW-1 THRU DMW-7
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NE

PARAMETER	MONITORING WELL NUMBER						
	MW-1 5/22/96	MW-2 4/23/96	MW-3 4/23/96	MW-4 4/23/96	MW-5 4/23/96	MW-6 4/23/96	DMW-7 6/20/96
Xylenes (Total)	BDL	BDL	BDL	BDL	BDL	BDL	5
Total BTEX	BDL	BDL	BDL	BDL	BDL	BDL	5

NOTES: All results reported in parts per billion (ppb) unless otherwise noted.
BDL = Below detection limits.
Total BTEX = Summation of benzene, toluene, ethylbenzene and xylenes (total).
Groundwater monitoring samples from MW-1 thru DMW-7 were collected on dates noted in table.

TABLE 2-3
SUMMARY OF PAH's
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
COLLECTED FROM MONITORING WELLS MW-1 THRU DMW-7
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NE

PARAMETER	MONITORING WELL NUMBER						
	MW-1 5/22/96	MW-2 4/23/96	MW-3 4/23/96	MW-4 4/23/96	MW-5 4/23/96	MW-6 4/23/96	DMW-7 6/29/96
2-Methylnaphthlalene	BDL	BDL	BDL	BDL	11	BDL	BDL
TOTAL NAPHTHALENE	BDL	BDL	BDL	BDL	11	BDL	BDL

NOTES: BDL = Below detection limits.
All results reported in parts per billion (ppb) unless otherwise noted.
Groundwater monitoring samples from MW-1 thru DMW-7 were collected on dates noted in table.

collected from monitoring wells MW-2 thru DMW-7 (4/23/96) or MW-1 (7/1/97). A summary of the analytical results is included in Table 2-4.

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.

- Initial remedial actions included the removal and proper disposal of approximately 20 cubic yards of contaminated soil.

- No volatile organic vapors were detected in the soil samples collected from borings B1 thru B15 or borings associated with monitoring wells MW-2 thru DMW-7 using OVA analysis.

- Six shallow groundwater monitoring wells (MW-1 thru MW-6) and one vertical extent groundwater monitoring well (DMW-7) 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.

- Groundwater depths measured in monitoring wells MW-2 thru MW-6 on July 1, 1997 indicated the groundwater flows toward the southwest direction.

- A total naphthalene concentration of 11 ppb was detected in the groundwater sample collected from monitoring well MW-5 which is below the FDEP target level of 100 ppb for total naphthalene. No total naphthalenes were detected in the groundwater samples collected from monitoring wells MW-1 thru MW-4 or MW-6 and vertical extent groundwater monitoring well DMW-7.

- Total VOAs were detected in the groundwater sample collected from vertical extent groundwater monitoring well DMW-7 at a concentration of 5 ppb which was below the FDEP target level of 50 ppb for total VOAs. VOAs were not detected in monitoring wells MW-1 thru MW-6.

- TPH concentrations detected in the groundwater samples collected from monitoring wells MW-3 (260 ppb), MW-5 (280 ppb), and vertical extent groundwater monitoring well DMW-7 (150 ppb) were well below the FDEP target level of 5000 ppb for TPHs. No TPHs were detected in monitoring wells MW-1, MW-2, MW-4, or MW-6.

TABLE 2-4
SUMMARY OF TRPH, LEAD, AND EDB
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLE
COLLECTED FROM MONITORING WELLS MW-1 THRU DMW-7
U.S. NAVY OUTLYING LANDING FIELD BRONSON, SITE 1140-NE

PARAMETER	MONITORING WELL NUMBER						
	MW-1 5/22/96	MW-2 4/23/96	MW-3 4/23/96	MW-4 4/23/96	MW-5 4/23/96	MW-6 4/23/96	DMW-7 6/20/96
TRPH	BDL	BDL	260	BDL	280	BDL	150
Lead (5/17/96) Lead (7/1/97)	NS BDL	BDL NS	BDL NS	BDL NS	BDL NS	BDL NS	NS 4
EDB (4/23/96) EDB (7/1/97)	NS BDL	BDL NS	BDL NS	BDL NS	BDL NS	BDL NS	BDL NS

NOTES: All results reported in parts per billion (ppb) unless otherwise noted.
Groundwater monitoring samples from MW-1 thru DMW-7 were collected on dates noted in table.
BDL = Below detection limits
EDB = 1,2 Dibromoethane
TRPH = Total Recoverable Petroleum Hydrocarbons

- No EDBs were detected in monitoring wells MW-1 thru DMW-7.

- No lead was detected in groundwater samples collected from monitoring wells MW-1 thru MW-7 and only 4 ppb of lead was detected in DMW-7.

- 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 minimal.

3.2 RECOMMENDATIONS

PWC Pensacola recommends, based upon the findings and conclusions contained in this report, that "no further action" be required for both the soil and groundwater at the site.

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-NE, Pensacola, Florida, and should not be construed to apply to any other site.

Gregory Allen Campbell

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

9/2/97
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.

APPENDIX A

MONITORING WELL CONSTRUCTION DIAGRAMS

LOG OF MONITORING WELL

Project Name: Bronson Field

Job # P95-255-34

Location: 1140

Facility: NAS

Start Date/Time: 5/24/95

MW Number: MW 12

Finish Date/Time: 5/24/95

Logged By: Darryl Gates

Top Of Casing Elevation: N/A

Drilling Contractor: Pensacola Testing Labs

Surface Elevation: N/A

Total Depth: 15'

Driller: Larry Minchn

Depth Feet	Sampler Type	Sample ID #	Contamination: Odor	Contamination: OVA/HNu ppm	Contamination: Visible Y=Yes N=No	Soil Rock Symbol	Soil and Rock Description/Comment	Monitor Well Data: Material Description	Monitor Well Data: Concrete Pad
	H_2O			SOIL			DIRT SURFACE		
							Brown fine to med grained sand	grout	
							2'	2" pvc riser	
			Y	22	N		Tan fine to med grained sand	Bentonite Seal	
5							6'		
	X		Y					0.010 Slotted Screen	
10							Gray (stained) fine to med grained sand	10/40 Silica Sand	
15							15' End of Boring		
20									
25									

A-1

W.E.S., Inc.
Environmental Division

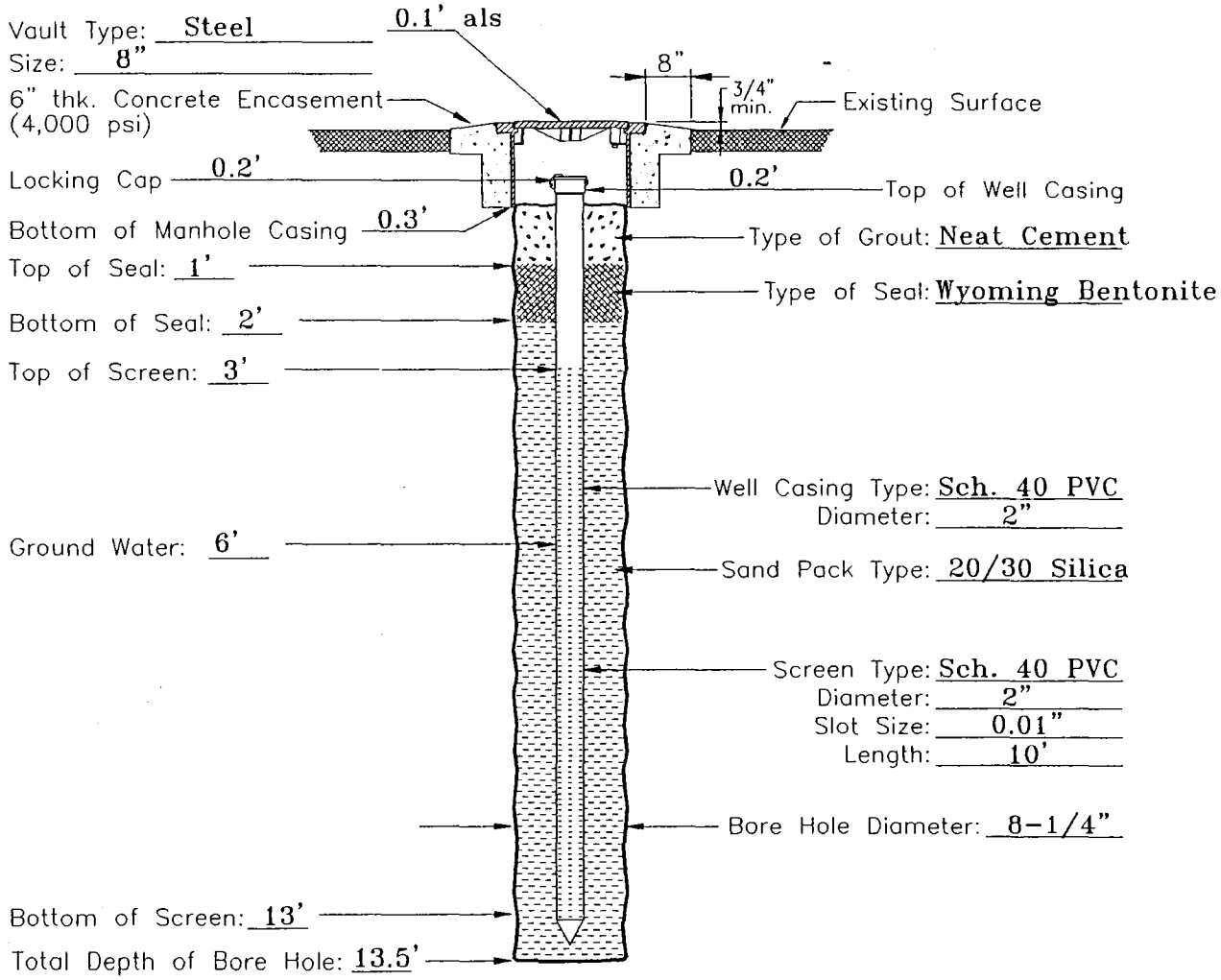
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

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 (NE), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/3/96 Finish: 4/3/96
TIME Start: 1330 Finish: 1400

