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NAS PENSACOLA
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REQUEST FOR SITE CLOSURE RISK MANAGEMENT OPTIONS LEVEL II TACAN FACILITY BUILDING 1917 NAS PENSACOLA FL

12/13/2013

AEROSTAR ENVIRONMENTAL SERVICES, INC.

REQUEST FOR SITE CLOSURE – RISK MANAGEMENT OPTIONS LEVEL II
TACAN BUILDING 1917
NAVAL AIR STATION PENSACOLA
PENSACOLA, ESCAMBIA COUNTY, FLORIDA
FDEP FACILITY ID # 17/9802359

Contract No. N62467-06-D-0123
Contract Task Order No. 48

PREPARED FOR:

NAVFAC
Naval Facilities Engineering Command

United States Naval Facilities
Engineering Command
Southeast Division
Ajax Street, Building 903
Jacksonville, Florida 32212

PREPARED BY:

AerostarSES LLC

Aerostar SES, LLC
820 S. University Boulevard, Suite 3H
Mobile, Alabama 36609
(251) 432-2664

Aerostar Project # M3010.0125.0001.24

November 2013

AerostarSES LLC

December 13, 2013

Ms. Patty Whittemore
Building 903, Box 30
Naval Air Station Jacksonville
Jacksonville, FL 32212

RE: Contract No. N62467-06-D-0123
Naval Air Station (NAS) Pensacola, Florida
TACAN Building 1917
Request for Site Closure – Risk Management Options Level II

Dear Ms. Whittemore:

For your records, Aerostar SES LLC. (Aerostar) is pleased to provide the Request for Site Closure – Risk Management Options Level II for the above referenced site.

Please contact our office at (251) 432-2664 if you have any questions or concerns regarding the enclosed report.

Sincerely,

Aerostar SES LLC

Derrick Rogers
Project Manager

Enclosures

cc:

Greg Campbell, NAS Pensacola

David Grabka, FDEP

Gerry Walker, P.G., Tetra Tech

Allison Harris, EnSafe, Inc.

Brian Caldwell, EnSafe, Inc.

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REQUEST FOR SITE CLOSURE – RISK MANAGEMENT OPTIONS LEVEL II
TACAN BUILDING 1917
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November 2013

Paul M. Fitch, P.E., Senior Engineer — 27Nov13 — Date

James O. Smith Jr., P.E., Senior Engineer — 11/27/13 — Date

CERTIFICATION

PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA

This is to certify that the proposed engineering control features of the ***Request for Site Closure – Risk Management Options Level II, TACAN Building 1917, Naval Air Station Pensacola, Pensacola, Escambia County, Florida, FDEP Facility ID # 17/9802359*** is consistent with commonly accepted engineering practices and is appropriately designed and constructed for its intended purpose and have been examined by the undersigned.

Signed: 27 Nov 13

Paul M. Fitch, P.E. Date

State of Florida License No. 57447

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1.0 INTRODUCTION

Aerostar SES, LLC. (Aerostar) has completed three quarters of groundwater monitoring at the Tactical Air Navigation (TACAN) Building 1917, Naval Air Station (NAS) Pensacola, Pensacola, Escambia County, Florida, FDEP Facility ID # 17/9802359, hereafter referred to as the site.

NAS Pensacola is located in Escambia County, approximately five miles west of the Pensacola city limits. The approximate 5,000-acre installation was constructed in the 1800s. Prior to construction, the facility was undeveloped and sparsely vegetated. Land use at NAS Pensacola consists of various military housing, training, and support facilities, as well as large industrial complexes for major repairs and refurbishment of aircraft frames and engines.

The site is located on the airfield in the central portion of NAS Pensacola and includes Building 1917 and the surrounding parking lot. A Site Location Map is presented as Figure 1.

Source removal activities at the site in November 2007, conducted by International Analytical Group (IAG), indicated that soil contamination extended beyond the excavation pit to the north and west (beneath the AST containment area and TACAN Building 1917). However, due to collapsing pit walls adjacent to structures, IAG was not able to excavate further to the north or west.

Following completion of the third quarter of groundwater monitoring in March 2011, laboratory analytical results indicated all concentrations of the tested parameters were below their respective Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs).

Based on the findings of the November 2007 Source Removal event and the March 2011 Third Quarter Groundwater Monitoring event, Aerostar recommended site closure in accordance with Risk Management Options Level II - No Further Action with engineering and institutional controls (Chapter 62-780.680(2), FAC) for the site. This No Further Action with Conditions Proposal has been prepared in accordance with the requirements established in Chapter 62-780, FAC.

2.0 BACKGROUND

The site consists of a single two-room building of masonry block construction. One room houses radar navigation electronics and the other room houses an emergency generator used for power outages. There is a 560-gallon aboveground storage tank (AST) in secondary containment located adjacent to the northeast corner of the building. This AST contains diesel fuel used to supply fuel to the emergency generator. An electrical transformer and underground electrical substation manhole are located adjacent to the east side of the building for supplying electrical power to the building. A 30-foot tall TACAN radar tower is located adjacent to the west side of the building. An air-conditioning unit is located adjacent to the northwest corner of the building, and an asphalt easement/driveway is located on the south side of the building. Building 1917 is surrounded by a security fence and locking gate.

Building 1917 was constructed in 1957. Original drawings indicate that an AST, reportedly containing diesel fuel, was installed in the southeast corner of the building in 1957. Drawings indicate that the original AST was removed sometime between November 18, 1986, and July 22, 1987, and replaced with the current AST. The emergency generator, located in the easternmost room of the building, also has a day tank, which receives fuel from the AST and then supplies fuel to the emergency generator. On October 29, 2002, diesel fuel was found inside the generator room and outside the building to the south-southeast during a routine maintenance inspection of the generator. The actual date, cause, and quantity of diesel fuel release is unknown. The suspected cause of the spill was likely due to an overflow of diesel fuel from the day tank. However, no witnesses were present during the release to confirm the cause.

The release was reported to the FDEP on October 29, 2002. According to historical file review information, Barcor Enterprises, Inc. (BARCOR) excavated approximately 38.21 tons of diesel-contaminated soil at the site between February 10 and 11, 2003. On March 3, 2003, a Source Removal Report was submitted to FDEP, detailing the soil removal activities. An organic vapor analyzer equipped with a flame ionization detector (OVA-FID) was utilized to monitor the soil vapors during excavation activities. Soils exhibiting OVA-FID readings at levels greater than ten parts per million (ppm) were removed.

In September 2003, the NAS Pensacola Environmental Department contracted Aerostar to provide soil and groundwater site assessment activities for the site. Between September 17 and 19, 2003,

Initial Site Assessment (ISA) activities were conducted. Aerostar installed 33 soil borings (SB-1 through SB-33,) 10 shallow groundwater monitor wells (MW-1 through MW-10) and 3 recovery wells (RW-1 through RW-3). A map showing the sampling locations is provided as Figure 2. Soil samples were screened and soil and groundwater samples were submitted for laboratory analysis. All fieldwork was conducted in accordance with Chapter 62-770, FAC. Laboratory analytical results for the soil sample collected from soil boring SB-2 yielded exceedances of Soil Cleanup Target Levels (SCTL) for benzene, ethylbenzene, total xylenes, and Total Recoverable Petroleum Hydrocarbons (TRPH). Groundwater analytical results for MW-2 indicated concentrations of benzene, ethylbenzene, total xylenes, and TRPH exceeded their respective GCTLs. Aerostar assisted in the Supplemental Site Assessment Report (SSAR) preparation documenting the field activities performed in 2003 for submittal to FDEP in August 2005. Aerostar recommended Supplemental Site Assessment (SSA) activities to include the installation of three additional shallow monitor wells and one deep, double-cased monitor well in predetermined locations in order to collect samples for confirmatory laboratory analysis.

In May 2006, Aerostar performed SSA activities. On September 5 and 6, 2006, Aerostar installed three shallow groundwater monitor wells (MW-11 through MW-13) and one deep monitor well (DW-1). On September 19, 2006, Aerostar collected groundwater samples from monitor wells MW-11 through MW-13 and DW-1. Soils were collected during monitor well installation and field screened using an OVA-FID. No OVA-FID readings above 10 ppm were detected. Groundwater analytical results indicated that all tested parameters were below their respective GCTLs. Analytical results for monitor well MW-2 showed it be the only well that yielded concentrations of benzene, ethylbenzene, total xylenes and TRPH above their respective GCTLs. The total xylene concentration also exceed the Natural Attenuation Default Concentration (NADC) of 200 micrograms per liter (µg/L). Soil analytical results showed hydrocarbon concentrations above SCTLs in soil sample SB-2. The historical soil laboratory results are tabulated in Table 1.

The SAR Addendum Report including field and laboratory findings for all work conducted for the subject site between 2003 and 2006 was delivered to NAS Pensacola and the FDEP on November 14, 2006, and was approved by FDEP on January 18, 2007.

Between November 13 and 14, 2007, IAG performed source removal activities at the site. OVA-FID screening of soils during excavation activities indicated that soil contamination extended beyond the

excavation pit to the north and west. However, due to collapsing pit walls adjacent to structures, IAG was not able to excavate further to the north or west. The dimensions of the excavation were 8 feet by 4.5 feet by 3.5 feet deep, with the water table at approximately 3.25 feet BLS. The IAG waste manifest indicates that 15.04 tons of impacted soils were removed for transport and disposal. IAG collected soil samples from the four walls of the excavation pit for laboratory analysis. A soil sample was not collected from the bottom of the pit because of the presence of groundwater. Laboratory analytical results showed hydrocarbon impacts above the SCTLs in all four walls. A map showing the location of excavation pit is provided as Figure 3 of the IAG report. The excavation pit was backfilled and monitor well MW-14 was installed in the excavation area. On January 18, 2008, IAG submitted the Source Removal Report documenting the site activities. A copy of this Source Removal Report is included in Appendix A.

On November 6 and 7, 2008, IAG collected groundwater samples from fifteen permanent monitor wells (MW-1 through MW-14 and DW-1) for the analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), Methyl-tert-butyl-ether (MTBE), Polynuclear Aromatic Hydrocarbons (PAHs), and TRPH. Laboratory analytical results indicated all tested parameters were either below laboratory detection limits or below the respective GCTLs. A map showing the locations of the monitor wells is provided as Figure 3. In a Post Remedial Action Report prepared by IAG and dated February 16, 2009, it was recommended that a Remedial Action Plan Addendum be prepared to investigate alternative remediation technologies.

On January 4 and 5, 2010, Aerostar collected groundwater samples from fifteen permanent monitor wells (MW-1 through MW-14 and DW-1) for the analysis of BTEX/MTBE, 1,2-Dichloroethane, PAHs, ethylene dibromide (EDB), and TRPH. Laboratory analytical results indicated concentrations of benzene, total xylenes, and naphthalene above their respective GCTLs. In a groundwater monitoring report prepared by Aerostar and dated July 2010, it was recommended that the site be monitored for natural attenuation. Aerostar also recommended that the sampling plan be revised to consist of the source well (MW-14), one upgradient well (MW-3) and two downgradient wells (MW-6 and MW-13). Additionally, it was recommended to remove EDB, 1,2-Dichloroethane, and PAHs from the sampling plan.

On September 30, 2010, Aerostar collected groundwater samples from monitor wells MW-3, MW-6, MW-13 and MW-14 for the analysis of BTEX/MTBE, naphthalene and TRPH. Laboratory analytical

results indicated a concentration of benzene above the FDEP GCTL of 1 ug/L in the groundwater sample collected from monitor well MW-14.

On December 23, 2010, Aerostar collected groundwater samples from monitor wells MW-3, MW-6, MW-13 and MW-14 for the analysis of BTEX/MTBE, naphthalene and TRPH. Laboratory analytical results indicated all concentrations of the tested parameters were below their respective FDEP GCTLs.

On March 30, 2011, Aerostar collected depth to water (DTW) measurements from monitor wells MW-1 through MW-14 and DW-1 to verify the current groundwater flow direction. These measurements were also used to confirm the historical groundwater flow direction. The DTW measurements of each monitor well were recorded in field notes and are presented in Table 2. Additionally, Aerostar collected groundwater samples from monitor wells MW-3, MW-6, MW-13 and MW-14 for the analysis of BTEX/MTBE, naphthalene and TRPH. Laboratory analytical results indicated all concentrations of the tested parameters were below their respective FDEP GCTLs. Based on the results of the sample event, Aerostar recommended site closure in accordance with Risk Management Options Level II - No Further Action with engineering and institutional controls (Chapter 62-780.680(2), FAC) for the site. Figure 4 illustrates the groundwater contours and general groundwater flow direction in March 2011. Groundwater laboratory analytical data dating back to 2003 is summarized in Table 3.

3.0 REQUEST FOR SITE CLOSURE

Based on the source removal data obtained in November 2007 and the groundwater sampling data obtained between September 30, 2010 and March 30, 2011, and in accordance with the recommendations included in the Third Quarter Groundwater Monitoring Report, dated September 2011, Aerostar recommends site closure in accordance with Risk Management Options Level II - No Further Action with engineering and institutional controls (Chapter 62-780.680(2), FAC). Aerostar has completed a Chapter 62-770 Petroleum Site Closure Checklist which is included as Appendix B.

3.1 Proposed Engineering Control

Aerostar proposes that the concrete floors of the AST containment area and building (TACAN 1917) serve as the engineering control to prevent contact with possible soil contamination resulting from the diesel fuel release reported on October 29, 2002.

3.2 Professional Engineer Certification

An Aerostar professional engineer has included certification that the proposed engineering control is consistent with commonly accepted engineering practices and is appropriately designed and constructed for its intended purpose.

3.3 Inspection and Maintenance Plan

To ensure that the engineering control continues to function properly, the Navy proposes the following site inspection and maintenance plan:

- Annual groundwater sample collection of monitor wells MW-3, MW-6, MW-13 and MW-14 to confirm that the presumed soil impacts are not impacting groundwater in the vicinity of the AST containment area or site building;
- Annual physical inspections and reporting as to the continued integrity of the AST containment and building floor slabs as an engineering control per the procedures provided under the joint Memorandum of Agreement (MOA) discussed in Section 3.4.

3.4 Recommended Institutional Controls

The Department of Defense (DoD) does not have the authority to file restrictive covenants (RCs) on property the DoD will be retaining under its jurisdiction. Footnote 14 on page 10 of FDEP Institutional Controls (IC) guidance (June 2012) specifically recognizes this limitation, by allowing use of previous negotiated Land Use Control (LUC) Memorandum of Agreements (MOAs) rather than RCs on federal property.

In accordance with the recommendations included in the Third Quarter Groundwater Monitoring Report, dated September 2011 and the FDEP IC Guidance (June 2012), the Navy proposes that, except as specified in Section 3.3 above, all existing terms and conditions contained in the NAS Pensacola LUC MOA (1999) between the Navy, the FDEP and the U.S. Environmental Protection Agency (EPA) shall apply to this site. A Draft LUC Implementation Plan for Tacan Building 1917 is included as Appendix C.