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 (NE), Bronson Field
JOB NUMBER: N65114-95-D-2126
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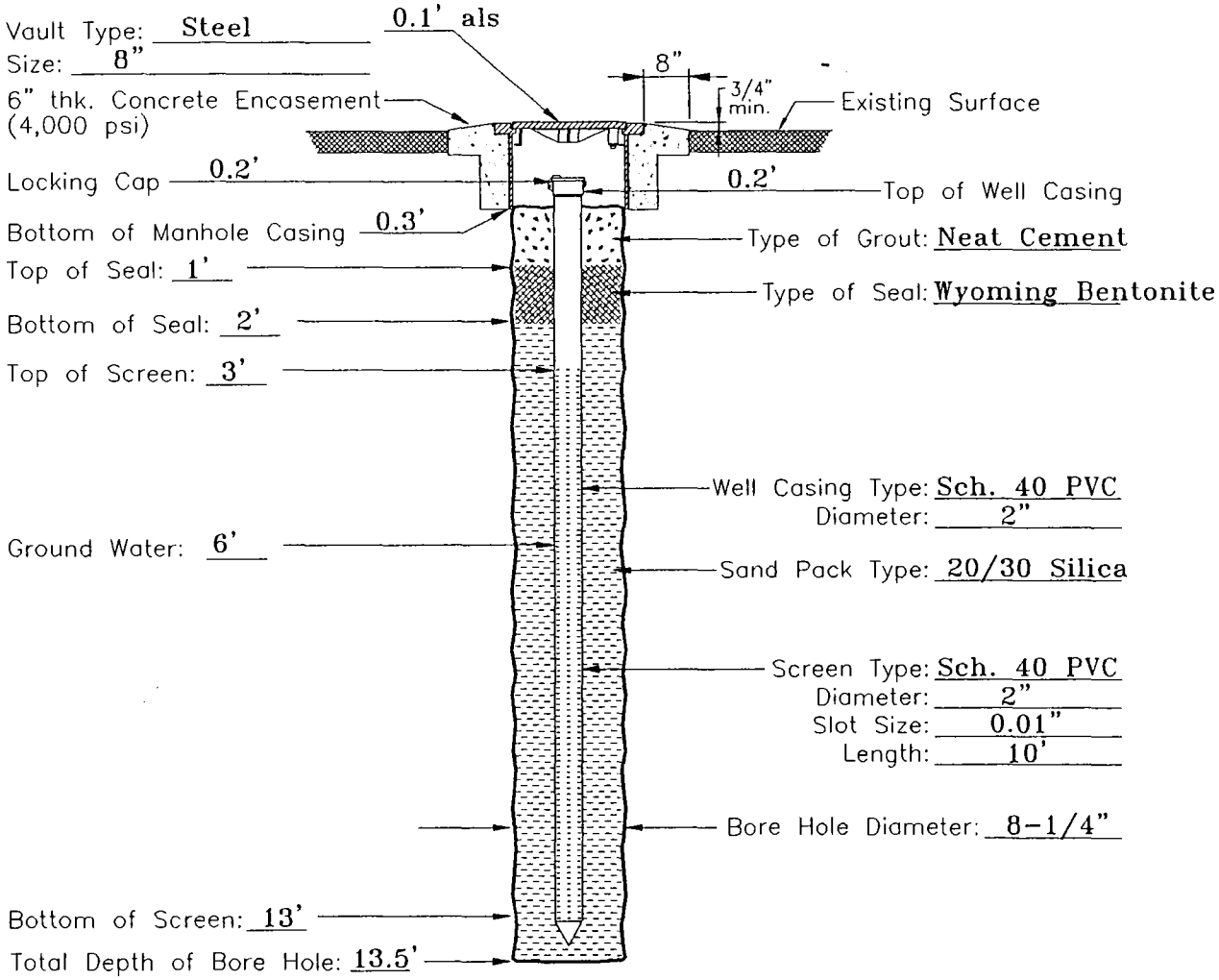
TIME Start: 1400 Finish: 1430

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

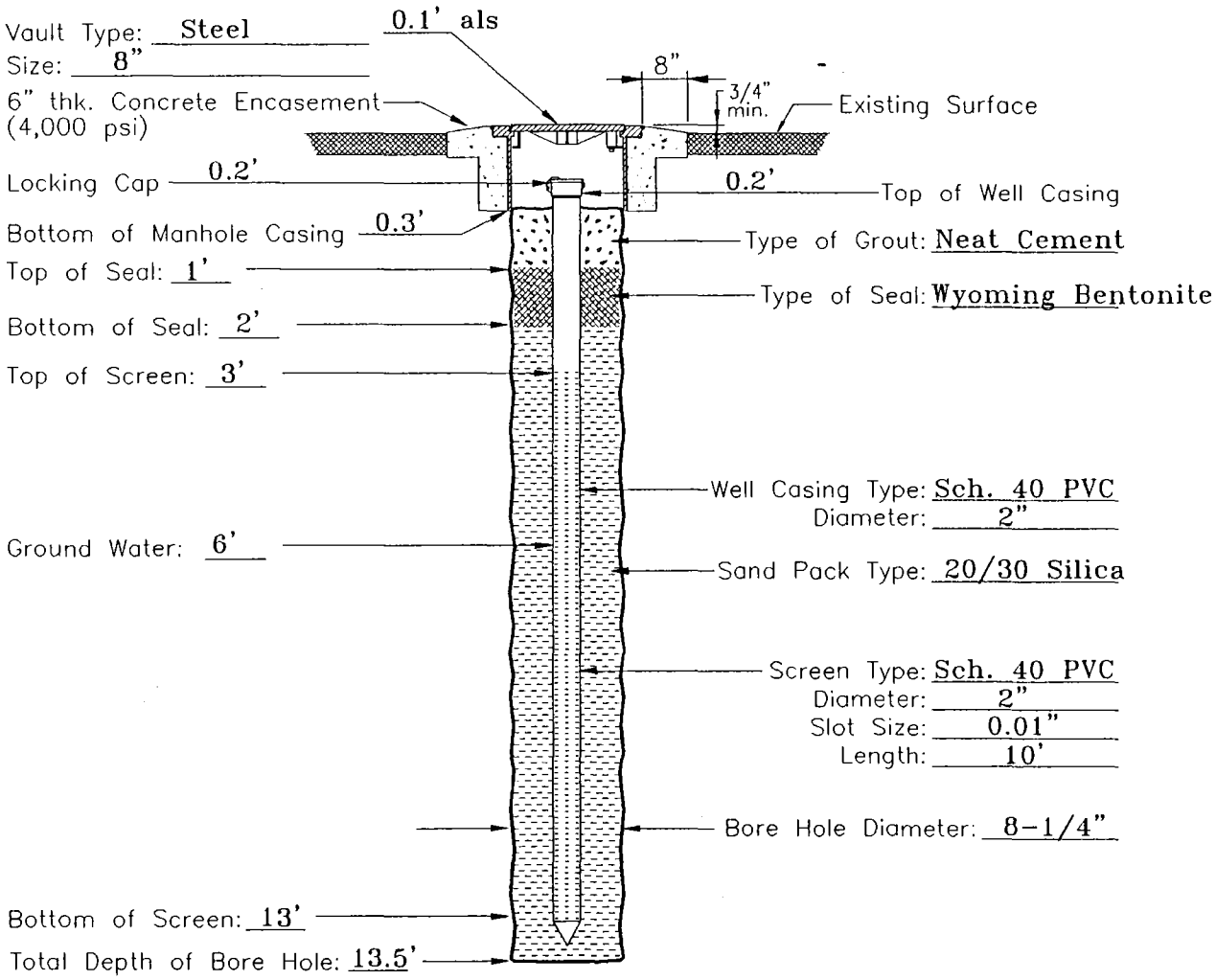
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

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 (NE), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/3/96 Finish: 4/3/96
TIME Start: 1430 Finish: 1500

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

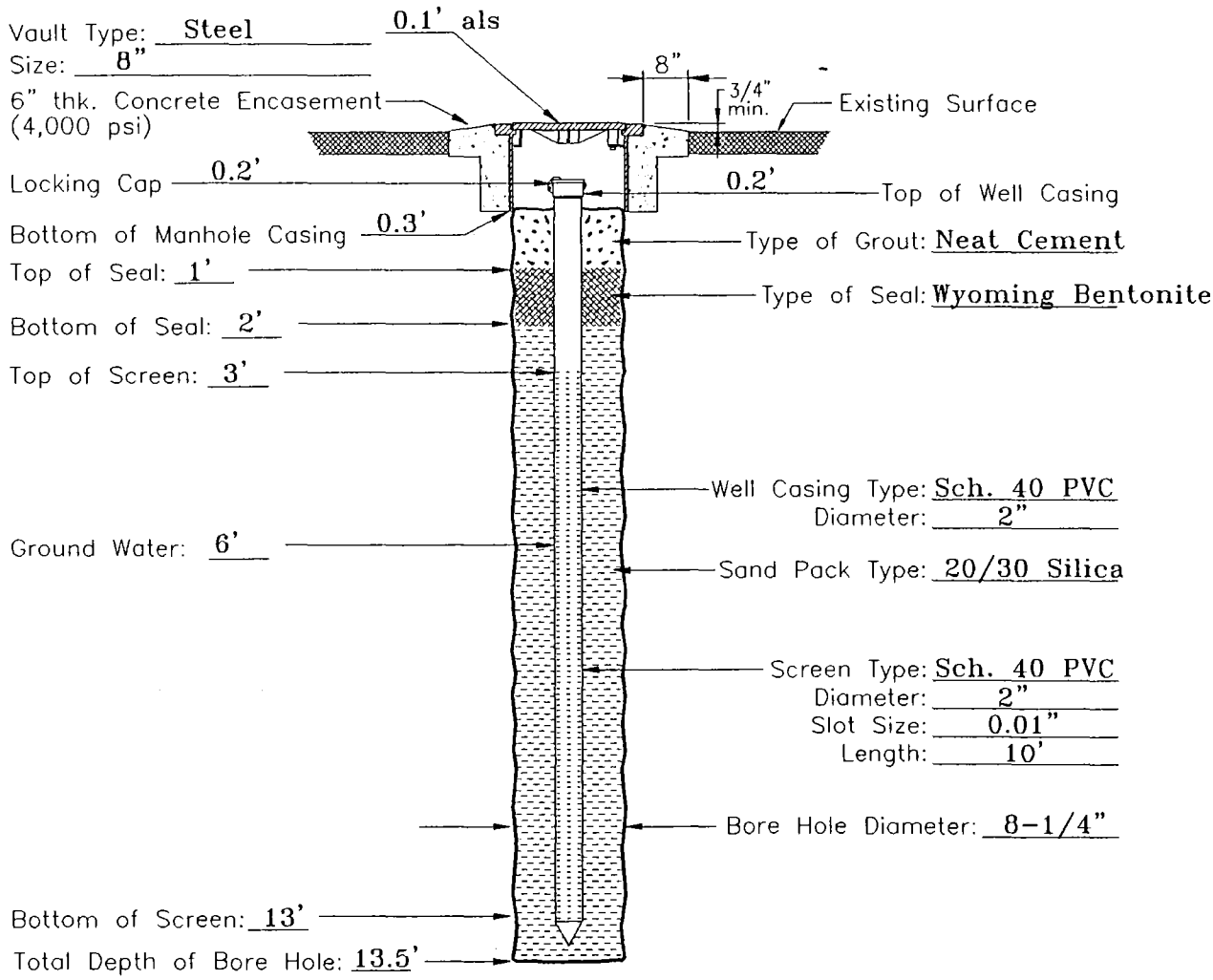
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

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

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NE), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/3/96 Finish: 4/3/96
TIME Start: 1500 Finish: 1530

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

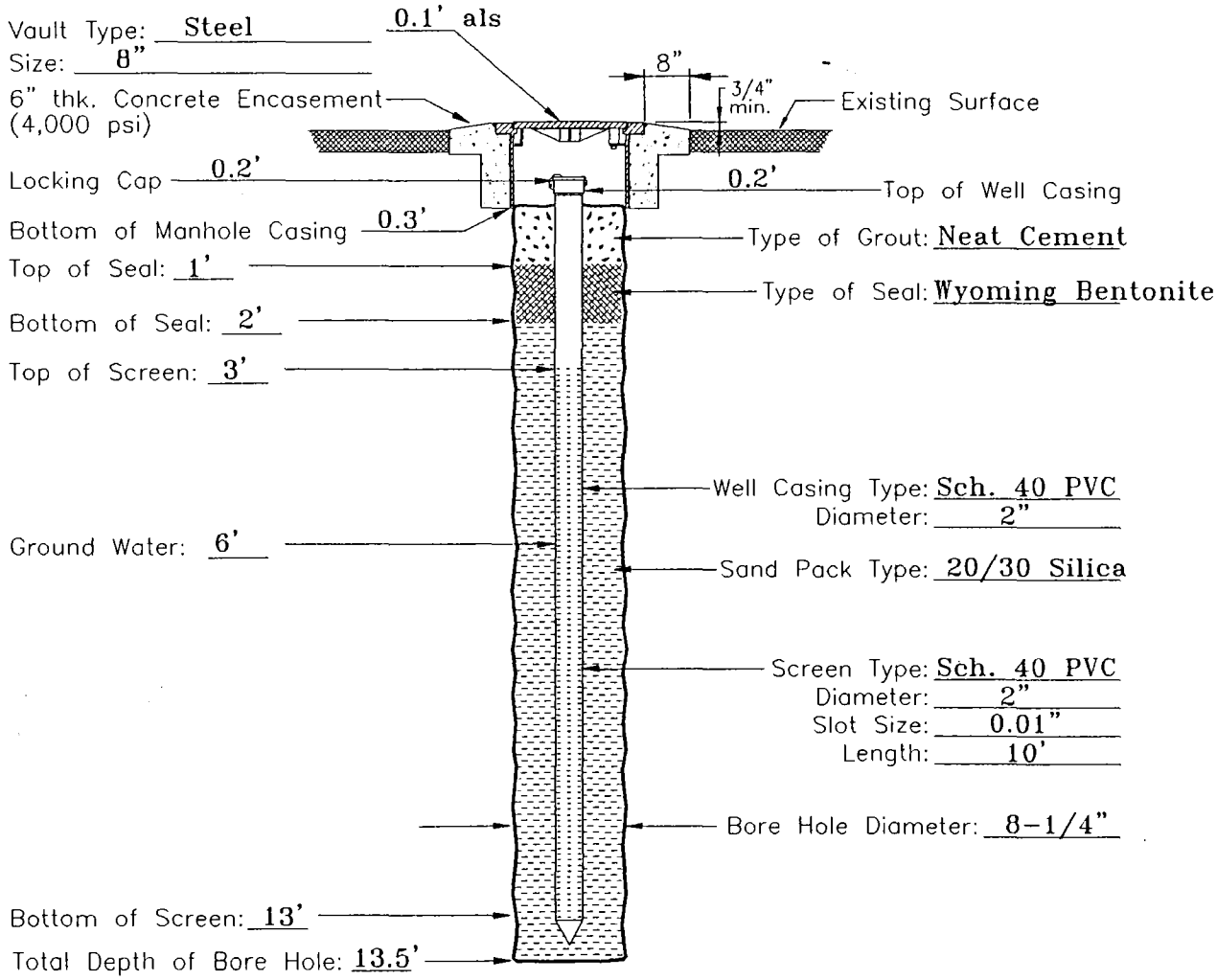
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

MONITOR WELL CONSTRUCTION DETAIL

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

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140 (NE), Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 4/3/96 Finish: 4/3/96
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

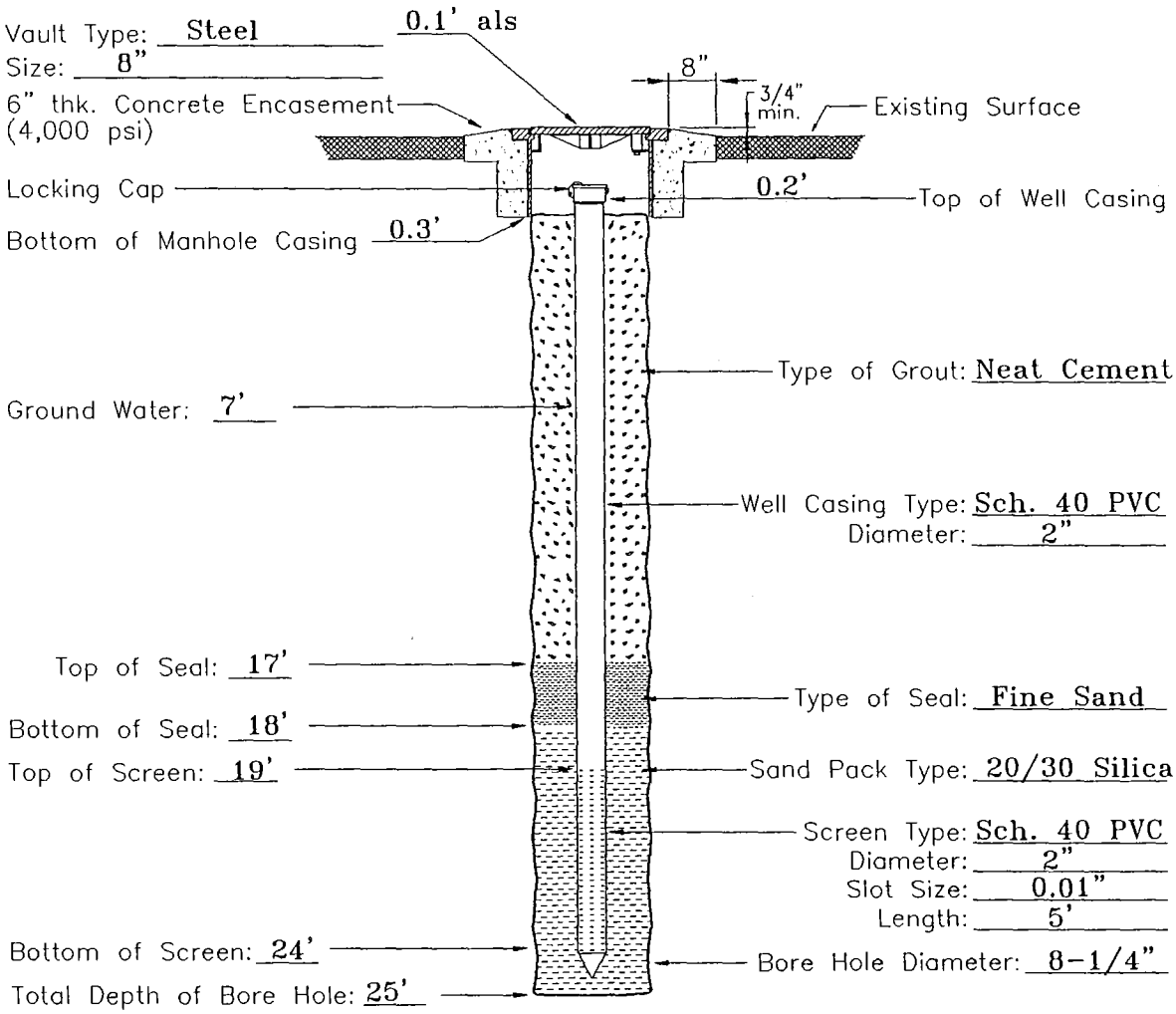
6389 Tower Lane
Sarasota, FL 34240-8810
(941) 371-7617
(941) 378-5218 Fax

VERTICAL EXTENT
MONITOR WELL CONSTRUCTION DETAIL

LOGGED BY: Lisa M. Greer
DRILLING CONTRACTOR: S. FL Test & Dr.
DRILLER'S NAME: Craig Griffey
WELL NUMBER: DMW-7

CLIENT: NPWC, ROICC, NAS Pensacola, FL
LOCATION: Site 1140NE, Bronson Field
JOB NUMBER: N65114-95-D-2126
DATE Start: 6/17/96 Finish: 6/17/96
TIME Start: 1020 Finish: 1050

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



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

A-7

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

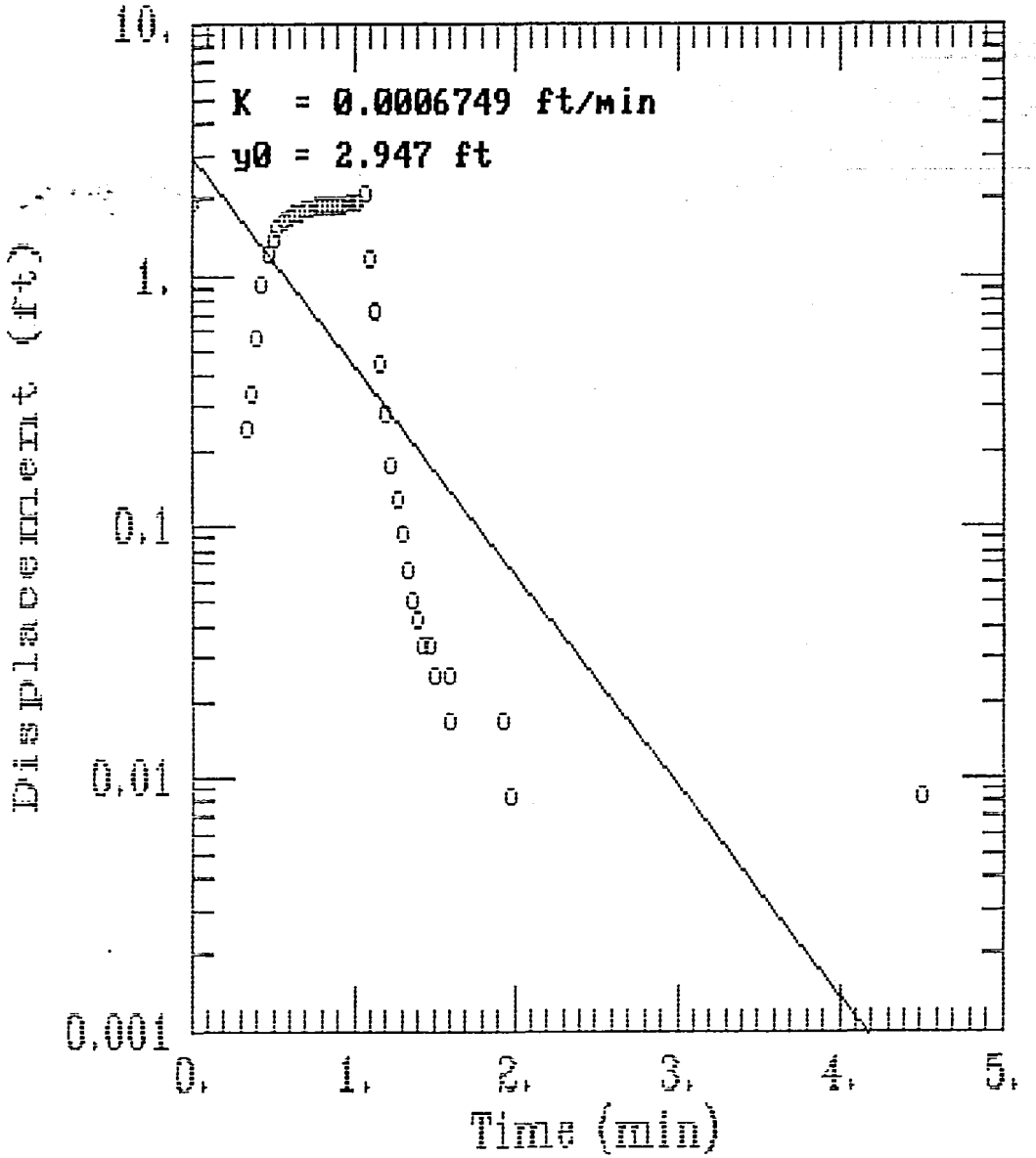
Patrick J. Brown
Staff Geologist

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

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							

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

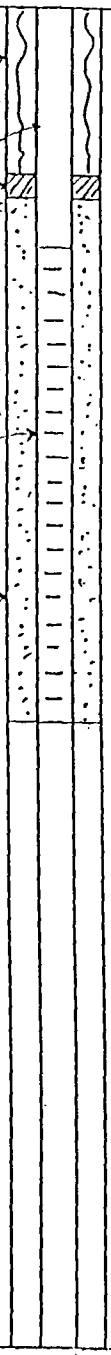
Drilling Contractor: Pensacola Testing Labs