TABLES

TABLE 1: HISTORICAL SOIL LABORATORY ANALYTICAL SUMMARY

Facility Name: NAS Pensacola - TACAN Building 1917 **Facility ID: 17/9802359**

Results are in milligrams per kilogram (mg/kg) ppm = parts per million U = Not Detected TRPH = Total Recoverable Petroleum Hydrocarbons
fbls = feet below land surface FAC = Florida Administrative Code MTBE = Methyl-tert-butyl-ether
OVA-FID = Organic Vapor Analyzer equipped with a Flame Ionization Detector * 62-777 SCTLs Revised 4/2005

Sample ID	Date Collected	Sample Depth (fbls)	Net OVA-FID Reading (ppm)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	TRPH (mg/kg)
Residential Direct Exposure (mg/kg) *					1,100 / 1,500	380 / 7,500	6,000 / 180	32.00 / 4,400	40.55	340 / 460
Commercial/Industrial Direct Exposure (mg/kg) *				1.6 / 12	5,400 / 9,200	2,600 / 60,000	40,000 / 700	22,000 / 24,000	270 / 800	2,500 / 2,700
Leachability to Groundwater (mg/kg) *				0.007	0.8	0.5	0.2	0.02 / 0.09	0.6 / 1.2	340
SB-2(1-2)	9/19/2003	1-2	2000	**0.012**	**0.79**	0.019 U	**1.5**	0.019 U	0.43 U	**7900**
SB-4(1-2)	9/19/2003	1-2	100	0.0009 U	0.0009 U	0.0046 U	0.0018 U	0.0046 U	0.40 U	5.2
SB-21(0-1)	9/19/2003	0-1	70	0.0009 U	0.0009 U	0.0047 U	0.0018 U	0.0047 U	0.38 U	26

TABLE 2: HISTORICAL GROUNDWATER ELEVATION SUMMARY

Facility Name: NAS PENSACOLA - TACAN BUILDING 1917 **FDEP Facility ID** 17/9802359

WELL NO.	MW-1			MW-2			MW-3			MW-4			MW-5		
DIAMETER (inches)	2			2			2			2			2		
WELL DEPTH	15.09			15.28			15.37			15.32			12.20		
SCREEN INTERVAL	5.09-15.09			5.28-15.28			5.37-15.37			5.32-15.32			2.20-12.20		
TOC ELEVATION	102.39			102.46			102.58			102.68			99.82		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
9/23/2003	99.18	3.21	0.00	99.09	3.37	0.00	99.23	3.35	0.00	99.27	3.41	0.00	99.31	0.51	0.00
2/14/2007	98.82	3.57	0.00	98.84	3.62	0.00	98.82	3.76	0.00	98.88	3.80	0.00	98.90	0.92	0.00
1/4/2010	99.18	3.21	0.00	99.25	3.21	0.00	99.26	3.32	0.00	99.27	3.41	0.00	99.12	0.70	0.00
9/30/2010	96.87	5.52	0.00	96.86	5.60	0.00	96.87	5.71	0.00	96.86	5.82	0.00	96.82	3.00	0.00
12/23/2010	97.45	4.94	0.00	97.44	5.02	0.00	97.45	5.13	0.00	97.44	5.24	0.00	97.40	2.42	0.00
3/30/2011	98.81	3.58	0.00	98.82	3.64	0.00	98.84	3.74	0.00	98.82	3.86	0.00	98.81	1.01	0.00

WELL NO.	MW-6			MW-7			MW-8			MW-9			MW-10		
DIAMETER (inches)	2			2			2			2			2		
WELL DEPTH	12.22			15.34			15.10			15.14			15.23		
SCREEN INTERVAL	2.22-12.22			5.34-15.34			5.10-15.10			5.14-15.14			5.23-15.23		
TOC ELEVATION	99.63			101.96			102.32			102.40			102.48		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
9/23/2003	99.26	0.37	0.00	99.20	2.76	0.00	99.24	3.08	0.00	99.29	3.11	0.00	99.25	3.23	0.00
2/14/2007	98.89	0.74	0.00	98.83	3.13	0.00	98.83	3.49	0.00	98.93	3.47	0.00	98.95	3.53	0.00
1/4/2010	99.13	0.50	0.00	99.16	2.80	0.00	99.92	2.40	0.00	99.29	3.11	0.00	99.15	3.33	0.00
9/30/2010	96.83	2.80	0.00	96.85	5.11	0.00	97.21	5.11	0.00	96.87	5.53	0.00	96.82	5.66	0.00
12/23/2010	97.41	2.22	0.00	97.43	4.53	0.00	97.79	4.53	0.00	97.45	4.95	0.00	97.40	5.08	0.00
3/30/2011	98.81	0.82	0.00	98.75	3.21	0.00	98.86	3.46	0.00	98.85	3.55	0.00	98.72	3.76	0.00

WELL NO.	MW-11			MW-12			MW-13			MW-14			DW-1		
DIAMETER (inches)	2			2			2			2			2		
WELL DEPTH	13.95			14.12			13.97			10.12			28.21		
SCREEN INTERVAL	3.95-13.95			2.12-14.12			3.97-13.97			2.12-10.12			23.21-28.21		
TOC ELEVATION	102.82			102.72			102.68			99.58			102.44		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
9/19/2006	100.12	2.70	0.00	100.02	2.70	0.00	99.68	3.00	0.00	96.58	3.00	0.00	99.44	3.00	0.00
2/14/2007	99.28	3.54	0.00	99.12	3.60	0.00	99.03	3.65	0.00	95.68	3.90	0.00	98.54	3.90	0.00
1/4/2010	99.22	3.60	0.00	99.57	3.15	0.00	99.16	3.52	0.00	99.17	0.41	0.00	98.97	3.47	0.00
9/30/2010	97.10	5.72	0.00	97.14	5.58	0.00	96.86	5.82	0.00	96.85	2.73	0.00	96.89	5.55	0.00
12/23/2010	97.68	5.14	0.00	97.72	5.00	0.00	97.44	5.24	0.00	97.43	2.15	0.00	97.47	4.97	0.00
3/30/2011	98.83	3.99	0.00	98.87	3.85	0.00	98.81	3.87	0.00	98.47	1.11	0.00	97.63	4.81	0.00

ELEV = Elevation **FP = Free Product**

DTW = Depth to Water **TOC = Top Of Casing**

TABLE 3: HISTORICAL GROUNDWATER LABORATORY ANALYTICAL SUMMARY

Facility Name: NAS Pensacola - TACAN Building 1917 **FDEP Facility ID#: 17/8802359**

Sample Location	Date	Acenaphthene	Acenaphtylene	Anthracene	Benzo(a)-anthracene	Benzo(a)-pryene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pryene	1-Methyl-naphthalene	2-Methyl-naphthalene	Total Lead	TRPHs
Ch. 62-777, F.A.C., GCTL		20	210	2100	0.05		0.05	210	0.5	4.8	0.005	280	280	0.05	14	210	210	28	28	15	5000
MW-1	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	63 I
	11/07/08	0.017 U	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	31 U
	1/4/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.49 U	0.20 U	0.50 U	0.99 U	0.20 U	NA	110 I
MW-2	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	16	10 U	5.00 U	5500
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	5.06 I	0.053 U	0.137 U	0.636 I	0.373 U	0.102 U	0.0072 I	641.00
	11/07/08	0.055	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.110	0.0081 U	0.72	0.04	0.028	0.71	0.42	NA	36 U
	1/5/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	0.19 U
MW-3	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	5.06 I	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	4290
	11/07/08	0.05	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.04	0.0081 U	0.012 U	0.010 U	0.014 U	0.16	0.014 U	NA	36 U
	1/5/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	140
	9/30/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	41 U
	12/23/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	17 U
	3/30/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	0.19 U
MW-4	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.058	74 I
	11/06/08	0.017 U	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	34 U
	1/5/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	0.19 U
MW-5	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	70 I
	11/06/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	41 U
	1/4/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.49 U	0.20 U	0.49 U	0.98 U	0.20 U	NA	20 U
MW-6	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	1160
	11/06/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.52	0.010 U	0.014 U	0.81	0.014 U	NA	150
	1/4/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.74 I	0.20 U	0.49 U	0.98 U	0.33 I	NA	17 U
	9/30/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	39 I
	12/23/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	1300
	3/30/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	1900
MW-7	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.806	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	70 I
	11/06/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	34 U
	1/4/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.49 U	0.20 U	0.50 U	0.99 U	0.20 U	NA	0.19 U
MW-8	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	59 I
	11/06/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	34 U
	1/5/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	18 U
MW-9	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	6	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0036 I	77 I
	11/06/08	0.017 U	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	36 U
	1/4/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	130 I
MW-10	09/23/03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	5.00 U	100 U
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	75 I
	11/06/08	0.017 U	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.33	0.014 U	NA	34 U
	1/4/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	20 U
MW-11	09/19/06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	2.41	107
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	1.35	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.00861 I	128
	11/07/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	32 U
	1/5/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	16 U
MW-12	09/19/06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	1.4 I	78 I
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	65 I
	11/06/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	29 U
	1/5/2010	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49 U	0.19 U	0.49 U	0.97 U	0.19 U	NA	22 U
MW-13	09/19/06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	1.5 I	158
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	64 I
	11/07/08	0.017 U	0.0093 U	0.007 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	34 U
	1/4/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.20 U	0.49 U	0.99 U	0.20 U	NA	130
	9/30/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	40 U
	12/23/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	20 U
	3/30/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	21 U
MW-14	11/07/08	0.017 U	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.2	0.0081 U	0.29	0.24	0.090 U	1.4	1.4	NA	270
	1/4/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	26	0.20 U	0.014 U	15	10	NA	2300
	9/30/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.2	0.20 U	0.49 U	15	10	NA	170
	12/23/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	680
	3/30/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	730
DW-1	09/19/06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	10 U	1.8 I	274
	02/14/07	0.135 U	0.088 U	0.102 U	0.080 U	0.150 U	0.165 U	0.141 U	0.066 U	0.056 U	0.257 U	0.155 U	0.110 U	0.158 U	0.053 U	0.137 U	0.090 U	0.373 U	0.102 U	0.0013 U	103
	11/07/08	0.017 U	0.0093 U	0.0069 U	0.018 U	0.018 U	0.012 U	0.010 U	0.012 U	0.0084 U	0.014 U	0.017 U	0.018 U	0.0081 U	0.012 U	0.010 U	0.014 U	0.017 U	0.014 U	NA	36 U
	1/5/2010	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.49 U	0.20 U	0.49 U	0.98 U	0.20 U	NA	120

LEGEND:

NA = Not Analyzed
DRY = Dry Well
U= Below Detection Limit
PQL = Practical Quantitation Limit
Results in micrograms per liter (ug/L)

GCTL = Groundwater Cleanup Target Level
F.A.C. = Florida Administrative Code
MDL = Method Detection Limit
TRPH = Total Recoverable Petroleum Hydrocarbons

I = Result Between MDL and PQL
MTBE = Methyl-Tert-Butyl-Ether
EDB = EthylbiBromide

FIGURES

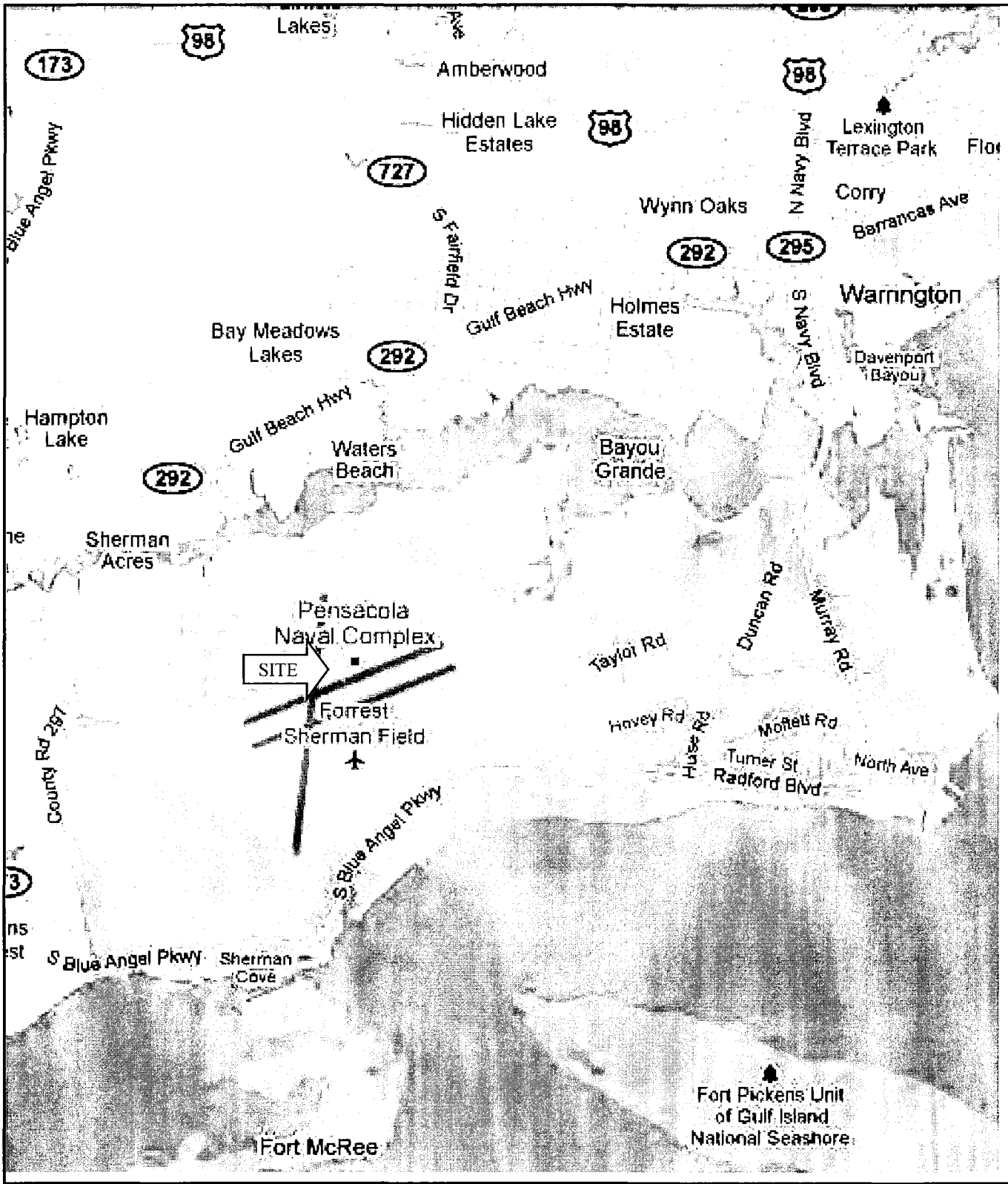


FIGURE 1 - SITE LOCATION MAP

AerostarSES LLC	TACAN BUILDING 1917 NAS PENSACOLA PENSACOLA, ESCAMBIA COUNTY, FLORIDA FDEP FACILITY ID# 17/9802359	DRAWN BY: SAD REFERENCE: MAP OF PENSACOLA, FLORIDA PREPARED BY: GOOGLE MAPS

LEGEND

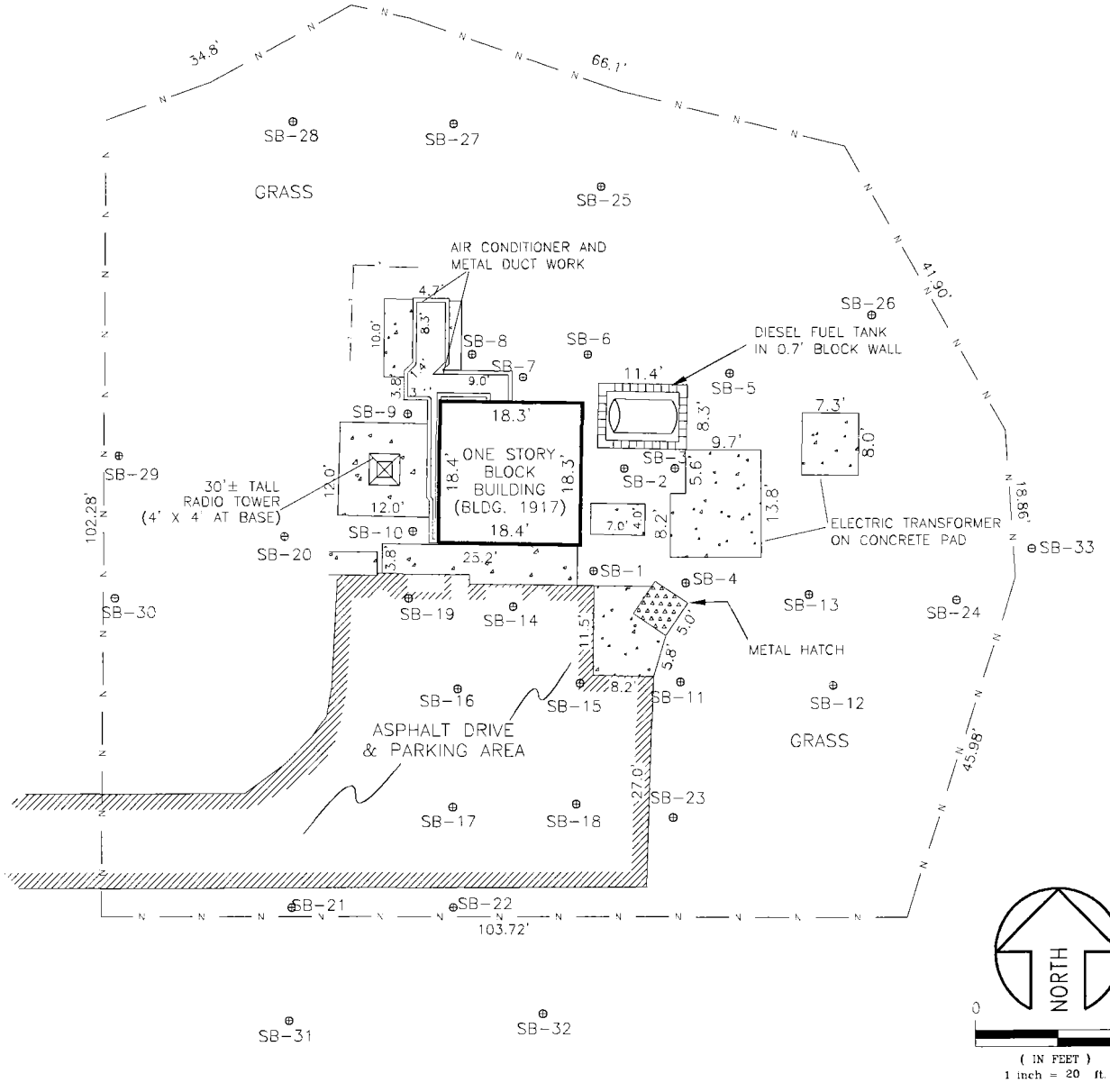
A.P.O. A PORTION OF....