Surface Elevation: N/A

Total Depth: 15'

Driller: Larry Minchu

Depth Feet	Sampler Type 1120	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
							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									



APPENDIX C

LITHOLOGIC LOGS

LOG OF MONITORING WELL

Project Name: Bronson Field

Job # P95-255-34

Location: 1140

Facility: NAS

Start Date/Time: 5/24/95

MW Number: MW12

Finish Date/Time: 5/24/95

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	Contamination: Visible Y=Yes N=No	Soil Rock Symbol	Soil and Rock Description/Comment	Monitor Well Data: Material Description	Monitor Well Data: Concrete Pad
	H_2O			SOIL			DIRT SURFACE		
							Brown fine to med grained sand	Grout	
							2'	2" pvc riser	
			Y	22	N		Tan fine to med grained sand	Bentonite Seal	
5							6'		
	X		Y					0.010 Slotted Screen	
10							Gray (stained) 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 Bronson 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	1[illegible]	23.7		0.76		18	~4				1425		None		
MW9	1[illegible]	23.7		1.5		20	~7.5				1830		Slight petro		
MW10	3.20	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		

C-3

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

Site 1140NE	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: 04/03/96	Completed: 04/03/96
MONITOR WELL NO.: MW-2	Start Time: 1330	Finish Time: 1400
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'-3'; Brown, Fine to Medium, Silty Sand, w/Humus (Organics).	0	NR	0
				100%	3	3'-5'; Brown, Fine to Medium t Coarse, Silty Sand.	0	NR	0
				100%	5	5'-6.5'; Lighter Brown to Biege Fine to Medium to Coarse, Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6.5'-13.5'; Dark Brown, Fine to Medium to Coarse, Silty, 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 1140NE	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: 04/03/96	Completed: 04/03/96
MONITOR WELL NO.: MW-3	Start Time: 1400	Finish Time: 1430
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'-5'; Brown, Fine to Medium to Coarse, Silty Sand.	0	NR	0
				100%	5	5'-6.5'; Lighter Brown, Fine to Medium to Coarse, Silty Sand. Trace of Clay.	0	NR	0
HSA			Water Table @ approx. 6' bls						
				100%	7	6.5'-13.5'; Darker Brown, Fine to Medium to Coarse, Silty, 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 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 1140NE	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: 04/03/96	Completed: 04/03/96
MONITOR WELL NO.: MW-4	Start Time: 1430	Finish Time: 1500
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	NET	NOTES
POST HOLE HSA HA				100%	1	0'-3'; Brown, Fine to Medium, Silty Sand, w/Humus (Organics).	0	NR	0	
				100%	3	3'-5'; Brown, Fine to Medium t Coarse, Silty Sand.	0	NR	0	
				100%	5	5'-6.5'; Lighter Brown to Biege Fine to Medium to Coarse, Silty Sand. Trace of Clay.	0	NR	0	
			Water Table @ approx. 6' bls							
				100%	7	6.5'-13.5'; Dark Brown, Fine to Medium to Coarse, Silty, 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, 001181
Florida Professional Geologist No. 0001181

Date 04/15/96

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

Site 1140NE	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: 04/03/96	Completed: 04/03/96
MONITOR WELL NO.: MW-5	Start Time: 1500	Finish Time: 1530
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'-5'; Brown, Fine to Medium to Coarse, Silty Sand.	0	NR	0
				100%	5	5'-6.5'; Lighter Brown, Fine to Medium to Coarse, Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6.5'-13.5'; Darker Brown, Fine to Medium to Coarse, Silty, 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.E.
Florida Professional Geologist No. 0001181

Date: 04/15/96

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

Site 1140NE	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: 04/03/96	Completed: 04/03/96
MONITOR WELL NO.: MW-6	Start Time: 1530	Finish Time: 1600
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'-5'; Brown, Fine to Medium to Coarse, Silty Sand.	0	NR	0
				100%	5	5'-6.5'; Lighter Brown, Fine to Medium to Coarse, Silty Sand. Trace of Clay.	0	NR	0
			Water Table @ approx. 6' bls						
				100%	7	6.5'-13.5'; Darker Brown, Fine to Medium to Coarse, Silty, 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.
Florida Professional Geologist No. 0001181

Date: 04/15/96

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

Site 1140 NE	LOGGED BY: Lisa M. Greer	SHEET 1 OF 1
Bronson Field	Contractor: WES, Inc.	Dr. Method: HSA
Pensacola, Florida	Driller: South Florida Testing & Drilling	Dr. Rig: Mobile
	Start Date: 06/17/96	Completed: 06/17/96
MONITOR WELL NO.: DMW-7	Start Time: 1020	Finish Time: 1050
Delivery Order 0020	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
P. H.				100%			0	NR	0
↓				100%	4	0-5'; Brown, Medium Grained Sand.	0	NR	0
				100%			0	NR	0
HOLLOW STEM AUGER			Water Table @ Approx. 7' BLS		8				
					12	5'-20'; Grey, Medium Grained Sand.			
				100%	16				
				100%	20				
↓					24	20'-24'; White, Medium/Fine Grained Sand. End of Boring @ 24' BLS			
					28				

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: 06/17/96

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

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: 9407226A
Received Date: 19 Jul 94
Sample Site: Bronson Field
Job Order #: 120 6810

Sample ID#	Lab	1- 5027			2- 5028			3- 5029			4- 5030		
Sample Name	Requester	B 1140A North			B 1140A South			B 1140A East			B 1140A West		
Collector Name		J. Moore/M. Chambers			J. Moore/M. Chambers			J. Moore/M. Chambers			J. Moore/M. Chambers		
Date/Time	Comp start												
Collected	Comp stop												
(Military)	Grab	19 Jul 94 @ 1447			19 Jul 94 @ 1448			19 Jul 94 @ 1449			19 Jul 94 @ 1450		
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			20 Jul 94			20 Jul 94			20 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- 5027	units	Limit	2- 5028	units	Limit	3- 5029	units	Limit	4- 5030	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: 9407226A
Received Date: 19 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- 5027	units	Limit	2- 5028	units	Limit	3- 5029	units	Limit	4- 5030	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	101	100	106	109
Toluene-d8	84-138	102	102	101	104
Bromofluorobenzene	59-113	99	99	102	102

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

Approved by: Jerry Dees, Laboratory Director Date: 27-Jul-94 @ 14:39

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	Lab ID Number:	9407226B
	NAS Pensacola, FL 32508	Received Date:	19 Jul 94
Phone #:	452-3094	Sample Site:	Bronson Field
Contact:	Paul Semmes	Job Order #:	120 6810

Sample ID#	Lab	1- 5031	2-	3-	4-
Sample Name	Requester	B 1140A Disposal Dirt			
Collector Name		J. Moore/M. Chambers			
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	19 Jul 94 @ 1453			
Sample Type	Comp/Grab	Grab			
Analyst		J. W. Moore			
Date of Analysis		25 Jul 94			
Sample Matrix		Soil			
Dilution		Dilution X 5	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER		ID#			ID#			ID#			ID#		
Volatiles by GCMS (Capillary)	METHOD #	1- 5031	units	Det. Limit	2-	units	Det. Limit	3-	units	Det. Limit	4-	units	Det. Limit
Benzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Bromobenzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Bromochloromethane	EPA 8260	BDL	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2
Bromodichloromethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Bromoform	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Bromomethane	EPA 8260	BDL	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2
n-Butylbenzene	EPA 8260	170	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
sec-Butylbenzene	EPA 8260	130	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
tert-Butylbenzene	EPA 8260	430	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Carbon Tetrachloride	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Chlorobenzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Chloroethane	EPA 8260	BDL	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2
Chloroform	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Chloromethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
2-Chlorotoluene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
4-Chlorotoluene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Dibromochloromethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dibromo-3-chloropropane	EPA 8260	BDL	ug/kg	25		ug/kg	5		ug/kg	5		ug/kg	5
1,2-Dibromoethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Dibromomethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dichlorobenzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,3-Dichlorobenzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,4-Dichlorobenzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Dichlorodifluoromethane	EPA 8260	BDL	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2
1,1-Dichloroethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dichloroethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,1-Dichloroethene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
cis-1,2-Dichloroethene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
trans-1,2-Dichloroethene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2-Dichloropropane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,3-Dichloropropane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
2,2-Dichloropropane	EPA 8260	BDL	ug/kg	20		ug/kg	4		ug/kg	4		ug/kg	4
1,1-Dichloropropene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Ethylbenzene	EPA 8260	14	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Hexachlorobutadiene	EPA 8260	BDL	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2
Isopropylbenzene	EPA 8260	55	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
p-Isopropyltoluene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Methylene chloride	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1

Navy Public Works Center
Environmental Laboratory

Laboratory Report
Volatiles by Method 8260

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

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

Lab ID Number: 9407226B
Received Date: 19 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- 5031	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit
Naphthalene	EPA 8260	1700	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
n-Propylbenzene	EPA 8260	110	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Styrene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,1,1,2-Tetrachloroethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,1,2,2-Tetrachloroethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Tetrachloroethene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Toluene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2,3-Trichlorobenzene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2,4-Trichlorobenzene	EPA 8260	BDL	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2
1,1,1-Trichloroethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,1,2-Trichloroethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Trichloroethene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Trichlorofluoromethane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2,3-Trichloropropane	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,2,4-Trimethylbenzene	EPA 8260	450	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
1,3,5-Trimethylbenzene	EPA 8260	1170	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
Vinyl Chloride	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
o-Xylene	EPA 8260	BDL	ug/kg	5		ug/kg	1		ug/kg	1		ug/kg	1
m,p-Xylene	EPA 8260	17	ug/kg	10		ug/kg	2		ug/kg	2		ug/kg	2

Surrogate Recoveries Compound	Acceptance Limits				
1,2-Dichloroethane-d4	70-121	100	100	106	109
Toluene-d8	84-138	93	102	101	104
Bromofluorobenzene	59-113	99	99	102	102

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

Approved by: Jerry Dees, Laboratory Director Date: 27-Jul-94 @ 14:55

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
TCLP Organics

Requester:	NPWC Environmental	Lab ID Number:	9407226C
Address:	Bldg. 3691	Sample Date:	19 Jul 94
	NAS Pensacola, FL 32508	Received Date:	19 Jul 94
Phone #:	452-3094	Sample Site:	Bronson Field
Contact:	Paul Semmes	Job Order #:	170 6647