8' CHAIN LINK SECURITY FENCE

6' WOODEN PRIVACY FENCE

CONCRETE

SB-12 SOIL BORING



JOB #: M3010.0125.0001.24

FIGURE 2 - HISTORICAL SOIL BORING LOCATIONS

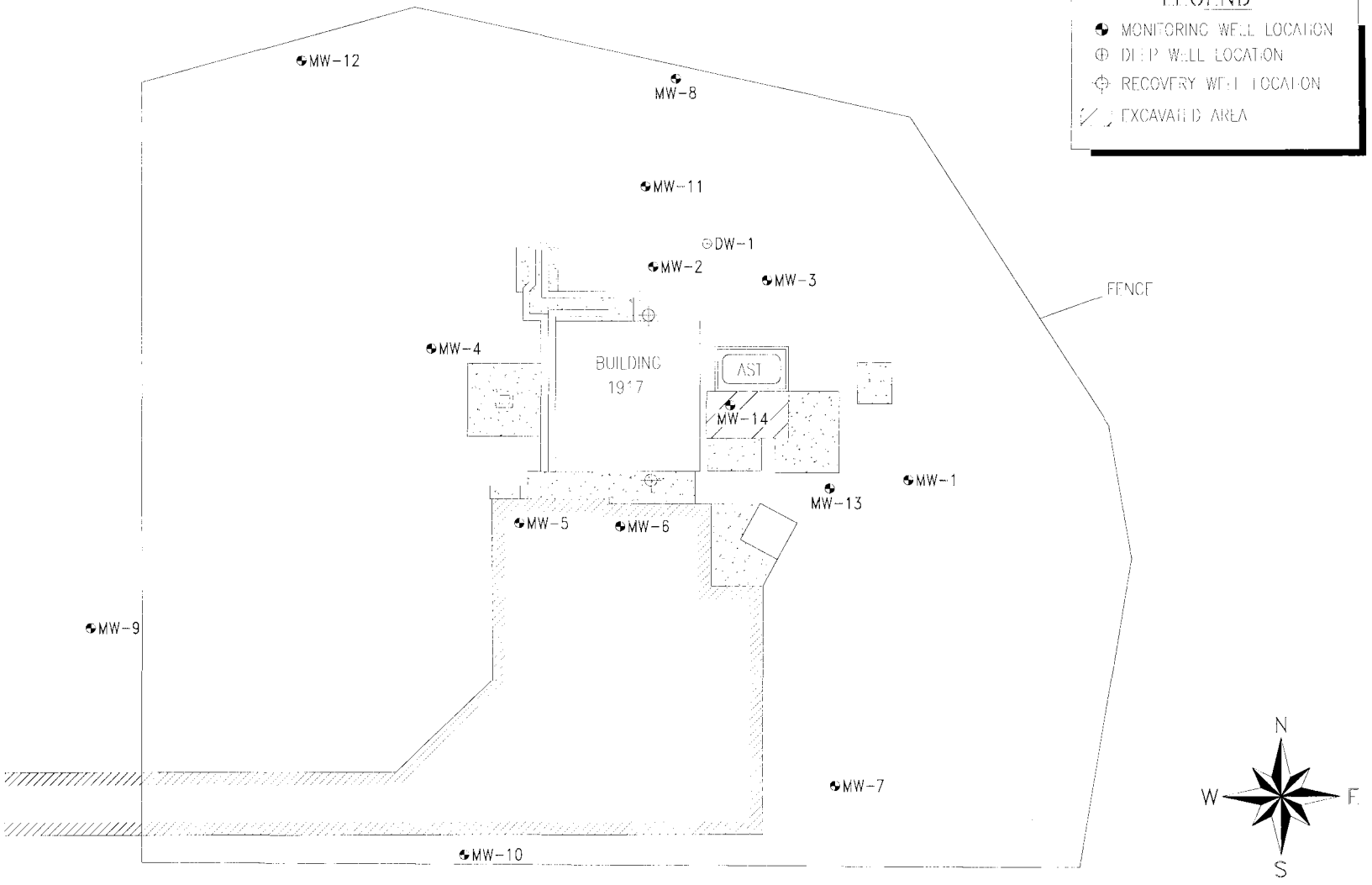
AerostarSES LLC

TACAN BUILDING 1917
NAS PENSACOLA
PENSACOLA, ESCAMBIA COUNTY, FLORIDA
FDEP FACILITY ID# 17/9802359

SCALE: 1" = 20'-0"

DATE: JANUARY 3, 2006

DRAWN BY: EE



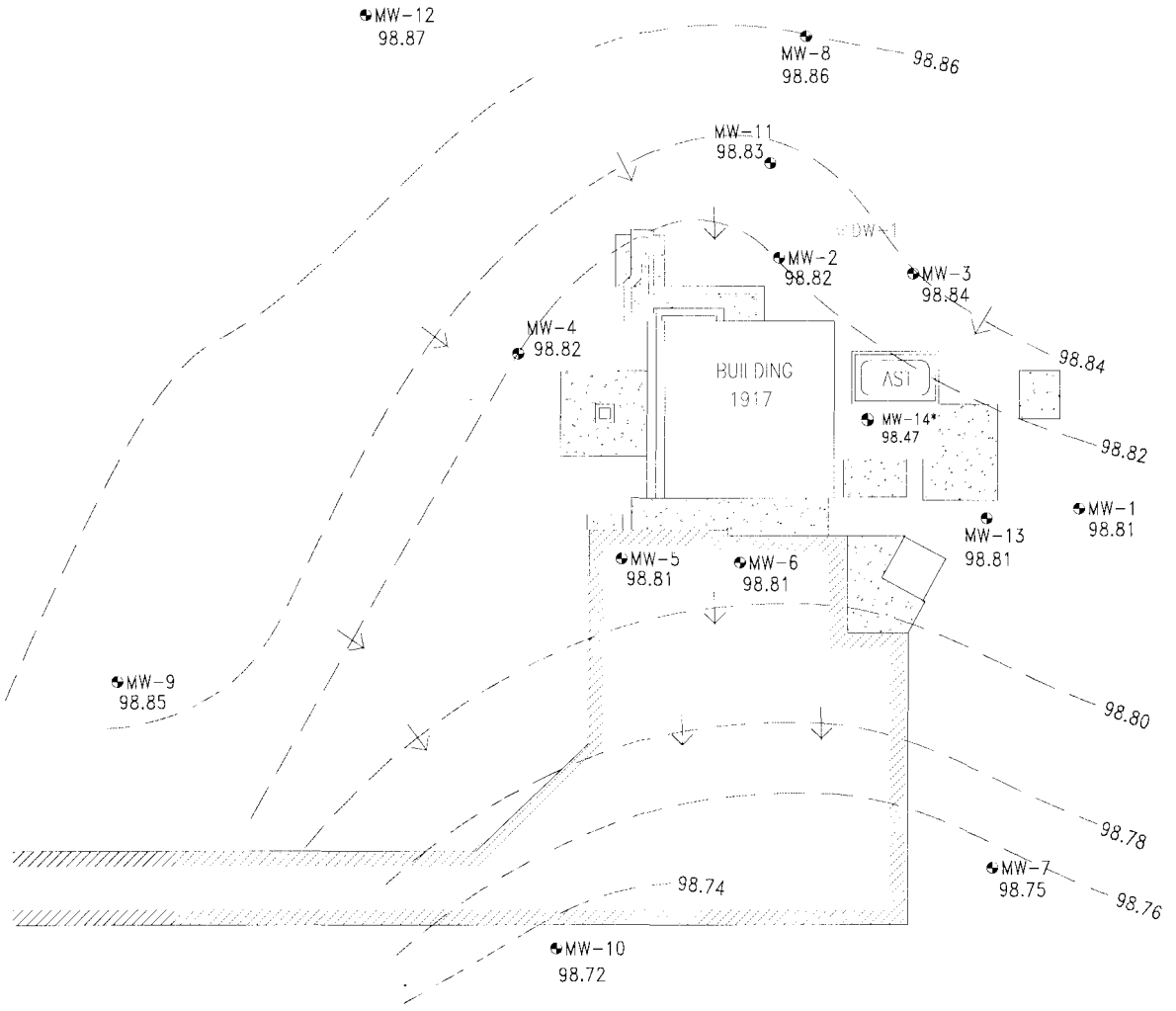
JOB # M3010.0125.0001.24

FIGURE 3 – SITE PLAN

AerostarSES LLC

TACAN BUILDING 1917
NAS PENSACOLA
PENSACOLA, ESCAMBIA COUNTY, FLORIDA
FDEP FACILITY ID# 17/9802359

SCALE: NOT TO SCALE
DATE: JULY 2013
DRAWN BY: P. FITCH



JOB # M3010.0125.0001.24

FIGURE 4 – GROUNDWATER ELEVATION MAP (MARCH 30, 2011)

AerostarSES LLC

TACAN BUILDING 1917
NAS PENSACOLA
PENSACOLA, ESCAMBIA COUNTY, FLORIDA
FDEP FACILITY ID# 17/9802359

SCALE: 1" = 20'-0"
DATE: JUNE 2011
DRAWN BY: DR

APPENDIX A

IAG Source Removal Report - 2008

INTERNATIONAL ANALYTICAL GROUP

SOURCE REMOVAL REPORT

TACAN Site (Building 1917)
Naval Air Station, Pensacola, Florida
FDEP Facility No. 17/9802359

Submitted to:

NAVFAC
Naval Facilities Engineering Command

Department of the Navy
Naval Facilities Engineering Command Southeast
Attention: Mark Scholl
PWD Pensacola
310 John Tower Road, BLDG. 3560
Naval Air Station
Pensacola, FL 32508-5304

Prepared by:

International Analytical Group, Inc.
In Association with JJSA, Inc.
5555 Hollywood Boulevard, Suite 301
Hollywood, Florida 33021

January 18, 2008

PROFESSIONAL ENGINEER CERTIFICATION

Re: Source Removal Report
TACAN Site (Building 1917)
Naval Air Station, Pensacola, Florida
FDEP Facility No. 17/9802359

I hereby certify that this document was prepared under my direct supervision. The geological information included in this report is true and correct to the best of my knowledge and belief.

1-22-08

José J. Sosa, P.E.
License No. 41347

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1.0 INTRODUCTION

International Analytical Group, Inc. (IAG) was contracted by the Naval Air Station Pensacola (NASP) to conduct source removal activities and groundwater sampling in accordance with the Limited Remedial Action Plan (LRAP) that was approved by the Florida Department of Environmental Protection (FDEP) for the TACAN Site. The LRAP proposed to conduct source removal activities and post-remediation groundwater sampling. This report documents the removal of hydrocarbon-impacted soil, backfill of the excavation, well abandonment, and monitoring well installation activities. The Source Removal Report (SRR) has been completed in accordance with Chapter 62-770.300, Florida Administrative Code (FAC) requirements.

Prior to the commencement of field activities, IAG prepared a Site-Specific OSHA Health and Safety Plan in accordance with 29 CFR 1910.120 and submitted it to the Contracting Officer for review and approval. In addition, IAG obtained an excavation permit from Naval Air Station Pensacola prior to commencing excavation activities.

2.0 SITE DESCRIPTION

Sections 2.1 through 2.2 present background information that was utilized to lend perspective to the interpretation of source removal activities.

2.1 Site Description and Configuration

The TACAN Site is located next to the Forrest Sherman Field at the Naval Air Station Pensacola (NASP), on the western side of Pensacola Bay in Escambia County, Florida. The general topography of the area is relatively flat exhibiting subtle changes in relief.

The site consists of a single story building, a 560-gallon diesel aboveground storage tank (AST) in secondary containment located adjacent to the northeast corner of the building.

An electrical transformer and underground electrical substation manhole are located adjacent to the east side of the building for supplying electrical power to the building. A 30 foot tall radar tower is located adjacent to the west side of the building. An air conditioning unit is located to the northwest corner of the building, and an asphalt driveway is located to the south of the building. Building 1917 is surrounded by a security fence and locking gate. **Figure 1** illustrates the site layout. All figures are located in **Appendix A.**

2.2 Site History

Building 1917 was constructed in 1957. According to information presented in the Limited Scope Remedial Action Plan prepared by Aerostar Environmental Services, Inc. (AEROSTAR) in March 2007, the AST presently at the site was installed in 1987. The emergency generator, located on the easternmost room of the building is equipped with a day tank which receives fuel from the AST and then supplies fuel to the emergency generator. Diesel fuel was found inside the generator room and outside the building to the south-southeast during a routine maintenance inspection of the generator on October 29, 2002. The actual date, cause and quantity of diesel fuel released to the environment are unknown. The suspected cause of the spill was thought to be an overflow of diesel fuel from the day tank located inside the building.

Barcor Enterprises (BARCOR) excavated approximately thirty eight tons of contaminated soil in February 2003. A source removal report was submitted to the FDEP in March 2003. NASP Environmental Department contracted AEROSTAR to conduct soil and groundwater assessment activities at the site and subsequently to prepare a Site Assessment Report (SAR) for the facility. A SAR Addendum report including field and laboratory findings of all work conducted at the site between 2003 and 2006 was delivered to NASP in November 2006 and approved by the FDEP in January 2007. AEROSTAR submitted an LRAP to NASP in March 2007 recommending supplemental soil and groundwater sampling and analysis and source removal of the contaminated soils. NASP contracted International Analytical Group, Inc. (IAG) in August 2007 to perform soil removal activities in an area approximately twelve feet by six feet located to

the east of Building 1917 (see **Figure 2**) abandon recovery well RW-1, install a new monitoring well, prepare a SRR, and conduct groundwater sampling following approval of the SRR.

3.0 SOURCE REMOVAL

Sections 3.1 through 3.5 present activities conducted as part of the source removal. Field work activities were performed under the direct supervision of Mr. José J. Sosa, a professional engineer in the State of Florida (License No. 41347) of J.J.Sosa and Associates, Inc. (JJSA), a subcontractor of IAG.

3.1 Excavation

Prior to excavation activities, IAG obtained an approved dig permit from Naval Air Station Pensacola. The permit specified that the excavation would be done by hand, due to the presence of underground utility lines in the area

On November 13, 2007 IAG and JJSA initiated excavation activities at the site. Contaminated soil was placed in a roll-off container brought to the site. Field personnel screened soils in the excavation for volatile organic compounds with a calibrated Organic Vapor Analyzer (OVA). Soils were screened at two foot intervals from all four walls of the excavation. Ground water was encountered at approximately 3.25 feet below land surface (bls) so the last samples were taken at approximately three feet bls. OVA readings from the walls of the excavation indicated petroleum contaminated soils extended beyond the area of the excavation, especially to the north and west, below the diesel AST and building 1917, respectively. **Table 1** summarizes OVA readings. All tables are located in **Appendix B**.

During excavation activities it was noticed that the north and west walls of the excavation were collapsing due to the high water table. Excavation activities were halted and the NASP project manager, Mr. Mark Scholl, was contacted. Mr. Scholl and Mr. Greg

Campbell, environmental engineer of NASP, inspected the site and instructed IAG to stop excavation activities, collect necessary samples, backfill the excavation, and proceed with the well abandonment and well installation activities. The final dimensions of the excavation were approximately eight feet long by four and one half feet wide and three and one half feet deep. IAG reinforced the north and west walls of the excavation with sand bags and secured the area by installing construction fencing and caution tape around the excavation before the end of the day. Photographs of the excavation are included as **Appendix C**.

3.2 Collection of Soil Samples

IAG and JJSA personnel collected soil samples from the four walls of the excavation from the vadose zone just about the soil/water interface for laboratory analysis. It was not possible to collect a soil sample from the bottom of the excavation due to the presence of ground water. The soil samples were submitted to Testamerica Pensacola (formerly STL Pensacola), a NELAC certified laboratory, for analyses of benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl-tert-butyl ether (MTBE) per EPA Test Method 8260, polynuclear aromatic hydrocarbons (PAHs) per EPA Test Method 8270, and total recoverable petroleum hydrocarbons (TRPH) per FDEP Method FL-PRO. **Tables 2** and **3** compare BTEX and FL-PRO, and PAH results, respectively, to Soil Cleanup Target Levels (SCTLs) for leachability based on groundwater criteria as stated in Table II, Chapter 62-777, FAC. Laboratory analytical results indicate the presence of petroleum range hydrocarbons, specifically, diesel range petroleum hydrocarbons, in all four walls of the excavation at concentrations that exceed the SCTLs. Benzene and total xylenes concentrations at the north wall, south wall, and west wall exceeded the SCTLs. Ethylbenzene concentrations at the south wall and west wall exceeded the SCTLs. PAH concentrations were below the respective SCTLs except for 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene at the north and east walls. **Figure 2** illustrates petroleum hydrocarbon contamination concentrations in the excavation. Copies of the laboratory analytical reports are included as **Appendix D.**

A composite soil sample was collected from the excavated soil for analysis of disposal parameters required by the landfill (full TCLP) and taken to TestAmcrica Pensacola for analysis.

3.3 Backfill of Excavation

On November 14, 2007, IAG personnel inspected the excavation before proceeding with backfilling activities. IAG's subcontractor, TAT Enterprises, provided approximately twenty cubic yards of clean fill dirt to backfill the excavation. The clean fill was placed in the excavation and compacted in one foot lifts. The area was seeded with Bahia grass and fertilized. IAG collected a sample of the clean fill dirt for analysis of BTEX, PAHs and FL-PRO. The sample was taken to TestAmerica Pensacola for analysis. A copy of the laboratory analytical results is included in **Appendix D**.

3.4 Monitoring Well Abandonment and Installation

IAG's subcontractor, Enviro Pro-Tech (EPT), a State-certified drilling contractor, was scheduled to abandon recovery well RW-1 at the site, in accordance with the requirements established in Chapter 40C-3, FAC. Documentation on the recovery well indicated the well was four inches in diameter and was seven feet deep. During excavation activities the well was loosened so on November 14, 2007, EPT personnel removed the entire well pipe by hand. A replacement monitoring well (MW-14) was installed in the vicinity of the old well on the same day. **Figure 3** illustrates the location of monitoring well MW-14. The monitoring well was installed by hand (hand bailing) to a total depth of eleven feet below grade. The well was constructed of two-inch diameter Schedule 40 PVC casing with ten foot of 0.010 slotted screen interval and a one foot solid PVC riser. The borehole annulus was backfilled with clean 6/20 filter pack silica sand and capped with bentonite to one foot above the well screen. A grout material was placed above the bentonite seal, within the remaining well annulus, to approximately one foot below surface grade. Copies of the Well Completion Reports are included as **Appendix E**.

During installation of the monitoring well, IAG personnel collected a soil sample from a depth of approximately eight and a half feet bls for analysis of BTEX, PAHs, and FL-PRO. The analytical results indicate concentrations of FL-PRO above SCTLs.

3.5 Disposal of Contaminated Soil

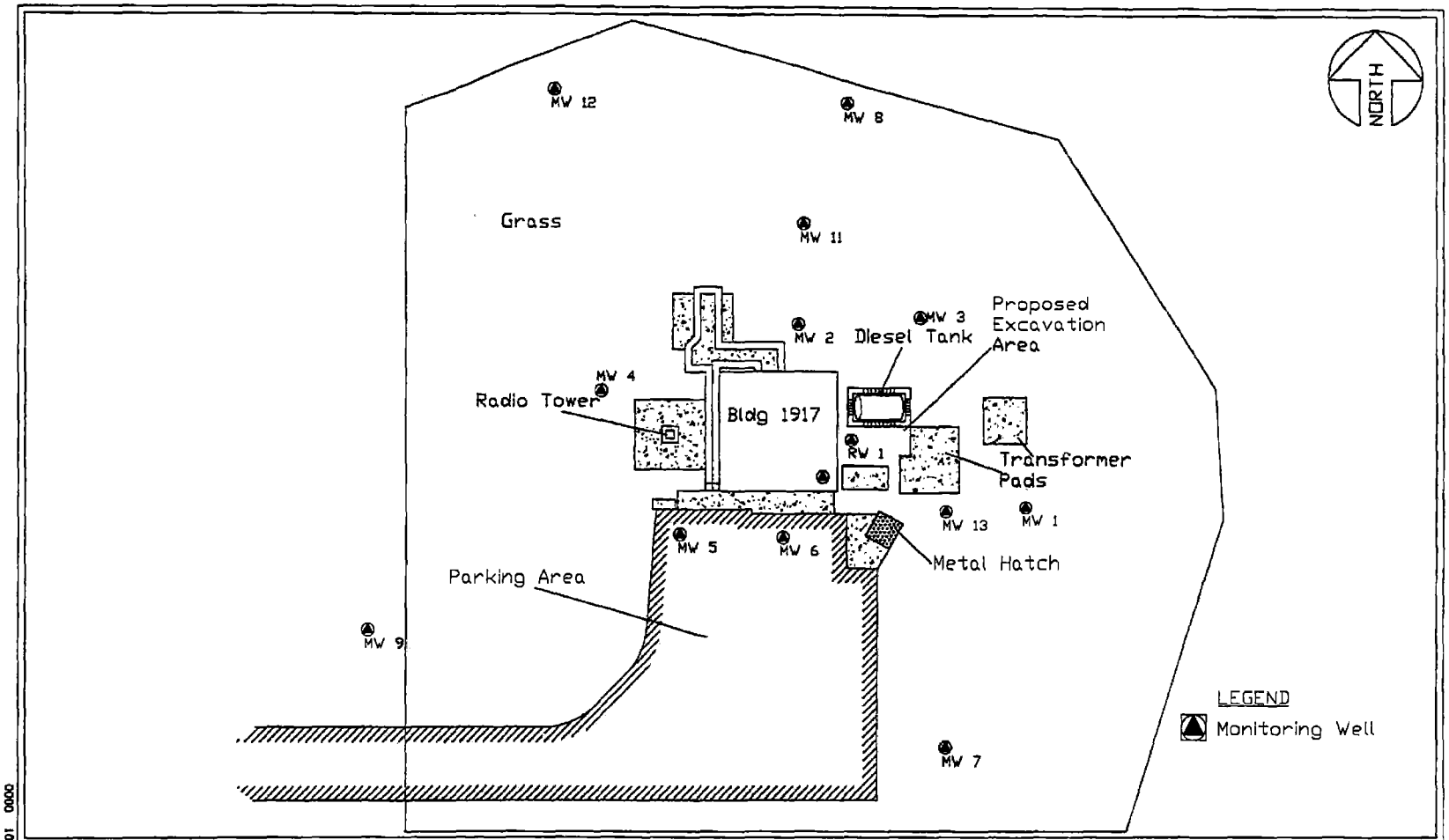
IAG submitted a Waste Characterization Form together with analytical results to the Perdido Landfill, a State permitted facility approved for the disposal of petroleum contaminated soil. On November 26 and November 27, TAT Enterprises transported approximately fifteen tons of petroleum contaminated soil to the Perdido landfill for disposal. Copies of the Waste Characterization Form, analytical results, and waste disposal manifests are included as **Appendix F.**

4.0 RECOMMENDATIONS

Based on the results of the SAR and SAR Addendum prepared by AEROSTAR in 2005 and 2006 (approved by the FDEP in January 2007), soil contamination at the site is limited to a small area. IAG recommends a Remedial Action Plan Addendum be prepared to investigate alternative remediation technologies including use of risk assessment to remediate or monitor the soil contamination and any groundwater contamination at the site. In addition, IAG recommends collection of groundwater samples from all monitoring wells on-site for analysis of BTEX, PAH, and FL-PRO, to establish current levels of groundwater quality at the site.

APPENDIX A

Figures



PLOTTED: 00 JAN 01 0000

Fig. 1

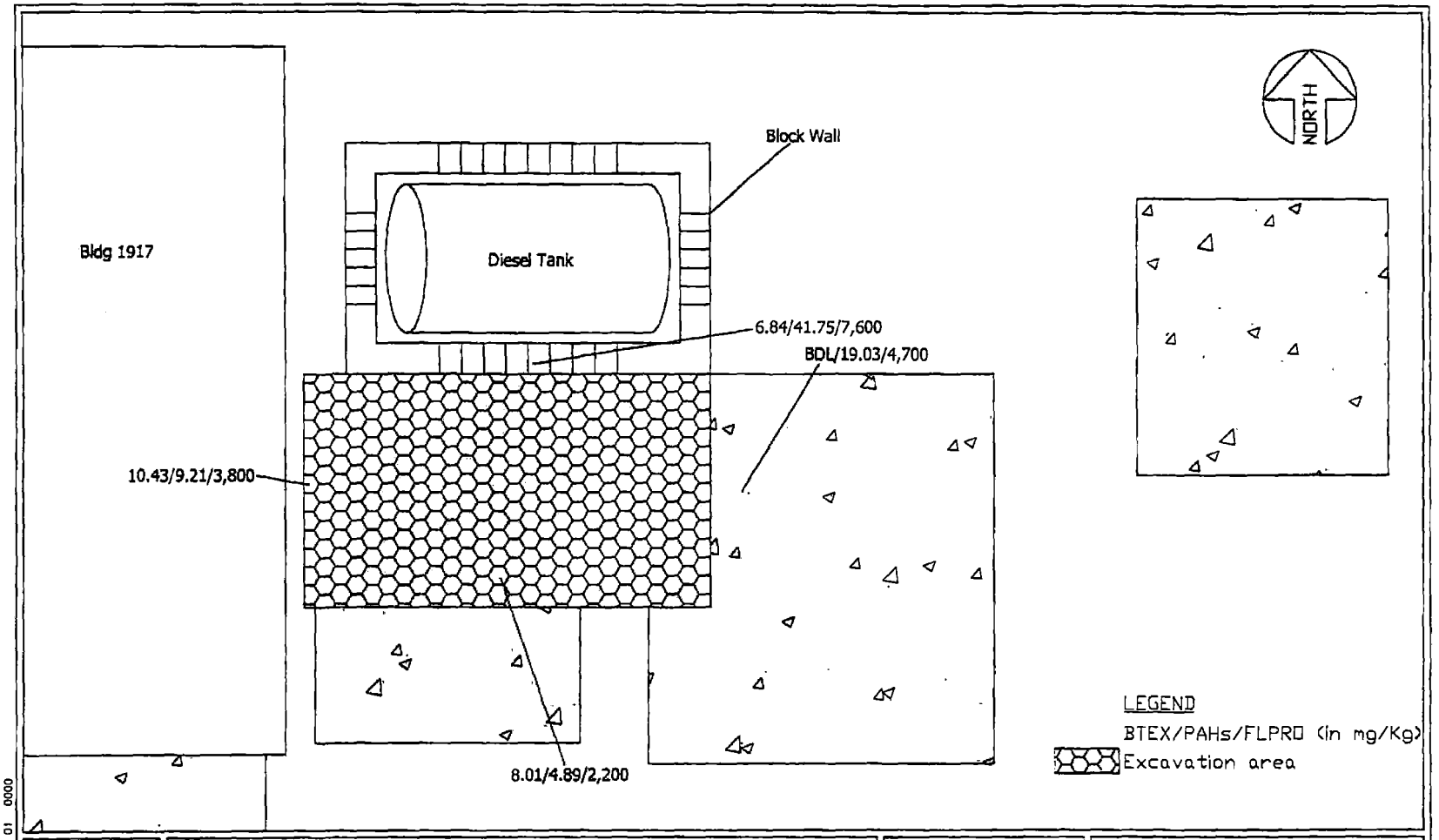
Sheet 00 of 000.

Site Layout Plan
TACAN Site
NAS Pensacola

JJSA, 2001

Scale:	No Scale
Date:	
Project No.:	
Drawn By:	A. Howard
Checked By:	X. Xxxxxx
Approved By:	X. Xxxxxx
Filename:	short.dwg

J. J. SOSA & ASSOCIATES, INC.
Engineers & Contractors



PLOTTED: 00 JAN 01 0000

Fig. 2

Sheet 00 of 000.