Sample ID#	Lab	1- 5031	2-	3-	4-
Sample Name	Requester	B 1140A Disposal Dirt			
Collector Name		J. Moore/M. Chambers			
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	19 Jul 94 @ 1453			
Sample Type	Comp/Grab	Grab			
Analyst		J. Moore/M. Chambers			
Date of Analysis		25 and 28 Jul 94			
Sample Matrix		TCLP Extract			
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER: TCLP VOL. Vol. by GCMS (Capillary)	METHOD #	Sample ID# 1- 5031	units	Det. Limit	Sample ID# 2-	units	Det. Limit	Sample ID# 3-	units	Det. Limit	Sample ID# 4-	units	Det. Limit
Benzene	EPA 8260	BDL	mg/l	0.002		mg/l	0.002		mg/l	0.002		mg/l	0.002
Carbon Tetrachloride	EPA 8260	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005
Chlorobenzene	EPA 8260	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005
Chloroform	EPA 8260	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005
1,4-Dichlorobenzene	EPA 8260	BDL	mg/l	0.002		mg/l	0.002		mg/l	0.002		mg/l	0.002
1,2-Dichloroethane	EPA 8260	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005
1,1-Dichloroethylene	EPA 8260	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Methyl ethyl ketone (MEK)	EPA 8260	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Tetrachloroethylene	EPA 8260	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005
Trichloroethylene	EPA 8260	BDL	mg/l	0.002		mg/l	0.002		mg/l	0.002		mg/l	0.002
Vinyl chloride	EPA 8260	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005
Surrogate Recoveries Volatile Compounds	Acceptance Limits												
1,2-Dichloroethane-d4	76-114	93											
Toluene-d8	88-110	100											
Bromofluorobenzene	86-115	99											

Dilution		Dilution X 1			Dilution X 1			Dilution X 1			Dilution X 1		
PARAMETER: TCLP BNA Extr. by GCMS (Capillary)	METHOD #	Sample ID# 1- 5031	units	Det. Limit	Sample ID# 2-	units	Det. Limit	Sample ID# 3-	units	Det. Limit	Sample ID# 4-	units	Det. Limit
m-Cresol (3-Methylphenol)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
o-Cresol (2-Methylphenol)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
p-Cresol (4-Methylphenol)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Cresylic Acid (Total cresols)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
1,4-Dichlorobenzene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Hexachlorobenzene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Hexachlorobutadiene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Hexachloroethane	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Nitrobenzene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Pentachlorophenol	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
Pyridine	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
2,4,5-Trichlorophenol	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
2,4,6-Trichlorophenol	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
Surrogate Recoveries Extractable Compounds	Acceptance Limits												
2-Fluorophenol	21-110	126*											
Phenol-d5	10-110	84											
Nitrobenzene-d5	35-114	95											
2-Fluorobiphenyl	43-116	91											
2,4,6-Tribromophenol	10-123	123											
Terphenyl-d14	33-141	112											

Navy Public Works Center
Environmental Laboratory

Laboratory Report
TCLP Pesticides/Herbicides

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

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

Lab ID Number: 9407226C
Sample Date: 19 Jul 94
Received Date: 19 Jul 94
Sample Site: Bronson Field
Job Order #: 170 6647

Analyst		J. Moore											
Date of Analysis		27 Jul 94											
Dilution		Dilution X		5	Dilution X		1	Dilution X		1	Dilution X		1
PARAMETER: TCLP P/H		Sample ID#		Det.			Det.			Det.			Det.
Extr. by GC (Capillary)	METHOD #	1- 5031	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit
Chlordane	EPA 8080A	BDL	mg/l	0.005		mg/l	0.001		mg/l	0.001		mg/l	0.001
Endrin	EPA 8080A	BDL	mg/l	0.001		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002
Heptachlor	EPA 8080A	BDL	mg/l	0.0005		mg/l	0.0001		mg/l	0.0001		mg/l	0.0001
Heptachlor epoxide	EPA 8080A	BDL	mg/l	0.01		mg/l	0.002		mg/l	0.002		mg/l	0.002
Gamma-BHC (Lindane)	EPA 8080A	BDL	mg/l	0.0005		mg/l	0.0001		mg/l	0.0001		mg/l	0.0001
Methoxychlor	EPA 8080A	BDL	mg/l	0.005		mg/l	0.001		mg/l	0.001		mg/l	0.001
Toxaphene	EPA 8080A	BDL	mg/l	0.005		mg/l	0.001		mg/l	0.001		mg/l	0.001
Surrogate Recoveries Extractable Compounds	Acceptance Limits												
Tet-Cl-m-xylene	60-140	77											
Decachlorobiphenyl	60-140	112											

Comments: mg/l=milligrams per liter.

Approved by: Jerry Deets, Laboratory Director

Date: 08/04/94 @ 13:55

PWC 5090/14

Page 2 of 2 End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3691, Code 920
NAS Pensacola, Fl. 32508
Phone (904) 452-4720/3642
Autovon 922-4720/3642

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

Laboratory Report

Volatile Aromatics by Method 8260

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	@	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		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
Report Generated

PWC50XV14

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End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3691, Code 920
NAS Pensacola, Fl. 32508
Phone (904) 452-4720/3042
Autovon 922-4720/3042

Laboratory Report
PAH's by Method 8270A

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: 9604052 A
Sample Date: 23 Apr 96
Received Date: 24 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NE
Job Order #: 130 5001

Sample ID#		1- 61636	2- 61637	3- 61638	4- 61639
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	23 Apr 96 @ 0930	23 Apr 96 @ 0915	23 Apr 96 @ 0945	23 Apr 96 @ 1015
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab
Analyst		J. Moore	J. Moore	J. Moore	J. Moore
Date of Analysis		29 Apr 96	29 Apr 96	29 Apr 96	29 Apr 96
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER Volatiles by GCMS (Capillary)	METHOD #	ID# 1- 61636	units	Det. Limit	ID# 2- 61637	units	Det. Limit	ID# 3- 61638	units	Det. Limit	ID# 4- 61639	units	Det. 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	98	103	103	101
Toluene-d8	88-110	106	104	104	104
Bromoflourobenzene	86-115	93	91	95	95

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

Approved by: J. J. Moore for D-9
Jerry Dees, Laboratory Director

Date/Time: 14-May-96 @ 13:27
Report Generated

PWC 5090/14

End of Report

Navy Public Works Center
Environmental Laboratory

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DSN 922-4728
FAX (904) 452-2387/2799

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

Laboratory Report
601/602 Volatiles by Method 8260

Report Number: 9604052 B
Sample Date: 23 Apr 96
Received Date: 24 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NE
Job Order #: 130 5001

Sample ID#		1- 61640	2- 61641	3- 61642	4- 61643
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	23 Apr 96 @ 1000	N/S @ N/S	23 Apr 96 @ 0900	23 Apr 96 @ 0800
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab
Analyst		J. Moore	J. Moore	J. Moore	J. Moore
Date of Analysis		29 Apr 96	29 Apr 96	29 Apr 96	29 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- 61640	units	Limit	2- 61641	units	Limit	3- 61642	units	Limit	4- 61643	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	103	104	100	98
Toluene-d8	88-110	105	104	103	106
Bromoflourobenzene	86-115	94	94	95	98

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

Approved by: J W Moore for D-10
Jerry Dees, Laboratory Director

Date/Time: 14-May-96 @ 13:30
Report Generated

PWC 5090/14

End of Report

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: 9604052 C
Sample Date: 23 Apr 96
Received Date: 24 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NE
Job Order #: 130 5001

Sample ID#	Lab	1- 61636			2- 61637			3- 61638			4- 61639		
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	23 Apr 96	@	0930	23 Apr 96	@	0915	23 Apr 96	@	0945	23 Apr 96	@	1015
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab		
Analyst		M. Chambers			M. Chambers			M. Chambers			M. Chambers		
Date of Analysis		1 May 96			1 May 96			14 May 96			14 May 96		
Sample Matrix		Groundwater			Groundwater			Groundwater			Groundwater		
Dilution		Dilution	X	1.25	Dilution	X	1.12	Dilution	X	1.08	Dilution	X	1.1
PARAMETER	ANALYSIS	ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Polynuclear Aromatics (PAH's)	METHOD #	1- 61636	units	Limit	2- 61637	units	Limit	3- 61638	units	Limit	4- 61639	units	Limit
Acenaphthene	SW846 8270	BDL	ug/l	6	BDL	ug/l	6	BDL	ug/l	5	BDL	ug/l	6
Acenaphthylene	SW846 8270	BDL	ug/l	6	BDL	ug/l	6	BDL	ug/l	5	BDL	ug/l	6
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	BDL	ug/l	7	BDL	ug/l	7	BDL	ug/l	7
Phenanthrene	SW846 8270	BDL	ug/l	3	BDL	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	BDL	ug/l	5	BDL	ug/l	5	BDL	ug/l	5
2-Methylnaphthalene	SW846 8270	BDL	ug/l	7	BDL	ug/l	7	BDL	ug/l	7	11	ug/l	7

SURROGATE RECOVERIES Compound	Acceptance Limits				
Nitrobenzene-d5	35-114	89	89	88	64
2-Fluorobiphenyl	43-116	94	92	92	66
Terphenyl-d14	33-141	99	100	96	69

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

Approved by: W Moore for Jerry Dees, Laboratory Director

Date/Time: 22-May-96 @ 07:34 Report Generated

End of Report

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

Laboratory Report
Total PAH's by Method 8270A

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

Report Number: 9604052 D
Sample Date: 23 Apr 96
Received Date: 24 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NE
Job Order #: 130 5001

Sample ID#	Lab	1- 61640	2- 61641	3- 61642	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	23 Apr 96 @ 1000	23 Apr 96 @ N/S	23 Apr 96 @ 0900	
Sample Type	Comp/Grab	Grab	Grab	Grab	
Analyst		M. Chambers	M. Chambers	M. Chambers	
Date of Analysis		14 May 96	14 May 96	14 May 96	
Sample Matrix		Groundwater	Groundwater	Deionized water	
Dilution		Dilution X 1.07	Dilution X 1.15	Dilution X 1	Dilution X 1

PARAMETER	ANALYSIS	ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.
Polynuclear Aromatics (PAH's)	METHOD #	1- 61640	units	Limit	2- 61641	units	Limit	3- 61642	units	Limit	4-	units	Limit
Acenaphthene	SW846 8270	BDL	ug/l	5	BDL	ug/l	6	BDL	ug/l	5		ug/l	5
Acenaphthylene	SW846 8270	BDL	ug/l	5	BDL	ug/l	6	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	BDL	ug/l	7	BDL	ug/l	7		ug/l	7
Phenanthrene	SW846 8270	BDL	ug/l	3	BDL	ug/l	3	BDL	ug/l	3		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	BDL	ug/l	5	BDL	ug/l	5		ug/l	5
2-Methylnaphthalene	SW846 8270	BDL	ug/l	7	10	ug/l	7	BDL	ug/l	7		ug/l	7

SURROGATE RECOVERIES Compound	Acceptance Limits				
Nitrobenzene-d5	35-114	89	90	83	
2-Fluorobiphenyl	43-116	86	90	81	
Terphenyl-d14	33-141	94	93	90	