Detail of Excavation Area
TACAN Site
NAS Pensacola
LINE 4

JJSA_2001

Scale:
Date:
Project No.:
Drawn By: A. Howard
Checked By: X. Xxxxx
Approved By: X. Xxxxx
Filename: short.dwg

J.J.SOSA & ASSOCIATES, INC.
Engineers & Contractors

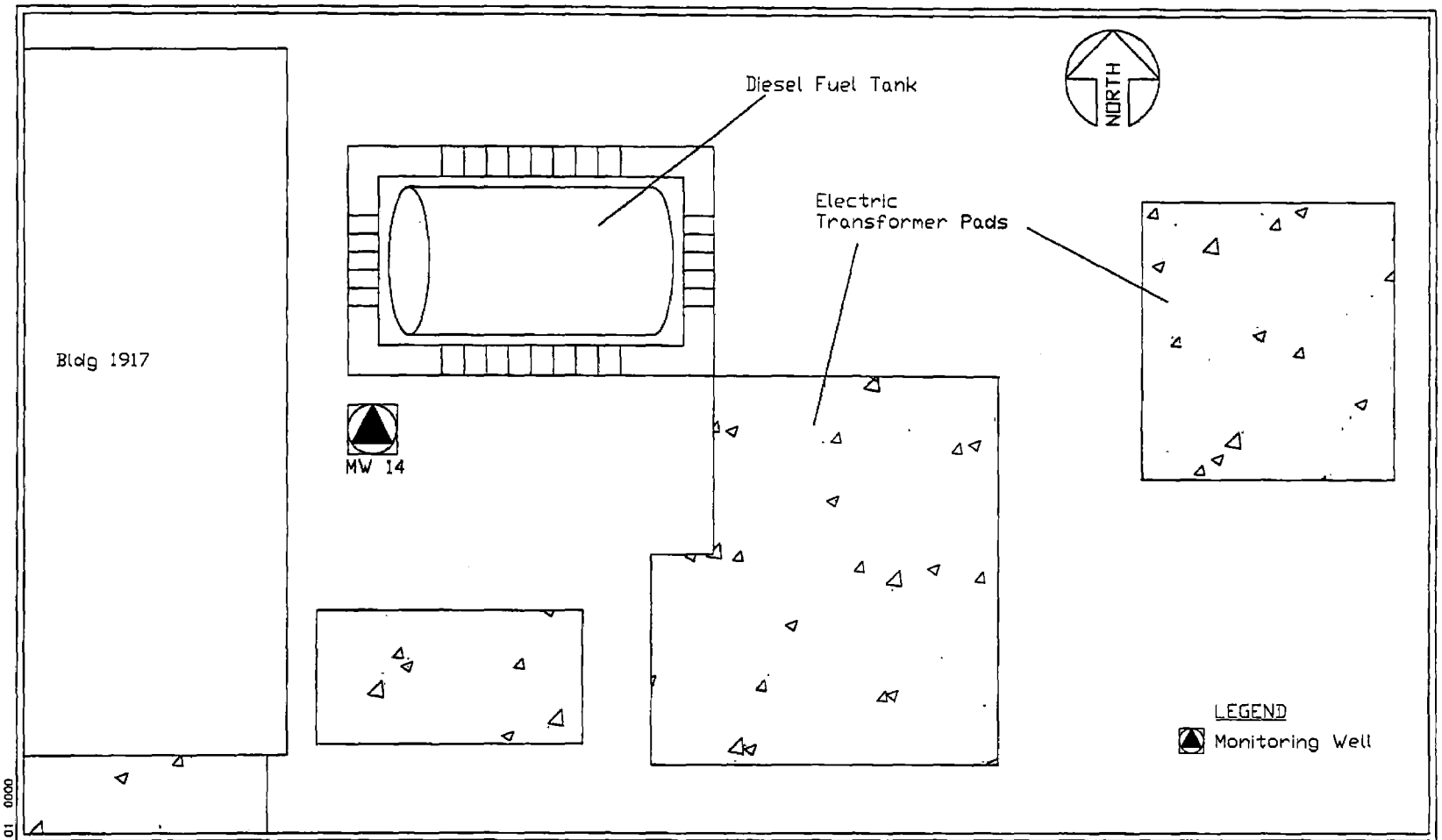


Fig. 3

Sheet 00 of 000.

Location of Monitoring Well
TACAN Site
NAS Pensacola

JJSA, 2001

Scale:	No Scale
Date:	
Project No.:	
Drawn By:	A. Howard
Checked By:	X. Xxxxx
Approved By:	X. Xxxxx
Filename:	short.dwg

J.J.SOSA & ASSOCIATES, INC.
Engineers & Contractors

PLOTTED: 00 JAN 01 0000

APPENDIX B

Tables

Table 1
Summary of OVA Readings
TACAN Site
NAS Pensacola

Sample ID	Depth (feet)	OVA (ppm)
North Wall	2	30
	3	105
East Wall	2	98
	3	45
South Wall	2	29
	3	70
West Wall	2	300
	3	100

Table 2
Summary of Soil Quality Results

TACAN Site
NAS Pensacola
November 13, 2007

ID	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	FL-PRO (mg/kg)
North Wall	**0.019**	0.039	0.48	**6.3**	<0.049	**7600**
East Wall	<0.0088	<0.033	<0.027	<0.10	<0.049	**4700**
South Wall	**0.022**	0.18	**0.81**	**7**	<0.041	**2200**
West Wall	**0.077**	0.056	**2.1**	**8.2**	<0.047	**3800**
SCTL's	0.007	0.50	0.60	0.20	0.09	340

(mg/kg) = parts per million
SCTL's = Soil Cleanup Target Levels, Leachability based on Groundwater Criteria (from Table II, FAC 62-777)
Note: PAH compounds listed separately

Table 3
Polynuclear Aromatic Hydrocarbon Results

Confirmatory Soil Sample Results
TACAN Site
NAS Pensacola
November 13, 2007

PAH Compound	North Wall (mg/kg)	East Wall (mg/Kg)	South Wall (mg/Kg)	West Wall (mg/Kg)	SCTL (mg/kg)
Acenaphthene	0.9	0.63	<0.18	0.23	2.10
Acenaphthylene	<0.079	<0.079	<0.18	<0.037	27
Anthracene	<0.079	<0.079	<0.18	<0.037	2500
Benzo(a)anthracene	<0.079	<0.079	<0.18	<0.037	0.80
Benzo(a)pyrene	<0.079	<0.079	<0.18	<0.037	8
Benzo(b)flouranthene	<0.079	<0.079	<0.18	<0.037	2.40
Benzo(g,h,i)perylene	<0.079	<0.079	<0.18	<0.037	32000
Benzo(k)fluoranthene	<0.079	<0.079	<0.18	<0.037	24
Chrysene	0.12	<0.079	<0.18	<0.037	77
1-Methylnaphthalene	**12.0**	**5.1**	1.4	2.7	3.10
Dibenzo(a,h)anthracene	<0.079	<0.079	<0.18	<0.037	0.70
Flouranthene	0.25	<0.079	<0.18	0.0430	1200
Flourene	2.2	2.2	0.4	0.46	160
Indeno(1,2,3-cd)pyrene	<0.079	<0.079	<0.18	<0.037	6.60
2-Methylnaphthalene	**17.0**	5.8	2.0	3.7	8.50
Naphthalene	**3.4**	**1.3**	0.31	0.74	1.20
Phenantrene	4.5	2.8	0.59	1.1	250
Pyrene	1.3	1.2	0.24	0.24	880

PAHs = polynuclear aromatic hydrocarbons
SCTL's = Soil Cleanup Target Levels, Leachability based on Groundwater Criteria
(from Table II, FAC 62-777)
mg/Kg - parts per million

APPENDIX C

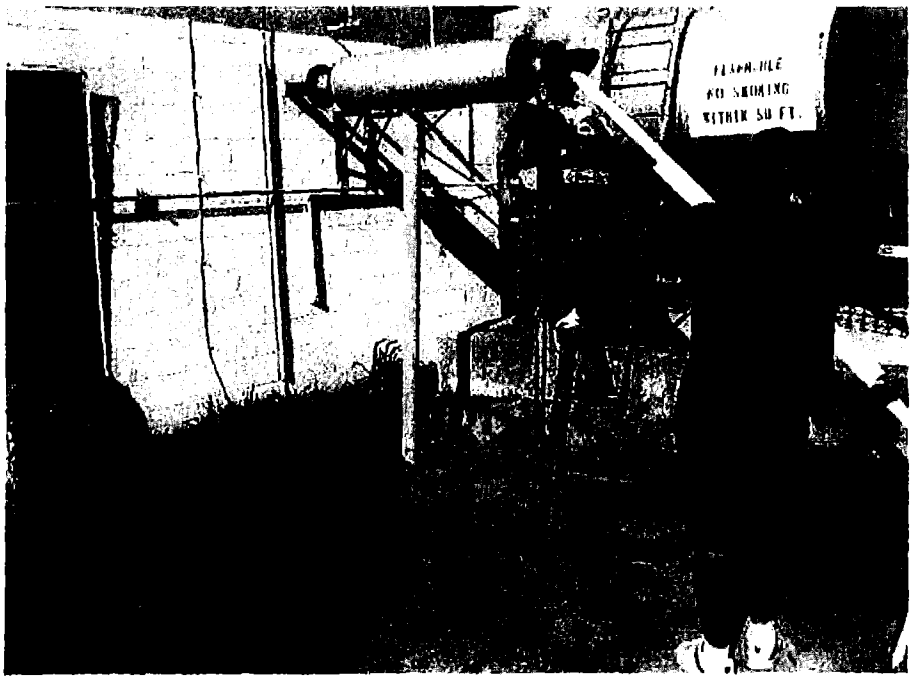
Photographs

1. View of the area to be excavated.

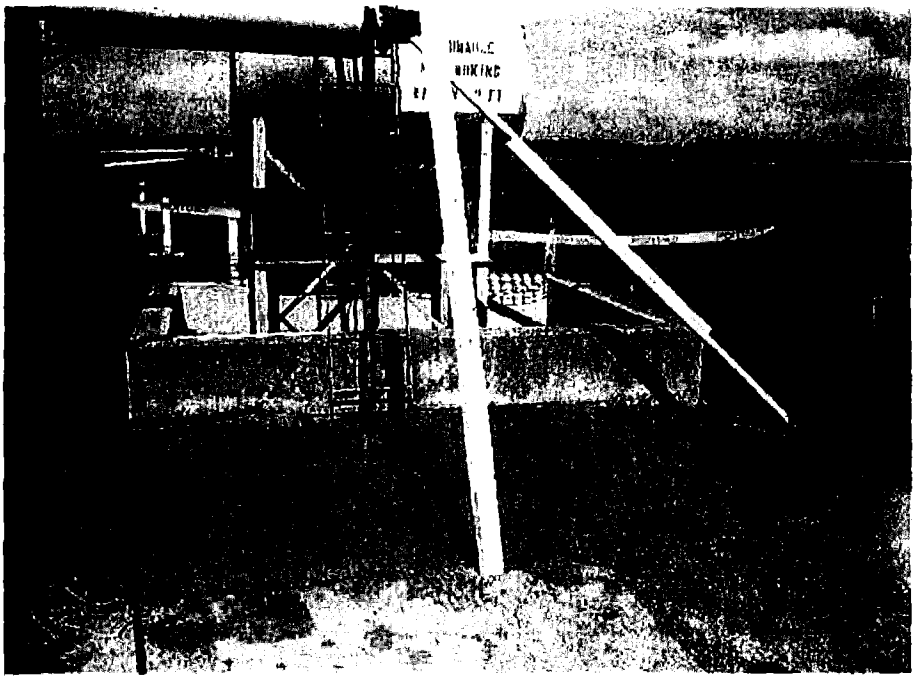
2. View of the excavation with recovery well in background

3. View of north wall of excavation with cave-in and groundwater

4. Extent of final excavation



5. Excavation partially backfilled with supports for exhaust



6. Backfilled Excavation

APPENDIX D

Laboratory Analytical Results and Chain of Custody Forms

INTERNATIONAL ANALYTICAL GROUP

REVIEW OF ANALYTICAL REPORT

JOB NUMBER: 400-26305-2
TACAN 54007NAE-SR

International Analytical Group, Inc. (IAG) has conducted an independent, third party review of the above referenced analytical report. The samples were analyzed by Test America Pensacola (formerly STL Pensacola), a NELAC certified laboratory in Pensacola, Florida.

If you have any questions regarding this analytical report, please contact Maria Jackson at mariaiag@bellsouth.net or (954) 894-4023.

5555 HOLLYWOOD BLVD, SUITE 301 HOLLYWOOD, FL 33021

ANALYTICAL REPORT

Job Number: 400-26305-2

Job Description: Tacan 54007NAE-SR

For:
J.J. Sosa & Associates Inc
6911 Pistol Range Rd
Suite 101A
Tampa, FL 33635-9613

Attention: Bryan Harper

Marty Edwards
Project Manager I
marty.edwards@testamericainc.com
11/21/2007

The test results in this report meet all NELAP requirements for accredited parameters and relate only to the referenced samples. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Pensacola Certifications and Approvals: Alabama (#40150), Arizona (#AZ0589), Arkansas (#88-0689), California (#2510), Florida (#E81010), Florida CQAP (#980156), Illinois (#200041), Iowa (#367), Kansas (#E10253), Kentucky UST (#0053), Louisiana (#30748), Maryland (#233), Massachusetts (#M-FL094), Michigan (#9912), New Hampshire (#250502), New Jersey (#FL006), North Carolina (#314), North Dakota (#R-108), Oklahoma (#9810), Pennsylvania (#68-467), South Carolina (#96026), Tennessee (#02907), Virginia (#00008), West Virginia (#136), USDA Foreign Soil Permit (#S-37599).

Job Narrative
400-J26305-2

Comments
No additional comments.

Receipt
All samples were received in good condition with a temperature of 29°C.

GC/MS VOA
Method(s) 8260B: The following sample(s) was diluted due to the abundance of non-target analytes: EAST WALL (400-26305-3). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Volatile Organic Compounds by GC/MS	TAL PEN	SW846 8260B	
Closed System Purge & Trap/Field Preservation	TAL PEN		SW846 5035
PAH	TAL PEN	SW846 8270C	
Ultrasonic Extraction	TAL PEN		SW846 3550B
Florida Method for Determination of Petroleum Range Organics by GC/FID	TAL PEN	FL-DEP FL-PRO	
Ultrasonic Extraction	TAL PEN		SW846 3550B

Lab References:

TAL PEN = TestAmerica Pensacola

Method References:

FL-DEP = State Of Florida Department Of Environmental Protection, Florida Administrative Code.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Method	Analyst	Analyst ID
SW846 8260B	Summers, Heather	HS
SW846 8270C	Wingo, Rita	RW
FL-DEP FL-PRO	Ayers, Kim	KA
EPA PercentMoisture	Meade, John	JM

SAMPLE SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
400-26305-2	NORTH WALL	Solid	11/13/2007 1500	11/13/2007 1750
400-26305-3	EAST WALL	Solid	11/13/2007 1505	11/13/2007 1750
400-26305-4	SOUTH WALL	Solid	11/13/2007 1510	11/13/2007 1750
400-26305-5	WEST WALL	Solid	11/13/2007 1515	11/13/2007 1750

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: **NORTH WALL**

Lab Sample ID: 400-26305-2
Client Matrix: Solid
% Moisture: 18.0
Date Sampled: 11/13/2007 1500
Date Received: 11/13/2007 1750

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035
Dilution: 50
Date Analyzed: 11/20/2007 0049
Date Prepared: 11/19/2007 0800
Analysis Batch: 400-59466
Prep Batch: 400-59467
Instrument ID: GC/MS
Lab File ID: 26305A2.D
Initial Weight/Volume: 6.26 g
Final Weight/Volume: 5.0 g

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Benzene		0.019	I	0.0088	0.24
Methyl tert-butyl ether		0.049	U	0.049	0.24
Ethylbenzene		0.48		0.026	0.24
Toluene		0.039	I	0.033	0.24
Xylenes, Total		6.3		0.10	0.49

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	116	41 - 155
Dibromofluoromethane	97	83 - 118
Toluene-d8 (Surr)	102	87 - 115

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: **EAST WALL**

Lab Sample ID: 400-26305-3
Client Matrix: Solid
% Moisture: 17.5
Date Sampled: 11/13/2007 1505
Date Received: 11/13/2007 1750

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035
Dilution: 50
Date Analyzed: 11/20/2007 0108
Date Prepared: 11/19/2007 0800
Analysis Batch: 400-59466
Prep Batch: 400-59467
Instrument ID: GC/MS
Lab File ID: 26305A3.D
Initial Weight/Volume: 6.16 g
Final Weight/Volume: 5.0 g

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Benzene		0.0088	U	0.0088	0.25
Methyl tert-butyl ether		0.049	U	0.049	0.25
Ethylbenzene		0.027	U	0.027	0.25
Toluene		0.033	U	0.033	0.25
Xylenes, Total		0.10	U	0.10	0.49

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	100	41 - 155
Dibromofluoromethane	95	83 - 118
Toluene-d8 (Surr)	100	87 - 115

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: **SOUTH WALL**

Lab Sample ID: 400-26305-4
Client Matrix: Solid
% Moisture: 9.6
Date Sampled: 11/13/2007 1510
Date Received: 11/13/2007 1750

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5035
Dilution: 50
Date Analyzed: 11/20/2007 0127
Date Prepared: 11/19/2007 0800
Analysis Batch: 400-59466
Prep Batch: 400-59467
Instrument ID: GC/MS
Lab File ID: 26305A4.D
Initial Weight/Volume: 6.79 g
Final Weight/Volume: 5.0 g