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

Approved by: J W Moore for Jerry Dees, Laboratory Director

Date/Time: 22-May-96 @ 07:37
Report Generated
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
Autovon 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: 9604052 E
Sample Date: 23 Apr 96
Received Date: 24 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NE
Job Order #: 130 5001

Sample ID#	Lab	1- 61636			2- 61637			3- 61638			4- 61639		
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	23 Apr 96	@	0930	23 Apr 96	@	0915	23 Apr 96	@	0945	23 Apr 96	@	1015
Sample Type	Comp/Grab	Grab			Grab			Grab			Grab		
Analyst		B. Jacquart			B. Jacquart			B. Jacquart			B. Jacquart		
Date of Analysis		10 May 96			10 May 96			10 May 96			10 May 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- 61636	units	Limit	2- 61637	units	Limit	3- 61638	units	Limit	4- 61639	units	Limit
Ethylene Dibromide	EPA 504	BDL	ug/l	0.02	BDL	ug/l	0.02	BDL	ug/l	0.02	BDL	ug/l	0.02

SURROGATE RECOVERIES Compound	Acceptance Limits				
2,4,5,6-Tetrachloro-m-xylene	60-140	91	83	95	98

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

Approved by: J W Moore for Jerry Dees, Laboratory Director

Date/Time: 14-May-96 @ 14:08
Report Generated

PWC 5090/14

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone (904) 452-4728/3642
Autovon 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: 9604052 F
Sample Date: 23 Apr 96
Received Date: 24 Apr 96
Sample Site: Bronson Field, Bldg. 1140 NE
Job Order #: 130 5001

Sample ID#	Lab	1- 61640	2- 61641	3- 61642	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	23 Apr 96 @ 1000	N/S @ N/S	23 Apr 96 @ 0900	
Sample Type	Comp/Grab	Grab	Grab	Grab	
Analyst		B. Jacquart	B. Jacquart	B. Jacquart	
Date of Analysis		10 May 96	10 May 96	10 May 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- 61640	units	Limit	2- 61641	units	Limit	3- 61642	units	Limit	4-	units	Limit
Ethylene Dibromide	EPA 504	BDL	ug/l	0.02	BDL	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	97	92	101	

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

Approved by: J C Moore for Jerry Dees, Laboratory Director

Date/Time: 14-May-96 @ 14:17
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
DSN 922-4728
FAX (904) 452-2387/2799

Laboratory Report
Total Lead

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

Report Number: 9606058
Sample Date: 17 May 96
Received Date: 21 May 96
Sample Site: Bronson Field Site 1140 N.E.
Job Order #: 130 5001

Sample ID#	Lab	1- 62236	2- 62237	3- 62238	4- 62239	Analyst(s):
Sample Name	Requester	MW-6	MW-3	MW-5	MW-4	ICP - Brian Nelson
Collector Name		RDH	RDH	RDH	RDH	
Date/Time	Comp start					
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	17 May 96 @ 0828	17 May 96 @ 0830	17 May 96 @ 0912	17 May 96 @ 0914	ICP - 12 Jun 96
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab	
Sample Matrix		Groundwater	Groundwater	Groundwater	Groundwater	

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.	
Metals:	METHOD #	1- 62236	units	Limit	2- 62237	units	Limit	3- 62238	units	Limit	4- 62239	units	Limit	Preservative(s)
Lead(Pb)	SW 6010A	X BDL	mg/l	0.05	BDL	mg/l	0.05	BDL	mg/l	0.05	BDL	mg/l	0.05	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. BDL=Below Detection Limit.

Approved by: Jerry Bees, Laboratory Director

Date/Time: 18-Jun-96 13:47

End of Report

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
Total Lead

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

Report Number: 9606059
Sample Date: 17 May 96
Received Date: 21 May 96
Sample Site: Bronson Field Site 1140 N.E.
Job Order #: 130 5001

Sample ID#	Lab	1- 62240	2- 62241	3-	4-	Analyst(s):
Sample Name	Requester	MW-1	MW-2			ICP - Brian Nelson
Collector Name		RDH	RDH			
Date/Time	Comp start					
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	17 May 96 @ 1001	17 May 96 @ 0956			ICP - 12 Jun 96
Sample Type	Comp/Grab	Grab	Grab			
Sample Matrix		Groundwater	Groundwater			

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.	
Metals:	METHOD #	1- 62240	units	Limit	2- 62241	units	Limit	3-	units	Limit	4-	units	Limit	Preservative(s)
Lead(Pb)	SW 6010A	X BDL	mg/l	0.05	BDL	mg/l	0.05		mg/l	0.05		mg/l	0.05	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. BDL=Below Detection Limit.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 18-Jun-96 13:50

End of Report

PWC 5090/14

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

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	604531
Client:	NAS, CO, PWC
Project Number:	CALL #9033
Project Name:	FL PRO
Project Location:	BRONSON 1140 NE
Department:	SEMI-VOLATILE FUELS

"FINAL REPORT FORMAT - SINGLE"

Accession: 604531
Client: NAS, CO, PWC
Project Number: CALL #9033
Project Name: FL PRO
Project Location: BRONSON 1140 NE
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: 23-APR-96 0930
Client Sample Id: 61636 BF1140NE MW2 Received Date: 26-APR-96

Batch: FPW035 Extraction Date: 27-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 02-MAY-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	83	42-193	
ORTHO TER PHENYL	%REC/SURR	106	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession:	604531
Client:	NAS, CO, PWC
Project Number:	CALL #9033
Project Name:	FL PRO
Project Location:	BRONSON 1140 NE
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:	23-APR-96 0915
Client Sample Id:	61637 BF1140NE MW3	Received Date:	26-APR-96
Batch: FPW035		Extraction Date:	27-APR-96
Blank: A	Dry Weight %: N/A	Analysis Date:	02-MAY-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	260	100	
NONATRIACONTANE	%REC/SURR	70	42-193	
ORTHO TER PHENYL	%REC/SURR	88	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 604531
Client: NAS, CO, PWC
Project Number: CALL #9033
Project Name: FL PRO
Project Location: BRONSON 1140 NE
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: 23-APR-96 0945
Client Sample Id: 61638 BF1140NE MW4 Received Date: 26-APR-96

Batch: FPW035 Extraction Date: 27-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 02-MAY-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	62	42-193	
ORTHO TER PHENYL	%REC/SURR	93	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 604531
Client: NAS, CO, PWC
Project Number: CALL #9033
Project Name: FL PRO
Project Location: BRONSON 1140 NE
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: 23-APR-96 1015
Client Sample Id: 61639 BF1140NE MW5 Received Date: 26-APR-96

Batch: FPW035 Extraction Date: 27-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 02-MAY-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	280	100	
NONATRIACONTANE	%REC/SURR	85	42-193	
ORTHO TER PHENYL	%REC/SURR	135	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 604531
Client: NAS, CO, PWC
Project Number: CALL #9033
Project Name: FL PRO
Project Location: BRONSON 1140 NE
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: 23-APR-96 1000
Client Sample Id: 61640 BF1140NE MW6 Received Date: 26-APR-96

Batch: FPW035 Extraction Date: 27-APR-96
Blank: A Dry Weight %: N/A Analysis Date: 03-MAY-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	
NONATRIACONTANE	%REC/SURR	57	42-193	
ORTHO TER PHENYL	%REC/SURR	87	82-142	
ANALYST	INITIALS	KS		

Comments:

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
dg.3297, Code 920
NAS Pensacola, FL 32508-8500

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 #:

Report Required? (Yes) No DEP? Yes (No)
Lab ID Number:
Sample Date: 4.23.96
Received Date: 4.24.96
Sample Site: BF 1140 NE
Lab Due Date:

Sample ID #	Lab	#1- 61636	#2- 61637	#3- 61638	#4- 61639	Notes:
Sample Name	----------	MW-2	MW-3	MW-4	MW-5	KAG
or Location	----------					
Sampled by	----------	PJB	PJB	PJB	PJB	
Composite	Begin					
Date/Time	Frequency					
Collected	End					
Grab Time	----------	0930	0915	0945	1015	
Sample Matrix	----------	GW	GW	GW	GW	

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/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	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	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	X	1 Pb	X	1 Pb	X	1 Pb	X	1 Pb		250ml/4 oz.	HNO_3/None
Other:												

Comments:

Relinquished by: [signature] WES, Inc.
Date/Time: 4/24/96 0745

Received by: [signature]
Date/Time: 4/24/96 0745

PWC 9510/8

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg.3297, Code 820
NAS Pensacola, FL 32508-8500

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 #:

Report Required? (Yes) No DEP? Yes (No)
Lab ID Number:
Sample Date: 4.23.96
Received Date: 4.24.96
Sample Site: BF 1140 NE
Lab Due Date:

Sample ID #	Lab	#1- 61640		#2- 61641		#3- 61642		#4- 61643		Notes:
Sample Name or Location	---------- / ----------	MW-6		Duplicate		EQ. BLANK		Trip Blank		XAG
Sampled by	----------	PJB		PJB		PJB		PJB		
Composite Date/Time Collected	Begin / Frequency / End									
Grab Time	----------	1000		—		0900		0800		
Sample Matrix	----------	GW		GW		DI		DI		
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/GCMS	EPA 624									8 / 40 ml VOA Vial x 2 / HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									16 / 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									6 / 40ml VOAx2/4 oz. / HCl/4° C/None
VOC/GCMS-Cap.	EPA SW 8260									6 / 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	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	X	1 Pb	X	1 Pb	X	1 Pb			250ml/4 oz. / HNO3/None
Other:										

Comments:

Relinquished by: Patrick J. Kane WES, Inc.
Date/Time: 4/24/96 0745

Received by: [signature]
Date/Time: 4/24/96 0745

PWC 9610/8

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: 62328
Sample Date: 05/22/96
Received Date: 05/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62328
Sample Name / Location	MW-1 BF1140NE
Collector's Name	RDH
Date & Time Collected	5/22/96 @ 2005
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	05/24/96 / JM
Date of Analysis	05/2/496
Sample Matrix	GW
Dilution	X 1

Compound Name	1- 62328	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	108
Toluene-d8	86-119	107
Bromoflourobenzene	85-116	108

COMMENTS :

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

Approved by : Jerry Bees, Laboratory Director

Date: 6/23/96
Report Generated

 End of Report

D-25

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
Addres Bldg 3887
NAS Pensacola, Fl 32508
Phone 452-4728
Contac Greg Campbell

Analytical Report
610 PAH's by Method 8270

Lab Report Number: 62328
Sample Date: 05/22/96
Received Date: 05/23/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- **62328**		
Sample Name / Location	MW-1 BF1140NE		
Collector's Name	RDH		
Date & Time Collected	5/22/96 @ 2005		
Sample Type (composite or grab)	Grab		
Analyst	M. Chambers		
Date of Extraction / Initials	5/24/96; JJ		
Date of Analysis	6/6/96		
Sample Matrix	GW		
Dilution	X 1		
COMPOUND NAME	1- **62328**	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
Flouranthene	BDL	UG/L	2
Flourene	BDL	UG/L	4
Indeno(1,2,3-cd)pyrene	BDL	UG/L	2
1-Methylnaphthalene	BDL	UG/L	7
2-Methylnaphthalene	BDL	UG/L	5
Naphthalene	BDL	UG/L	7
Phenanthrene	BDL	UG/L	3
Pyrene	BDL	UG/L	3

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	
Nitrobenzene- d5	35-114	79
2-Flourobiphenyl	43-116	85
Terphenyl -d14	33-141	90

COMMENTS :

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

Approved by : Date/Time : 6/24/96 1100

D-26

"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: 006 Sample Date/Time: 22-MAY-96 2005
Client Sample Id: MW-1 1140NE 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	51	42-193	
ORTHO TER PHENYL	%REC/SURR	90	82-142	
ANALYST	INITIALS	KS		

Comments:

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 #: 452-4728
Contact: Greg Campbell

Analytical Report
601/602 Volatiles by Method 8260

Lab Report Number: 62724
Sample Date: 06/20/96
Received Date: 06/21/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62724
Sample Name / Location	DMW - 7 BF - 1140 NE
Collector's Name	PJB
Date & Time Collected	06/20/96 @ 1530
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/21/96 - JM
Date of Analysis	06/21/96
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 62724	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)	5	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	95
Toluene-d8	86-119	97
Bromoflourobenzene	85-116	90

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: 7/9/96
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, Code 910
NAS Pensacola,FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 62724
Sample Date: 06/20/96
Received Date: 06/21/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62724			
Sample Name / Location	DMW - 7 BF - 1140 NE			
Collector's Name	PJB			
Date & Time Collected	06/20/96 @ 1530			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	06/21/96 - JJ			
Date of Analysis	06/25/96			
Sample Matrix	Groundwater			
Dilution	X 1			
Compound Name	1- 62724	units	Det. Limit	Flags
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	
Flouranthene	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	Percent Recovery
Nitrobenzene- d5	35-114	69
2-Flourobiphenyl	43-116	73
Terphenyl -d14	33-141	85

COMMENTS :

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

Approved by : J W Moore, Chemist for Jerry Dees, Laboratory Director

Date: 7/23/96
Report Generated
Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory

Analytical Report
Ethylene Dibromide by Method 508

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 #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62724
Sample Date: 06/20/96
Received Date: 06/21/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	62724			
Sample Name / Location	DMW - 7 BF - 1140 NE			
Collector's Name	PJB			
Date & Time Collected	06/20/96 @ 1530			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	06/25/96 - BJ			
Date of Analysis	06/25/96			
Sample Matrix	Groundwater			
Dilution	X		1	
Compound Name	62724	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERY

	Acceptance Limits	Percent Recovery
Tetra-chloro-m-xylene	54 - 140	92

Explanation of Flags :

Comments :

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

Approved by : Jerry Dees, Laboratory Director

Date: 7/23/96
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, Code 910
NAS Pensacola,FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 62723
Sample Date: 06/20/96
Received Date: 06/21/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62723
Sample Name / Location	Equipment Blank BF - 1140 NE
Collector's Name	PJB
Date & Time Collected	06/20/96 @ 1500
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	06/21/96 - JM
Date of Analysis	06/21/96
Sample Matrix	Deionized Water
Dilution	X 1

Compound Name	1- 62723	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	1	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	90
Toluene-d8	86-119	99
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 : JW Moore, chemist
for Jerry Dees, Laboratory Director

Date: 7/23/96
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, Code 910
NAS Pensacola,FL 32508
Phone #: 452-4728
Contact: Greg Campbell

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 62723
Sample Date: 06/20/96
Received Date: 06/21/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	1- 62723
Sample Name / Location	Equipment Blank BF - 1140 NE
Collector's Name	PJB
Date & Time Collected	06/20/96 @ 1500
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	06/21/96 - JJ
Date of Analysis	06/25/96
Sample Matrix	Deionized Water
Dilution	X 1

Compound Name	1- 62723	units	Det. Limit	Flags
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	
Flouranthene	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	Percent Recovery
Nitrobenzene- d5	35-114	72
2-Flourobiphenyl	43-116	79
Terphenyl -d14	33-141	89

COMMENTS :

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

Approved by : Jerry Does, Laboratory Director

Date: 7/9/96
Report Generated
Page 1 of 1 End of Report

Navy Public Works Center
Environmental Laboratory

Analytical Report
Ethylene Dibromide by Method 508

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 #: 452-4728
Contact: Greg Campbell

Lab Report Number: 62723
Sample Date: 06/20/96
Received Date: 06/21/96
Sample Site: Bronson Field
Job Order No.: 130 5001

LAB Sample ID#	62723			
Sample Name / Location	Equipment Blank BF - 1140 NE			
Collector's Name	PJB			
Date & Time Collected	06/20/96 @ 1500			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	06/25/96 - BJ			
Date of Analysis	06/25/96			
Sample Matrix	Deionized Water			
Dilution	X		1	
Compound Name	62723	units	Det. Limit	Flags
Ethylene Dibromide (EDB)	BDL	ug/L	0.02	

SURROGATE SPIKE RECOVERY

	Acceptance Limits	Percent Recovery
Tetra-chloro-m-xylene	54 - 140	93

Explanation of Flags :

Comments :

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

Approved by : Jerry Dees, Laboratory Director

Date: 7/23/96
Report Generated

End of Report

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 #0011
Project Location:	BRONSON FIELD
Accession Number:	606401
Project Manager:	JERRY DEES
Sampled By:	PJB

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

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	606401
Client:	NAS, CO, PWC
Project Number:	CALL #0011
Project Name:	FL PRO
Project Location:	BRONSON FIELD
Department:	SEMI-VOLATILE FUELS

"FINAL REPORT FORMAT - SINGLE"

Accession: 606401
Client: NAS, CO, PWC
Project Number: CALL #0011
Project Name: FL PRO
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: 004 Sample Date/Time: 20-JUN-96 1530
Client Sample Id: 62724 BF DMW-7 Received Date: 21-JUN-96

Batch: FPW056 Extraction Date: 25-JUN-96
Blank: A Dry Weight %: N/A Analysis Date: 28-JUN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	150	100	
NONATRIACONTANE	%REC/SURR	42	42-193	
ORTHO TER PHENYL	%REC/SURR	105	82-142	
ANALYST	INITIALS	KS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 606401
Client: NAS, CO, PWC
Project Number: CALL #0011
Project Name: FL PRO
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: WATER
QC Level: I

Lab Id: 003 Sample Date/Time: 20-JUN-96 1500
Client Sample Id: 62723 BF 1140NE Received Date: 21-JUN-96

Batch: FPW056 Extraction Date: 25-JUN-96
Blank: A Dry Weight %: N/A Analysis Date: 28-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	95	82-142	
ANALYST	INITIALS	KS		

Comments:

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

"Method Report Summary"

Accession Number: 606401
Client: NAS, CO, PWC
Project Number: CALL #0011
Project Name: FL PRO
Project Location: BRONSON FIELD
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Client Sample Id:	Parameter:	Unit:	Result:
62724 BF DMW-7	TOTAL PETROLEUM HYDROCARBON	UG/L	150

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

Quality Control Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	606401
Client:	NAS, CO, PWC
Project Number:	CALL #0011
Project Name:	FL PRO
Project Location:	BRONSON FIELD
Department:	SEMI-VOLATILE FUELS

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

"QC Report"

Title: Water Blank
Batch: FPW056
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: 26-JUN-96 Date Extracted: 25-JUN-96

Parameters:	Units:	Results:	Reporting Limits:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100
ORTHO TER PHENYL	%REC/SURR	107	82-142
ANALYST	INITIALS	KS	
C-39	%REC/SURR	67	42-193

Comments:

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

"QC Report"

Title: Water Reagent
Batch: FPW056
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: 26-JUN-96
RSD Date Analyzed: 26-JUN-96
RS Date Extracted: 25-JUN-96
RSD Date Extracted: 25-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	4889	98	5927	119	19	30	57-122
Surrogates:									
ORTHO TER PHENYL				107		137			82-142
C-39				56		72			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).

ATI/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).

SW = STEVE WILHITE
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
JBT = JENNIFER TORRANCE

UST CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg.3297, Code 939
NAS Pensacola, FL 32508-5500
Ph#-(904) 453-4729
Autovon-922-4729

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

Report Required? (Yes) No DEP? Yes No
Lab ID Number:
Sample Date: 6-20-96
Received Date: 6-21-96
Sample Site: BF 1140 NE
Lab Due Date:

Sample ID #	Lab	#1-62723		#2-62724		#3-62725		#4-	
Sample Name or Location	----------	EQ. BLANK		DMW-7		Trip Blank			
Sampled by	----------	PJB		PJB		PJB			
Composite Date/Time Collected	Begin								
	Frequency								
	End								
Grab Time	----------	1500		1530		AM			
Sample Matrix	----------	DF		GW		DF			

Notes: KAG Pb LESS

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	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/GCMS	EPA 624									6	40 ml VOA Vial x 2	HCl/4° C
Base/Neutrals & Acids/GCMS	EPA 625									10	1L Amber x 2	4° C
Gas Chromatography	EPA SW 8000									5	40mlx2/1Lx2/4 oz.	HCl/4° C/Non
Halo. Vol. Org./GC	EPA SW 8010									4	40ml VOAx2/4 oz.	HCl/4° C/Non
Non-Halo. Vol. Org./GC	EPA SW 8015(MOD)									4	40mlx2/1Lx2/4 oz.	HCl/4° C/Non
Arom. Vol. Org./GC	EPA SW 8020									3	40ml VOAx2/4 oz.	HCl/4° C/Non
Halo./Arom. Vol. Org./GC	EPA SW 8010/8020									6	40ml VOAx2/4 oz.	HCl/4° C/Non
Polynuclear Aromatics/GC	EPA SW 8100									9	1Lx2/4 oz.	4° C/None
VOC/GCMS	EPA SW 8240A									6	40ml VOAx2/4 oz.	HCl/4° C/Non
VOC/GCMS - Cap.	EPA SW 8260									6	40ml VOAx2/4 oz.	HCl/4° C/Non
Semivol. Org./GCMS - Cap.	EPA SW 8270A									10	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 L
Kerosene Analytical Group	EPA SW-846										Consult Lab	Consult L
Mixed Product Analytical Group	EPA SW-846										Consult Lab	Consult L
Total Petroleum Hydrocarbons	EPA 418.1	X	2 TPH	X	2 TPH						Consult Lab	Consult L
RCRA Metals (6)	EPA Various										Consult Lab	Consult L
TCLP Metals (8) w/extraction	EPA SW-846										Consult Lab	Consult L
Lead (Pb)	EPA 239.2										250ml/4 oz.	HNO/Pb
Other:												

Comments:

Relinquished by: Patrick J. Bow / WES, Inc.
Date/Time: 6/21/96 0715

Received by: [illegible]
Date/Time: 6/21/96 0715

PWO 5610/5

American Environmental Network, Inc.