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Benzene		0.022	I	0.0073	0.20
Methyl tert-butyl ether		0.041	U	0.041	0.20
Ethylbenzene		0.81		0.022	0.20
Toluene		0.18	I	0.028	0.20
Xylenes, Total		7.0		0.086	0.41

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	110	41 - 155
Dibromofluoromethane	90	83 - 118
Toluene-d8 (Surr)	102	87 - 115

Client: J.J. Sosa & Associates Inc | Job Number: 400-26305-2

Client Sample ID: **WEST WALL**

Lab Sample ID:	400-26305-5			Date Sampled:	11/13/2007 1515
Client Matrix:	Solid	% Moisture:	9.8	Date Received:	11/13/2007 1750

8260B Volatile Organic Compounds by GC/MS

Method:	8260B	Analysis Batch: 400-59466		Instrument ID:	GC/MS
Preparation:	5035	Prep Batch: 400-59467		Lab File ID:	26305A5.D
Dilution:	50			Initial Weight/Volume:	5.91 g
Date Analyzed:	11/20/2007 0147			Final Weight/Volume:	5.0 g
Date Prepared:	11/19/2007 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Benzene		0.077	I	0.0084	0.23
Methyl tert-butyl ether		0.047	U	0.047	0.23
Ethylbenzene		2.1		0.025	0.23
Toluene		0.056	I	0.032	0.23
Xylenes, Total		8.2		0.099	0.47

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	121	41 - 155
Dibromofluoromethane	98	83 - 118
Toluene-d8 (Surr)	106	87 - 115

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: **NORTH WALL**

Lab Sample ID: 400-26305-2
Client Matrix: Solid

% Moisture: 18.0

Date Sampled: 11/13/2007 1500
Date Received: 11/13/2007 1750

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 2.0
Date Analyzed: 11/17/2007 0410
Date Prepared: 11/14/2007 1455

Analysis Batch: 400-59387
Prep Batch: 400-59165

Instrument ID: GC/MSD
Lab File ID: 26305F2X.D
Initial Weight/Volume: 30.39 g
Final Weight/Volume: 1.0 mL
Injection Volume:

Analyte	DryWt Corrected: Y Result (mg/Kg)	Qualifier	MDL	PQL
Acenaphthene	0.90		0.079	0.79
Acenaphthylene	0.079	U	0.079	0.79
Anthracene	0.079	U	0.079	0.79
Benzo[a]anthracene	0.079	U	0.079	0.79
Benzo[a]pyrene	0.079	U	0.079	0.79
Benzo[b]fluoranthene	0.079	U	0.079	0.79
Benzo[g,h,i]perylene	0.079	U	0.079	0.79
Benzo[k]fluoranthene	0.079	U	0.079	0.79
Chrysene	0.12	I	0.079	0.79
Dibenz(a,h)anthracene	0.079	U	0.079	0.79
Fluoranthene	0.25	I	0.079	0.79
Fluorene	2.2		0.079	0.79
Indeno[1,2,3-cd]pyrene	0.079	U	0.079	0.79
Naphthalene	3.4		0.079	0.79
Phenanthrene	4.5		0.079	0.79
Pyrene	1.3		0.079	0.79
1-Methylnaphthalene	12		0.079	0.79

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	61	41 - 94
Nitrobenzene-d5	69	22 - 94
Terphenyl-d14	79	53 - 96

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: NORTH WALL

Lab Sample ID: 400-26305-2
Client Matrix: Solid
% Moisture: 18.0
Date Sampled: 11/13/2007 1500
Date Received: 11/13/2007 1750

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 11/19/2007 1531
Date Prepared: 11/14/2007 1455
Analysis Batch: 400-59387
Prep Batch: 400-59165
Instrument ID: GC/MSD
Lab File ID: 26305F2Y.D
Initial Weight/Volume: 30.39 g
Final Weight/Volume: 1.0 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
2-Methylnaphthalene		17		0.20	2.0

Client: J.J. Sosa & Associates Inc | Job Number: 400-26305-2

Client Sample ID: **EAST WALL**

Lab Sample ID: 400-26305-3 | Date Sampled: 11/13/2007 1505
Client Matrix: Solid | % Moisture: 17.5 | Date Received: 11/13/2007 1750

8270C PAH

Method: 8270C | Analysis Batch: 400-59387 | Instrument ID: GC/MSD
Preparation: 3550B | Prep Batch: 400-59165 | Lab File ID: 26305E3X.D
Dilution: 2.0 | Initial Weight/Volume: 30.43 g
Date Analyzed: 11/17/2007 0438 | Final Weight/Volume: 1.0 mL
Date Prepared: 11/14/2007 1455 | Injection Volume:

Analyte	DryWt Corrected: Y Result (mg/Kg)	Qualifier	MDL	PQL
Acenaphthene	0.63	I	0.079	0.79
Acenaphthylene	0.079	U	0.079	0.79
Anthracene	0.079	U	0.079	0.79
Benzo[a]anthracene	0.079	U	0.079	0.79
Benzo[a]pyrene	0.079	U	0.079	0.79
Benzo[b]fluoranthene	0.079	U	0.079	0.79
Benzo[g,h,i]perylene	0.079	U	0.079	0.79
Benzo[k]fluoranthene	0.079	U	0.079	0.79
Chrysene	0.079	U	0.079	0.79
Dibenz(a,h)anthracene	0.079	U	0.079	0.79
Fluoranthene	0.079	U	0.079	0.79
Fluorene	2.2		0.079	0.79
Indeno[1,2,3-cd]pyrene	0.079	U	0.079	0.79
Naphthalene	1.3		0.079	0.79
Phenanthrene	2.8		0.079	0.79
Pyrene	1.2		0.079	0.79
1-Methylnaphthalene	5.1		0.079	0.79
2-Methylnaphthalene	5.8		0.079	0.79

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	62	41 - 94
Nitrobenzene-d5	61	22 - 94
Terphenyl-d14	83	53 - 96

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: SOUTH WALL

Lab Sample ID: 400-26305-4
Client Matrix: Solid

% Moisture: 9.6

Date Sampled: 11/13/2007 1510
Date Received: 11/13/2007 1750

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 11/17/2007 0507
Date Prepared: 11/14/2007 1455

Analysis Batch: 400-59387
Prep Batch: 400-59165

Instrument ID: GC/MSD
Lab File ID: 26305F4X.D
Initial Weight/Volume: 30.27 g
Final Weight/Volume: 1.0 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Acenaphthene		0.18	U	0.18	1.8
Acenaphthylene		0.18	U	0.18	1.8
Anthracene		0.18	U	0.18	1.8
Benzo[a]anthracene		0.18	U	0.18	1.8
Benzo[a]pyrene		0.18	U	0.18	1.8
Benzo[b]fluoranthene		0.18	U	0.18	1.8
Benzo[g,h,i]perylene		0.18	U	0.18	1.8
Benzo[k]fluoranthene		0.18	U	0.18	1.8
Chrysene		0.18	U	0.18	1.8
Dibenz(a,h)anthracene		0.18	U	0.18	1.8
Fluoranthene		0.18	U	0.18	1.8
Fluorene		0.35	I	0.18	1.8
Indeno[1,2,3-cd]pyrene		0.18	U	0.18	1.8
Naphthalene		0.31	I	0.18	1.8
Phenanthrene		0.59	I	0.18	1.8
Pyrene		0.24	I	0.18	1.8
1-Methylnaphthalene		1.4	I	0.18	1.8
2-Methylnaphthalene		2.0		0.18	1.8

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	56	41 - 94
Nitrobenzene-d5	51	22 - 94
Terphenyl-d14	68	53 - 96

Client: J.J. Sosa & Associates Inc | Job Number: 400-26305-2

Client Sample ID: **WEST WALL**

Lab Sample ID: 400-26305-5 | Date Sampled: 11/13/2007 1515
Client Matrix: Solid | % Moisture: 9.8 | Date Received: 11/13/2007 1750

8270C PAH

Method: 8270C | Analysis Batch: 400-59387 | Instrument ID: GC/MSD
Preparation: 3550B | Prep Batch: 400-59165 | Lab File ID: 26305F5.D
Dilution: 1.0 | Initial Weight/Volume: 30.01 g
Date Analyzed: 11/17/2007 0245 | Final Weight/Volume: 1.0 mL
Date Prepared: 11/14/2007 1455 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Acenaphthene		0.23	I	0.037	0.37
Acenaphthylene		0.037	U	0.037	0.37
Anthracene		0.037	U	0.037	0.37
Benzo[a]anthracene		0.037	U	0.037	0.37
Benzo[a]pyrene		0.037	U	0.037	0.37
Benzo[b]fluoranthene		0.037	U	0.037	0.37
Benzo[g,h,i]perylene		0.037	U	0.037	0.37
Benzo[k]fluoranthene		0.037	U	0.037	0.37
Chrysene		0.037	U	0.037	0.37
Dibenz(a,h)anthracene		0.037	U	0.037	0.37
Fluoranthene		0.043	I	0.037	0.37
Fluorene		0.46		0.037	0.37
Indeno[1,2,3-cd]pyrene		0.037	U	0.037	0.37
Naphthalene		0.74		0.037	0.37
Phenanthrene		1.1		0.037	0.37
Pyrene		0.24	I	0.037	0.37
1-Methylnaphthalene		2.7		0.037	0.37
2-Methylnaphthalene		3.7		0.037	0.37

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	60	41 - 94
Nitrobenzene-d5	61	22 - 94
Terphenyl-d14	80	53 - 96

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: **NORTH WALL**

Lab Sample ID: 400-26305-2
Client Matrix: Solid

% Moisture: 18.0

Date Sampled: 11/13/2007 1500
Date Received: 11/13/2007 1750

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method: FL-PRO
Preparation: 3550B
Dilution: 50
Date Analyzed: 11/19/2007 1929
Date Prepared: 11/14/2007 1459

Analysis Batch: 400-59374
Prep Batch: 400-59167

Instrument ID: GC/FID
Lab File ID: 5001050.D
Initial Weight/Volume: 30.54 g
Final Weight/Volume: 1.9 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40		7600		80	570
C8-C10		80	U	80	570
C10-C28		7400		80	570
C28-C40		80	U	80	570

Surrogate	%Rec		Acceptance Limits
n-C39	0	J1	37 - 138
o-Terphenyl	143	J1	50 - 121

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Client Sample ID: **EAST WALL**

Lab Sample ID: 400-26305-3
Client Matrix: Solid

% Moisture: 17.5

Date Sampled: 11/13/2007 1505
Date Received: 11/13/2007 1750

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method: FL-PRO
Preparation: 3550B
Dilution: 50
Date Analyzed: 11/19/2007 1934
Date Prepared: 11/14/2007 1459

Analysis Batch: 400-59374
Prep Batch: 400-59167

Instrument ID: GC/FID
Lab File ID: 5101051.D
Initial Weight/Volume: 30.31 g
Final Weight/Volume: 1.4 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40		4700		59	420
C8-C10		59	U	59	420
C10-C28		4600		59	420
C28-C40		59	U	59	420

Surrogate	%Rec		Acceptance Limits
n-C39	0	J1	37 - 138
o-Terphenyl	98		50 - 121

Client: J.J. Sosa & Associates Inc | Job Number: 400-26305-2

Client Sample ID: **SOUTH WALL**

Lab Sample ID: 400-26305-4 | Date Sampled: 11/13/2007 1510
Client Matrix: Solid | % Moisture: 9.6 | Date Received: 11/13/2007 1750

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method: FL-PRO | Analysis Batch: 400-59374 | Instrument ID: GC/FID
Preparation: 3550B | Prep Batch: 400-59167 | Lab File ID: 5201052.D
Dilution: 20 | Initial Weight/Volume: 30.02 g
Date Analyzed: 11/19/2007 1938 | Final Weight/Volume: 1.4 mL
Date Prepared: 11/14/2007 1459 | Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40		2200		22	150
C8-C10		22	U	22	150
C10-C28		2100		22	150
C28-C40		22	U	22	150

Surrogate	%Rec	Acceptance Limits
n-C39	58	37 - 138
o-Terphenyl	111	50 - 121

Client: J.J. Sosa & Associates Inc | Job Number: 400-26305-2

Client Sample ID: **WEST WALL**

Lab Sample ID:	400-26305-5			Date Sampled:	11/13/2007 1515
Client Matrix:	Solid	% Moisture:	9.8	Date Received:	11/13/2007 1750

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method:	FL-PRO	Analysis Batch: 400-59374		Instrument ID:	GC/FID
Preparation:	3550B	Prep Batch: 400-59167		Lab File ID:	5301053.D
Dilution:	50			Initial Weight/Volume:	30.04 g
Date Analyzed:	11/19/2007 1943			Final Weight/Volume:	1.3 mL
Date Prepared:	11/14/2007 1459			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40		3800		50	360
C8-C10		50	U	50	360
C10-C28		3700		50	360
C28-C40		50	U	50	360

Surrogate	%Rec		Acceptance Limits
n-C39	48		37 - 138
o-Terphenyl	148	J1	50 - 121

General Chemistry

Client Sample ID: **NORTH WALL**

Lab Sample ID: 400-26305-2
Client Matrix: Solid

Date Sampled: 11/13/2007 1500
Date Received: 11/13/2007 1750

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	82		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 400-59164	Date Analyzed	11/14/2007 0000				

Client Sample ID: **EAST WALL**

Lab Sample ID: 400-26305-3
Client Matrix: Solid

Date Sampled: 11/13/2007 1505
Date Received: 11/13/2007 1750

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	83		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 400-59164	Date Analyzed	11/14/2007 0000				

Client Sample ID: **SOUTH WALL**

Lab Sample ID: 400-26305-4
Client Matrix: Solid

Date Sampled: 11/13/2007 1510
Date Received: 11/13/2007 1750

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	90		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 400-59164	Date Analyzed	11/14/2007 0000				

Client Sample ID: **WEST WALL**

Lab Sample ID: 400-26305-5
Client Matrix: Solid

Date Sampled: 11/13/2007 1515
Date Received: 11/13/2007 1750

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	90		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 400-59164	Date Analyzed	11/14/2007 0000				

DATA REPORTING QUALIFIERS

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Lab Section	Qualifier	Description
GC/MS VOA		
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
	U	Indicates that the compound was analyzed for but not detected.
GC/MS Semi VOA		
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
	U	Indicates that the compound was analyzed for but not detected.
GC Semi VOA		
	J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.

Login Sample Receipt Check List

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-2

Login Number: 26305
Creator: Hor, Koma
List Number: 1

List Source: TestAmerica Pensacola

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	28.7°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

SERIAL NUMBER: 13330

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001
Fax: 850-478-2671
Website: www.stl-inc.com

QUOTE NO.

BOTTLE ORDER NO. MPE

ORDER - LOG-IN NO. 400-26305 ~~C 400-26044~~

CLIENT: IAG

ADDRESS: 691 Pistol Range Road Suite 101A Tampa FL 33635

PAGE / OF

PROJECT NAME | PROJECT NO. | CLIENT PROJECT MANAGER: Bryan Harper | PROJECT LOC. (STATE): FL

SAMPLED BY: Art Leskowich

CONTRACT / P.O. NO.