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

CHAIN OF CUSTODY

AEN ACCESSION #: 606401

PART 1 - Bottle Shipment Information

CLIENT: NWC ENV LAB

CLIENT PROJECT NUMBER: STUB # 6173-4865

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	
8																✓								

Relinquished By:	Time	Date	Received By:	Time	Date

PART 2 - Sample/Project Information

SAMPLE MATRIX CODES

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

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	FL PRO	TOTAL # OF BOTTLES
62720 DF ECUA #2	6/20/96	1400	DI	✓	2
62721 ↓ MW-1	↓	1430	GW	✓	2
62723 DF 1140NE	↓	1500	DI	✓	2
62724 ↓ DMW-7	↓	1530	GW	✓	2

Total Number of Bottles/Containers: 8

Relinquished By	Date	Time	Received By	Date	Time
[signature]	6/21/96	1615	[signature]	6/21/96	1615

Client NWC ENV LAB CODE 920	Purchase Order Number STUB # 6173-4865
Address BLDG 3297	Project Number CALL # 0011
City PENSACOLA State FL Zip 32508	Project Name FL PRO
Phone Number (904) 452-3642 Fax Number (904) 452-2799	Project Location BRONSON FIELD
Project Manager JERRY DEES	Sampled By PJB

TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days	✓	JO # 1505001
RUSH (must be approved in advance)		ITEM # 017
<- 48 hours - 2x standard price		Verbals due 6/28/96
3-7 days - 1.5x standard price		written due 7/5/96
TCLP - 1 week rush 1.5x standard price		D-44
QC Level none I II III IV (circle one)		Copies of report needed 1

FORM # 12694

WHITE — LAB CANARY — REPORT PINK — CLIENT

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: 73097
Sample Date: 07/01/97
Received Date: 07/01/97
Sample Site: NAS Pensacola, FL
Job Order No.: 160 5002

LAB Sample ID#	1- 73097			
Sample Name / Location	Site 1140 NE MW # 1			
Collector's Name	P. Keane			
Date & Time Collected	07/01/97 @ 1220			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	07/16/97 JM			
Date of Analysis	07/16/97			
Sample Matrix	Water			
Dilution	X 1			
Compound Name	1- 73097	units	Det. Limit	Flags
Ethylene Dibromide	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 : JN Moore, Chemist for Jerry Dees, Laboratory Director

Date: 8/4/97
Report Generated

D-45

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-4728/3642
DSN 922-4728/3642
FAX (850) 452-2799/2387

Laboratory Report
Total Lead

Requester: NPWC Environmental
Address: Bldg. 458, NAS Pensacola, FL 32508
Phone #: 452-4315
Contact: Greg Campbell

Report Number: 9707017
Sample Date: 1 Jul 97
Received Date: 1 Jul 97
Sample Site: Bronson Site 1140 NE
Job Order #: 130 5002

Sample ID#	Lab	1- 73095	2- 73096	3- 73097	4- 73098	Analyst(s):
Sample Name	Requester	Site 1140 NE, DWM #7	Site 1140 NE, Eq. Blank	Site 1140 NE, MW #1	Site 1140 NE, Dulicate	ICP – 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	1 Jul 97 @ 1135	1 Jul 97 @ 1145	1 Jul 97 @ 1220	1 Jul 97	ICP – 3 Jul 97
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab	
Sample Matrix		Groundwater	Deionized Water	Groundwater	Groundwater	

PARAMETER Metals:	METHOD #	ID# 1- 73095	units	Report. Limit	ID# 2- 73096	units	Report. Limit	ID# 3- 73097	units	Report. Limit	ID# 4- 73098	units	Report. Limit	Preservative(s)
Lead(Pb)	SW 6010	x 0.004	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. BDL=Below Detection Limit.

D-46

Approved by: Jerry Dees, Laboratory Director

Date/Time: 17-Jul-97 14:12

End of Report

PWC 5090/14

SAMPLES FOR [illegible]

Brenda

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS (UST Projects)

PWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Phone – (904) 452–4728/3642
DSN 922–4728/3642
FAX (904) 452–2799/2387

Requester: NPWR ENVIRONMENTAL
Address: B-3887
NAS PENSACOLA FL
Phone #: 452-2107
Contact: GREG CAMPBELL
Job Order #: 1605002

Report Required? Yes No QC Required? Yes No
Lab ID Number:
Sample Date: 7/1/97
Received Date: 7/1/97
Sample Site: BRANSON SITE 1140 N.E
Lab Due Date:

Sample ID #	Lab	#1-7-3095	#2-7-3096	#3-7-3097	#4-7-3098	Notes:
Sample Name	----------	SITE 1140 NE	SITE 1140 N.E.	SITE 1140 NE	SITE 1140 NE	
or Location	----------	DMW#7	EQ BLANK	MW#1	DUPLICATE	
Sampled by	----------	PRaine	PRaine	PRaine	PRaine	
Composite	Begin					QUIESCENT SAMPLES
Date/Time	Frequency					
Collected	End					
Grab Time	----------	1135	1145	1220	—	
Sample Matrix	----------	GW	DI	GW	GW	

PARAMETER by Method Name	METHOD #	X	1-1 Bottle ID #'s	X	1-1 Bottle ID #'s	X	1-3 Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Ethylene Dibromide (EDB)	EPA 504					X	2BETT			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

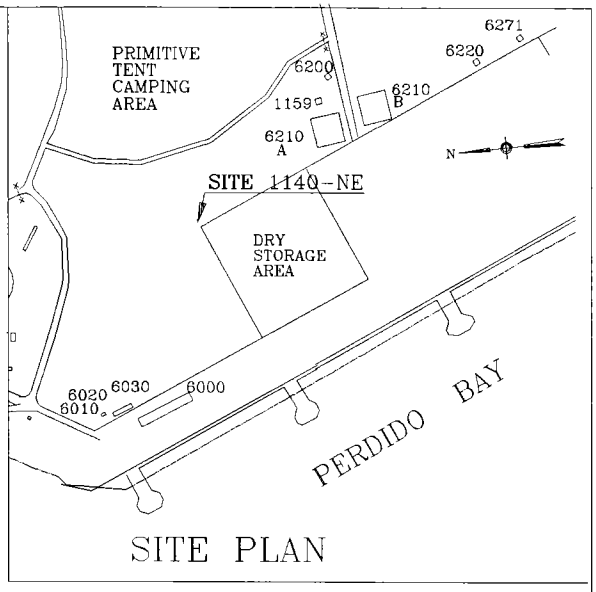
PARAMETER by Group Name	METHOD SOURCE	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Required	Preservative(s) Used
Gasoline Analytical Group	EPA SW–846									47	Consult Lab	Consult Lab
Kerosene Analytical Group	EPA SW–846									39	Consult Lab	Consult Lab
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 (5)	EPA Various									6	Consult Lab	Consult Lab
TCLP Metals (5) w/extraction	EPA SW–846									10	Consult Lab	Consult Lab
Lead (Pb) only	EPA 239.2	X	1-1 0.004	X	BDL	X	1-1 BDL	X	1-1 BDL	1	250ml/4 oz.	HNO_3/None
Other:												

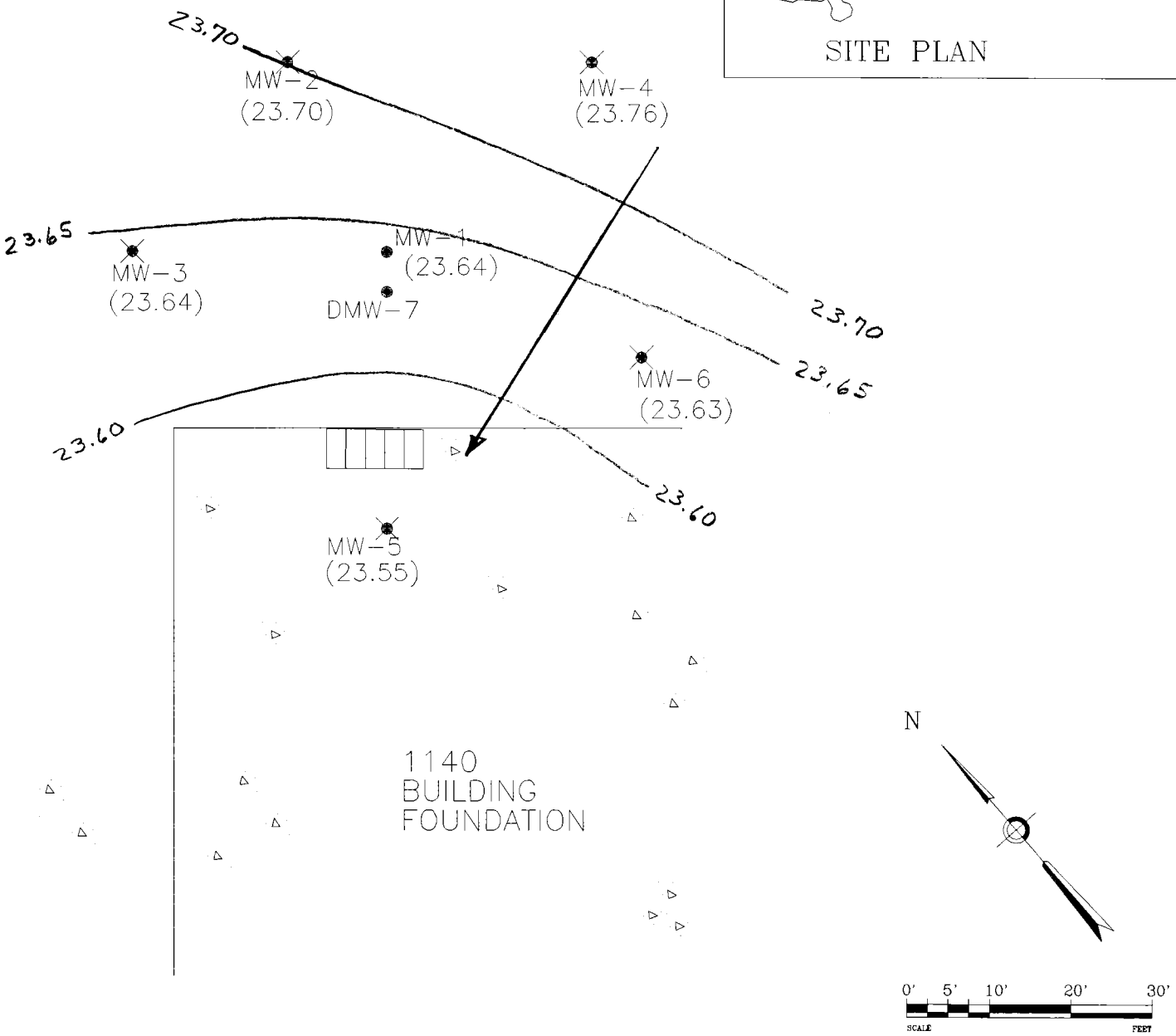
Comments:

Relinquished by: PRaine
Date/Time: 7/1/97 1255
Departed Branson

Received by: PRaine
Date/Time: 7/1/97 1335
Arrived at Lab

c:\123r24\forms\custody\ustR0.wk1 rev 0 8/28/96





LEGEND

	HOT CUTTINGS STORED ON PLASTIC SHEETING
● MW-6	MONITORING WELL
(23.63)	GROUNDWATER ELEVATION
→	GW FLOW DIRECTION
~	GROUNDWATER ELEVATION CONTOUR

NAVY PUBLIC WORKS CENTER PENSACOLA, FLORIDA		
SCALE:	FIGURE 2-3	DRAWN BY: DWG. NO: REVISED BY:
GROUNDWATER FLOW DIRECTION MAP (7-1-97) SITE 1140-NE, BRONSON FIELD		
CLIENT: NAS ENVIRONMENTAL DEPARTMENT, NAS PENSACOLA		