CLIENT PHONE: 813-967-6239

CLIENT E-MAIL OR FAX: BHarper@JJSOSA.com

TAT REQUESTED: RUSH NEEDS LAB PREAPPROVAL ☐ NORMAL - 10 BUSINESS DAYS
☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ 5 DAYS ☐ 20 DAYS (Package) ☐ OTHER:

SAMPLE DISPOSAL: ☐ RETURN TO CLIENT ☐ DISPOSAL BY LAB
☐ SEE CONTRACT ☐ OTHER:

POSSIBLE HAZARD IDENTIFICATION
Δ NON-HAZARD
Δ FLAMMABLE
Δ RADIOACTIVE
Δ POISON B
Δ UNKNOWN
Δ OTHER:

NO. OF COOLERS PER SHIPMENT:

LAB USE ONLY - SAMPLE NUMBER

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	PRESERVATIVE: No Preservative	HCL - Hydrochloric Acid	HNO3 - Nitric Acid	H2SO4 - Sulfuric Acid or H3PO4	NAOH - Sodium Hydroxide	CH3OH - Methanol	NAHSO4 - Sodium Bisulfate	NA2S2O3 - Sodium Thiosulfate	Others DI	MATRIX: Drinking Water	Aqueous GW, SW, WW	Solid, Semisolid, Sediment	Air	NonAqueous (Oil,Solvent, etc.)	REQUESTED ANALYSIS: 6010B Total Metals	8260B TCLP VOA	8260B BTEX+MTBE	8260B - BTEX+MTBE	8260B - BTEX+MTBE	8270C - PAH 8270	FL-Pro	NUMBER OF CONTAINERS SUBMITTED	SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT
11/13	14:16	Roll off												✓			2	1							
11/13	15:00	North Wall						X		X				✓					X			X	X		
11/13	15:05	East Wall						X		X				✓					X			X	X		
11/13	15:10	South Wall						X		X				✓					X			X	X		
11/13	15:15	West Wall						X		X				✓					X			X	X		

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	11/9/07	1110	[signature]	11/13/07	17.50			
RECEIVED BY: (SIGNATURE) EMPTY CONTAINERS	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY:	DATE	TIME	CUSTODY INTACT? Δ YES Δ NO	CUSTODY SEAL NO.	REMARKS:
[signature]	11/13/07	17.50			28.7°C

REVIEW OF ANALYTICAL REPORT

JOB NUMBER: 400-26340-1

TACAN 54007NAE-SR

International Analytical Group, Inc. (IAG) has conducted an independent, third party review of the above referenced analytical report. The samples were analyzed by STL Pensacola, a NELAC certified laboratory in Pensacola, Florida.

If you have any questions regarding this analytical report, please contact Maria Jackson at mariaiag@bellsouth.net or (954) 894-4023.

5555 HOLLYWOOD BLVD, SUITE 301 HOLLYWOOD, FL 33021

ANALYTICAL REPORT

Job Number: 400-26340-1

Job Description: Tacan 54007NAE-SR

For:
J.J. Sosa & Associates Inc
6911 Pistol Range Rd
Suite 101A
Tampa, FL 33635-9613

Attention: Bryan Harper

Marty Edwards
Project Manager I
marty.edwards@testamericainc.com
11/30/2007

The test results in this report meet all NELAP requirements for accredited parameters and relate only to the referenced samples. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Pensacola Certifications and Approvals: Alabama (#40150), Arizona (#AZ0589), Arkansas (#88-0689), California (#2510), Florida (#E81010), Florida CQAP (#980156), Illinois (#200041), Iowa (#367), Kansas (#E10253), Kentucky UST (#0053), Louisiana (#30748), Maryland (#233), Massachusetts (#M-FL094), Michigan (#9912), New Hampshire (#250502), New Jersey (#FL006), North Carolina (#314), North Dakota (#R-108), Oklahoma (#9810), Pennsylvania (#68-467), South Carolina (#96026), Tennessee (#02907), Virginia (#00008), West Virginia (#136), USDA Foreign Soil Permit (#S-37599).

Job Narrative
400-J26340-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: The following sample was diluted due to the abundance of non-target analytes: MONT WELL 8ft. (400-26340-1). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control standard (LCS) for preparation batch 59862 exceeded control limits for the following analytes: MTBE, Benzene, Toluene, Ethylbenzene, and Xylenes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data has been reported.

No other analytical or quality issues were noted.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC Semi VOA
Method(s) FL-PRO: Surrogate recovery for the following sample(s) was outside control limits: MONT WELL 8ft. (400-26340-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Volatile Organic Compounds by GC/MS	TAL PEN	SW846 8260B	
Closed System Purge & Trap/Field Preservation	TAL PEN		SW846 5035
PAH	TAL PEN	SW846 8270C	
Ultrasonic Extraction	TAL PEN		SW846 3550B
Florida Method for Determination of Petroleum Range Organics by GC/FID	TAL PEN	FL-DEP FL-PRO	
Ultrasonic Extraction	TAL PEN		SW846 3550B

Lab References:

TAL PEN = TestAmerica Pensacola

Method References:

FL-DEP = State Of Florida Department Of Environmental Protection, Florida Administrative Code.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Method	Analyst	Analyst ID
SW846 8260B	Summers, Heather	HS
SW846 8270C	Wingo, Rita	RW
FL-DEP FL-PRO	Ayers, Kim	KA
EPA PercentMoisture	Hor, Koma	KH

SAMPLE SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
400-26340-1	MONT WELL 8ft.	Solid	11/14/2007 0950	11/14/2007 1138
400-26340-2	BACKFILL SOIL	Solid	11/14/2007 1015	11/14/2007 1138
400-26340-3	BACKFILL SOIL	Solid	11/14/2007 1056	11/14/2007 1138

Client: J.J. Sosa & Associates Inc | Job Number: 400-26340-1

Client Sample ID: **MONT WELL 8ft.**

Lab Sample ID: 400-26340-1 | Date Sampled: 11/14/2007 0950
Client Matrix: Solid | % Moisture: 12.1 | Date Received: 11/14/2007 1138

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 400-59862 | Instrument ID: GC/MS
Preparation: 5035 | Prep Batch: 400-59951 | Lab File ID: 26340C1.D
Dilution: 50 | Initial Weight/Volume: 5.25 g
Date Analyzed: 11/26/2007 1832 | Final Weight/Volume: 5.00 g
Date Prepared: 11/26/2007 0800

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Benzene		0.0098	U J3	0.0098	0.27
Methyl tert-butyl ether		0.054	U J3	0.054	0.27
Ethylbenzene		0.061	I J3	0.029	0.27
Toluene		0.037	U J3	0.037	0.27
Xylenes, Total		0.11	U J3	0.11	0.54

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	104	41 - 155
Dibromofluoromethane	98	83 - 118
Toluene-d8 (Surr)	101	87 - 115

Client: J.J. Sosa & Associates Inc | Job Number: 400-26340-1

Client Sample ID: **BACKFILL SOIL**

Lab Sample ID: 400-26340-3 | Date Sampled: 11/14/2007 1056
Client Matrix: Solid | % Moisture: 5.8 | Date Received: 11/14/2007 1138

8260B Volatile Organic Compounds by GC/MS

Method: 8260B | Analysis Batch: 400-59581 | Instrument ID: GC/MS
Preparation: 5035 | Prep Batch: 400-59582 | Lab File ID: 26340B3.D
Dilution: 1.0 | Initial Weight/Volume: 4.70 g
Date Analyzed: 11/21/2007 1315 | Final Weight/Volume: 5.0 g
Date Prepared: 11/19/2007 0800

Analyte	DryWt Corrected: Y Result (mg/Kg)	Qualifier	MDL	PQL
Benzene	0.00020	U	0.00020	0.0056
Methyl tert-butyl ether	0.0011	U	0.0011	0.0056
Ethylbenzene	0.00061	U	0.00061	0.0056
Toluene	0.00077	U	0.00077	0.0056
Xylenes, Total	0.0024	U	0.0024	0.011

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	97	41 - 155
Dibromofluoromethane	104	83 - 118
Toluene-d8 (Surr)	100	87 - 115

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Client Sample ID: **MONT WELL 8ft.**

Lab Sample ID: 400-26340-1
Client Matrix: Solid

% Moisture: 12.1

Date Sampled: 11/14/2007 0950
Date Received: 11/14/2007 1138

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 11/17/2007 0313
Date Prepared: 11/14/2007 1455

Analysis Batch: 400-59387
Prep Batch: 400-59165

Instrument ID: GC/MSD
Lab File ID: 26340A1.D
Initial Weight/Volume: 30.31 g
Final Weight/Volume: 1.0 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Acenaphthene		0.054	I	0.037	0.37
Acenaphthylene		0.037	U	0.037	0.37
Anthracene		0.037	U	0.037	0.37
Benzo[a]anthracene		0.037	U	0.037	0.37
Benzo[a]pyrene		0.037	U	0.037	0.37
Benzo[b]fluoranthene		0.037	U	0.037	0.37
Benzo[g,h,i]perylene		0.037	U	0.037	0.37
Benzo[k]fluoranthene		0.037	U	0.037	0.37
Chrysene		0.037	U	0.037	0.37
Dibenz(a,h)anthracene		0.037	U	0.037	0.37
Fluoranthene		0.037	U	0.037	0.37
Fluorene		0.13	I	0.037	0.37
Indeno[1,2,3-cd]pyrene		0.037	U	0.037	0.37
Naphthalene		0.061	I	0.037	0.37
Phenanthrene		0.28	I	0.037	0.37
Pyrene		0.075	I	0.037	0.37
1-Methylnaphthalene		0.40		0.037	0.37
2-Methylnaphthalene		0.50		0.037	0.37

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	62	41 - 94
Nitrobenzene-d5	59	22 - 94
Terphenyl-d14	77	53 - 96

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Client Sample ID: **BACKFILL SOIL**

Lab Sample ID: 400-26340-2
Client Matrix: Solid
% Moisture: 4.9
Date Sampled: 11/14/2007 1015
Date Received: 11/14/2007 1138

8270C PAH

Method: 8270C
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 11/17/2007 0342
Date Prepared: 11/14/2007 1455
Analysis Batch: 400-59387
Prep Batch: 400-59165
Instrument ID: GC/MSD
Lab File ID: 26340A2.D
Initial Weight/Volume: 30.08 g
Final Weight/Volume: 1.0 mL
Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
Acenaphthene		0.035	U	0.035	0.35
Acenaphthylene		0.035	U	0.035	0.35
Anthracene		0.035	U	0.035	0.35
Benzo[a]anthracene		0.035	U	0.035	0.35
Benzo[a]pyrene		0.035	U	0.035	0.35
Benzo[b]fluoranthene		0.035	U	0.035	0.35
Benzo[g,h,i]perylene		0.035	U	0.035	0.35
Benzo[k]fluoranthene		0.035	U	0.035	0.35
Chrysene		0.035	U	0.035	0.35
Dibenz(a,h)anthracene		0.035	U	0.035	0.35
Fluoranthene		0.035	U	0.035	0.35
Fluorene		0.035	U	0.035	0.35
Indeno[1,2,3-cd]pyrene		0.035	U	0.035	0.35
Naphthalene		0.035	U	0.035	0.35
Phenanthrene		0.035	U	0.035	0.35
Pyrene		0.035	U	0.035	0.35
1-Methylnaphthalene		0.035	U	0.035	0.35
2-Methylnaphthalene		0.035	U	0.035	0.35

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	66	41 - 94
Nitrobenzene-d5	64	22 - 94
Terphenyl-d14	78	53 - 96

Client: J.J. Sosa & Associates Inc | Job Number: 400-26340-1

Client Sample ID: **MONT WELL 8ft.**

Lab Sample ID:	400-26340-1			Date Sampled:	11/14/2007 0950
Client Matrix:	Solid	% Moisture:	12.1	Date Received:	11/14/2007 1138

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method:	FL-PRO	Analysis Batch: 400-59377		Instrument ID:	GC/FID
Preparation:	3550B	Prep Batch: 400-59221		Lab File ID:	5801058.D
Dilution:	10			Initial Weight/Volume:	30.38 g
Date Analyzed:	11/19/2007 2005			Final Weight/Volume:	1.8 mL
Date Prepared:	11/15/2007 1037			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40		840		14	100
C8-C10		14	U	14	100
C10-C28		830		14	100
C28-C40		14	U	14	100

Surrogate	%Rec		Acceptance Limits
n-C39	122		37 - 138
o-Terphenyl	134	J1	50 - 121

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Client Sample ID: **BACKFILL SOIL**

Lab Sample ID: 400-26340-2
Client Matrix: Solid
% Moisture: 4.9
Date Sampled: 11/14/2007 1015
Date Received: 11/14/2007 1138

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method: FL-PRO
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 11/16/2007 1631
Date Prepared: 11/15/2007 1037
Analysis Batch: 400-59377
Prep Batch: 400-59221
Instrument ID: GC/FID
Lab File ID: 7301073.D
Initial Weight/Volume: 30.28 g
Final Weight/Volume: 1.3 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40	0.95	U	0.95	6.8
C8-C10	0.95	U	0.95	6.8
C10-C28	0.95	U	0.95	6.8
C28-C40	9.8		0.95	6.8

Surrogate	%Rec	Acceptance Limits
n-C39	89	37 - 138
o-Terphenyl	88	50 - 121

General Chemistry

Client Sample ID: **MONT WELL 8ft.**

Lab Sample ID: 400-26340-1
Client Matrix: Solid

Date Sampled: 11/14/2007 0950
Date Received: 11/14/2007 1138

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	88		%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 400-59247	Date Analyzed	11/15/2007 0000					

Client Sample ID: **BACKFILL SOIL**

Lab Sample ID: 400-26340-2
Client Matrix: Solid

Date Sampled: 11/14/2007 1015
Date Received: 11/14/2007 1138

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	95		%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 400-59247	Date Analyzed	11/15/2007 0000					

Client Sample ID: **BACKFILL SOIL**

Lab Sample ID: 400-26340-3
Client Matrix: Solid

Date Sampled: 11/14/2007 1056
Date Received: 11/14/2007 1138

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	94		%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 400-59247	Date Analyzed	11/15/2007 0000					

DATA REPORTING QUALIFIERS

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Lab Section	Qualifier	Description
GC/MS VOA		
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
	J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.
GC/MS Semi VOA		
	I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
	U	Indicates that the compound was analyzed for but not detected.
GC Semi VOA		
	J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.

SERIAL NUMBER: 24508

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001
Fax: 850-478-2671
Website: www.stl-inc.com

QUOTE NO.

BOTTLE ORDER NO.

ORDER - LOG-IN NO. C4006349

CLIENT: IAG

ADDRESS: 6911 Pistol Range Road Suite 101A Tampa FL 33635

REQUESTED ANALYSIS

PAGE 1 OF 1

PROJECT NAME: NASP

PROJECT NO.: BLD. 1917

CLIENT PROJECT MANAGER: Bryan Harper

PROJECT LOC. (STATE): FL

SAMPLED BY: Art Leskowiak

CONTRACT / P.O. NO.:

CLIENT PHONE: 813-967-6239

CLIENT E-MAIL OR FAX: BHARPER@JTSOSA.COM

TAT REQUESTED: RUSH NEEDS LAB PREAPPROVAL ☐ NORMAL - 10 BUSINESS DAYS

☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ 5 DAYS ☐ 20 DAYS (Package) ☐ OTHER:

SAMPLE DISPOSAL: ☐ RETURN TO CLIENT ☒ DISPOSAL BY LAB

☐ SEE CONTRACT ☐ OTHER:

POSSIBLE HAZARD IDENTIFICATION

Δ NON-HAZARD
Δ FLAMMABLE
Δ RADIOACTIVE
Δ POISON B
Δ UNKNOWN
Δ OTHER:

NO. OF COOLERS PER SHIPMENT:

LAB USE ONLY - SAMPLE NUMBER

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	PRESERVATIVE: No Preservative	HCL - Hydrochloric Acid	HNO3 - Nitric Acid	H2SO4 - Sulfuric Acid or H3PO4	NAOH - Sodium Hydroxide	CH3OH - Methanol	NAHSO4 - Sodium Bisulfate	NA2S2O3 - Sodium Thiosulfate	Other: PT	MATRIX: Drinking Water	Aqueous GW, SW, WW	Solid, Semisolid, Sediment	Air	NonAqueous (Oil,Solvent, etc.)	NUMBER OF CONTAINERS SUBMITTED: 8270 c PAH 8270	FL-Pro	B260B - BTEXN 8260	SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT
11/14	0950	Mont Well - 8 Ft. (1 JAR)															X	X		
11/14	1015	Back Fill Soil (2 JAR)															X	X		
11/14	1056	Back Fill Soil (TERRA-CORE)						X			X								X	

Page 14 of 15

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINER			Carter F. Kallowich	11/14/01	1138			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINER								

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY:	DATE	TIME	CUSTODY INTACT? Δ YES Δ NO	CUSTODY SEAL NO.	REMARKS:
[illegible]	11/14/01	11:38			Samples received w/ no ice

Login Sample Receipt Check List

Client: J.J. Sosa & Associates Inc

Job Number: 400-26340-1

Login Number: 26340
Creator: Chea, Vanda
List Number: 1

List Source: TestAmerica Pensacola

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	N/A	Ambient room temperature
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

APPENDIX E

Well Completion Reports

WELL COMPLETION REPORT (Please complete in black ink or type.)

PERMIT # P200703703 CUP/WUP # - DID # -

If permit is for multiple wells indicate the number of wells drilled 1.

Indicate remaining wells to be cancelled 6.

WATER WELL CONTRACTOR'S SIGNATURE [signature] <3457 License # 3193

I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (Ft.)	To (Ft.)
Neat Cement:	ϕ	-	-
Bentonite:	ϕ.25	ϕ.75	ϕ.25

WELL LOCATION: County ESCAMBIA

SE 1:4 of B 1:4 of Section 27 Twp: 3S Rge: 31W

Latitude _____ Longitude _____

DATE STAMP

Official Use Only

Sketch of well location on property

MIDDLE OF SHERMAN FIELD NAS PENSACOLA

BLDG #1917

AW-1(R) +

N

Give distances from septic tank and house or other reference points

CHEMICAL ANALYSIS WHEN REQUIRED

Iron: ____ ppm Sulfate: ____ ppm

Chloride: ____ ppm

[ ] Lab Test [ ] Field Test Kit

Pump Type

[ ] Centrifugal [ ] Jet [ ] Submersible [ ] Turbine

Horsepower _____ Capacity _____ G.P.M. _____

Pump Depth _____ Ft. Intake Depth _____ Ft.

NWFWMD Form 114. Rev. 11/1/95

OWNER'S NAME [illegible]

COMPLETION DATE 11/14/02 Florida Unique I.D. -

WELL USE: DEP/Public ____ Irrigation ____ Domestic ____ Monitor X

HRS Limited ____ 62-524 ____ Other _____

DRILL METHOD [ ] Rotary [ ] Cable Tool [ ] Combination

[ ] Jet [ ] Auger Other HAND AUGER

Measured Static Water Level 2.25 Measured Pumping Water Level _____

After ____ Hours at ____ G.P.M. Measuring Pt.(Describe): TOC

Which is 0.4 Ft. [ ] Above [X] Below Land Surface

Casing: [ ] Black Steel [ ] Galv. [X] PVC Other _____

[ ] Open Hole [X] Screen / Casing Diameter & Depth (Ft.)	Depth (Ft.) From	To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color | Grain Size | Type of Material
Diameter 0.162	0	11	ASH GRAY F/MED SANDS
From 10.5			ANY ORGANIC SILTS.
To 1.5	¥		DTW IS ≈ 2.25'
Diameter ____			
From ____			
To ____			
Liner [ ] or Casing [X]			
Diameter 0.162			
From 1.5			
To 0.4			

Driller's Name: (print or type) CHRISTOPHER K. EAST

WELL COMPLETION REPORT (Please complete in black ink or type.)

PERMIT # P200703904 CUP/WUP # - DID # -

If permit is for multiple wells indicate the number of wells drilled ϕ.

Indicate remaining wells to be cancelled ϕ.

WATER WELL CONTRACTOR'S SIGNATURE [signature] <3457 License # 3193

I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (Ft.)	To (Ft.)
Neat Cement:	ϕ	-	-
Bentonite:	ϕ	-	-

WELL LOCATION: County ESCAMBIA

SE 1:4 of B 1:4 of Section 27 Twp: 3S Rge: 31W

Latitude _____ Longitude _____

DATE STAMP

Official Use Only

Sketch of well location on property

MIDDLE OF SHERMAN FIELD NAS PENSACOLA

BLDG 1917

AW-1 +

N

Give distances from septic tank and house or other reference points

CHEMICAL ANALYSIS WHEN REQUIRED

Iron: ____ ppm Sulfate: ____ ppm

Chloride: ____ ppm

[ ] Lab Test [ ] Field Test Kit

Pump Type

[ ] Centrifugal [ ] Jet [ ] Submersible [ ] Turbine

Horsepower _____ Capacity _____ G.P.M. _____

Pump Depth _____ Ft. Intake Depth _____ Ft.

OWNER'S NAME NAS NAVY

COMPLETION DATE 11/14/02 Florida Unique I.D. -

WELL USE: DEP/Public ____ Irrigation ____ Domestic ____ Monitor X

HRS Limited ____ 62-524 ____ Other _____

DRILL METHOD [ ] Rotary [ ] Cable Tool [ ] Combination

[ ] Jet [X] Auger Other _____

Measured Static Water Level 2.25 Measured Pumping Water Level _____

After ____ Hours at ____ G.P.M. Measuring Pt.(Describe): TOC

Which is 0.4 Ft. [ ] Above [X] Below Land Surface

Casing: [ ] Black Steel [ ] Galv. [X] PVC Other _____

[ ] Open Hole [X] Screen / Casing Diameter & Depth (Ft.)	Depth (Ft.) From	To	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color | Grain Size | Type of Material
Diameter 0.33			[illegible]
From 7			
To 3			
Diameter ____			
From ____			
To ____			
Liner [ ] or Casing [X]			
Diameter 0.33			
From 3			
To 0.4			

Driller's Name:

APPENDIX F

Waste Manifests

Escambia County Solid Waste
13009 Beulah Road
Cantonment, FL 32533-8831

000000 Cash Customer Public Fee
$7.00 minimum charge per load
Cantonment FL 32533

02	867412		Barbara
TIME IN	TIME OUT	VEHICLE	
11/26/07	11/26/07	13:24	14:16
REFERENCE		ORIGIN	
RM 108 AL		0	

Scale 1 Gross Wt. 63280 LB
Scale 2 Tare Wt. 46040 LB
Net Weight 17240 LB

Inbound - Cash ticket

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	FEE	TOTAL
8.62	TON	SP CONT SOIL<40,000	60.00	517.20	0.00	517.20

Operating hours 7:00 AM to 5:00 PM Monday thru Saturday.

This is to certify that this load does not contain any
hazardous or otherwise prohibited material.

Manifest APPROVAL#08-10/TAT6

517.20
517.20
0.00
V9068

FOR ORDER CONTACT CAROLINA SOFTWARE (888) 799-6567 SIGNATURE

Escambia County Solid Waste
13009 Beulah Road
Cantonment, FL 32533-8831

000000 Cash Customer Public Fee
$7.00 minimum charge per load
Cantonment FL 32533

02	867749		Barbara
TIME IN	TIME OUT	VEHICLE	
11/27/07	11/27/07	14:10	15:37
REFERENCE		ORIGIN	
VE 110 AL		0	

Scale 1 Gross Wt. 45900 LB
Scale 2 Tare Wt. 33060 LB
Net Weight 12840 LB

Inbound - Cash ticket

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	FEE	TOTAL
6.42	TON	SP CONT SOIL<40,000	60.00	385.20	0.00	385.20

Operating hours 7:00 AM to 5:00 PM Monday thru Saturday.

This is to certify that this load does not contain any
hazardous or otherwise prohibited material.

Manifest APPROVAL 08-10

385.20
385.20
0.00
V9068

ESCAMBIA COUNTY PERDIDO LANDFILL
SPECIAL WASTE CHARACTERAZATION FORM

GENERAL INFORMATION

Company/Agency: U.S. NAVY

Contact: Greg Campbell

Phone: 850-

Fax:

Site Address: TACAN FACILITY BLDG. 1917, NAS PENSACOLA PENSACOLA, FL

Operational Processes: 1 - 1-STORY BLDG. HOUSING RADAR NAVIGATION EQUIPMENT WITH EMERGENCY GENERATOR WITH AST

MATERIAL INFORMATION:

Waste Name:

Rate of Generation:
One Time: ✓ Reoccurring: ____

Estimated Volume: 10.6 tons

Brief Description of Waste Origin:
VIRGIN SOIL CONTAMINATED WITH DIESEL FUEL AS A RESULT OF A SPILL

Site History:
SEE ATTACHED LIMITED REMEDIAL ACTION PLAN PREPARED BY AEROSTAR

PHYSICAL/CHEMICAL CHARACTERISTICS

Does the waste exhibit any properties and or characteristics according to 40 CFR 261 31, 261 32. or 261 33? Yes: ____ No: ✓

If yes. please explain:

Physical State: Solid: 100 % Liquid ____ %

Phases/layers: one: ✓ other: ____

ph: ____ Flashpoint: ____ TRPH: 7,900 PPM SAMPLE COLLECTED 9-19-03

Constituent levels in waste:

Oil: ____ %
Gasoline: ____ %
Diesel: 100 %
Hydraulics: ____ %
Other: ____ %
If other, please explain:

Does the waste contain?:

PCB's: NO
Solvents: ____
Radioactive: ____
Explosives: ____
Reactives: ____
Toxics: ____

How many samples were analyzed: 1

Was the sample analyzed a grab or composite? COMPOSITE

Please attach a copy of the TCLP results(40 CFR 261.24).

TCLP analysis must be performed by a certified laboratory by EPA SW-846, Method 1311.

Escambia County Perdido Landfill reserves the right to require additional testing to be performed by the customer

CERTIFICATION

I certify that the information furnished on this application is true and acccurate and that if this material is disposed at the Escambia County Perdido Landfill that it contains no hazardous waste, nor does it exhibit characteristics of a hazardous waste as defined by federal, state, or local regulations

Signature: [signature] Title: ENVIRONMENTAL ENGINEER

Print: GREG CAMPBELL Date: 11/13/07

REVIEW OF ANALYTICAL REPORT

JOB NUMBER: 400-26305-1

TACAN 54007NAE-SR

International Analytical Group, Inc. (IAG) has conducted an independent, third party review of the above referenced analytical report. The samples were analyzed by STL Pensacola, a NELAC certified laboratory in Pensacola, Florida.

If you have any questions regarding this analytical report, please contact Maria Jackson at mariaiag@bellsouth.net or (954) 894-4023.

5555 HOLLYWOOD BLVD, SUITE 301 HOLLYWOOD, FL 33021

ANALYTICAL REPORT

Job Number: 400-26305-1

Job Description: Tacan 54007NAE-SR

For:
J.J. Sosa & Associates Inc
6911 Pistol Range Rd
Suite 101A
Tampa, FL 33635-9613

Attention: Bryan Harper

Marty Edwards
Project Manager I
marty.edwards@testamericainc.com
11/28/2007

The test results in this report meet all NELAP requirements for accredited parameters and relate only to the referenced samples. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Pensacola Certifications and Approvals: Alabama (#40150), Arizona (#AZ0589), Arkansas (#88-0689), California (#2510), Florida (#E81010), Florida CQAP (#980156), Illinois (#200041), Iowa (#367), Kansas (#E10253), Kentucky UST (#0053), Louisiana (#30748), Maryland (#233), Massachusetts (#M-FL094), Michigan (#9912), New Hampshire (#250502), New Jersey (#FL006), North Carolina (#314), North Dakota (#R-108), Oklahoma (#9810), Pennsylvania (#68-467), South Carolina (#96026), Tennessee (#02907), Virginia (#00008), West Virginia (#136), USDA Foreign Soil Permit (#S-37599).

Job Narrative
400-J26305-1

Comments
No additional comments.

Receipt
All samples were received in good condition with a temperature of 29°C.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270C: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 10 % of the analytes to recover outside criteria for this method when a full list spike is utilized. The LCS associated with prep batch 400-59537 had one analyte outside control limits; therefore, re-extraction or re-analysis was not performed. These results have been reported and qualified.

No other analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
TCLP Volatiles	TAL PEN	SW846 8260B	
Toxicity Characteristic Leaching Procedure (ZHE)	TAL PEN		SW846 1311
Purge and Trap on Leachates	TAL PEN		SW846 5030B
TCLP Semivolatiles	TAL PEN	SW846 8270C	
Toxicity Characteristic Leaching Procedure	TAL PEN		SW846 1311
Continuous Liquid-Liquid Extraction	TAL PEN		SW846 3520C
Florida Method for Determination of Petroleum Range Organics by GC/FID	TAL PEN	FL-DEP FL-PRO	
Ultrasonic Extraction	TAL PEN		SW846 3550B
TCLP RCRA Metals	TAL PEN	SW846 6010B	
Toxicity Characteristic Leaching Procedure	TAL PEN		SW846 1311
Acid Digestion of Aqueous Samples and Extracts for	TAL PEN		SW846 3010A
TCLP Mercury	TAL PEN	SW846 7470A	
Toxicity Characteristic Leaching Procedure (Hg Only)	TAL PEN		SW846 1311
Mercury in Liquid Waste (Manual Cold Vapor	TAL PEN		SW846 7470A
Soil and Waste pH	TAL PEN	SW846 9045C	
Deionized Water Leaching Procedure (Routine)	TAL PEN		ASTM DI Leach
Ignitability	TAL PEN	SW846 SW846 Ch. 7	

Lab References:

TAL PEN = TestAmerica Pensacola

Method References:

ASTM = ASTM International

FL-DEP = State Of Florida Department Of Environmental Protection, Florida Administrative Code.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Method	Analyst	Analyst ID
SW846 8260B	Drew, Walter	WD
SW846 8270C	Wingo, Rita	RW
FL-DEP FL-PRO	Ayers, Kim	KA
SW846 6010B	St. Pere, Gary	GS
SW846 7470A	Cortez, Maria	MC
SW846 9045C	Hooe, Jennifer	JH
EPA PercentMoisture	Meade, John	JM
SW846 SW846 Ch. 7	Hooe, Jennifer	JH

SAMPLE SUMMARY

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
400-26305-1	ROLL OFF	Solid	11/13/2007 1416	11/13/2007 1750

Client: J.J. Sosa & Associates Inc | Job Number: 400-26305-1

Client Sample ID: **ROLL OFF**

Lab Sample ID: 400-26305-1 | Date Sampled: 11/13/2007 1416
Client Matrix: Solid | Date Received: 11/13/2007 1750

8260B TCLP Volatiles-TCLP

Method: 8260B | Analysis Batch: 400-59372 | Instrument ID: GC/MS
Preparation: 5030B | Lab File ID: 4080011.D
Dilution: 5.0 | Leachate Batch: 400-59194 | Initial Weight/Volume: 5 mL
Date Analyzed: 11/19/2007 1029 | Final Weight/Volume: 5 mL
Date Prepared: 11/19/2007 1029
Date Leached: 11/14/2007 1550

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	PQL
Benzene		0.0010	U	0.0010	0.0050
Carbon tetrachloride		0.0025	U	0.0025	0.025
Chlorobenzene		0.0025	U	0.0025	0.025
Chloroform		0.0025	U	0.0025	0.025
1,4-Dichlorobenzene		0.0032	U	0.0032	0.025
1,2-Dichloroethane		0.0025	U	0.0025	0.025
1,1-Dichloroethene		0.0025	U	0.0025	0.025
2-Butanone (MEK)		0.0075	U	0.0075	0.13
Tetrachloroethene		0.0025	U	0.0025	0.025
Trichloroethene		0.0025	U	0.0025	0.025
Vinyl chloride		0.0025	U	0.0025	0.025

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	100	82 - 114
Dibromofluoromethane	105	81 - 115
Toluene-d8 (Surr)	98	87 - 113

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Client Sample ID: **ROLL OFF**

Lab Sample ID: 400-26305-1
Client Matrix: Solid

Date Sampled: 11/13/2007 1416
Date Received: 11/13/2007 1750

8270C TCLP Semivolatiles-TCLP

Method: 8270C
Preparation: 3520C
Dilution: 1.0
Date Analyzed: 11/24/2007 0435
Date Prepared: 11/21/2007 0817

Analysis Batch: 400-59780
Prep Batch: 400-59537

Instrument ID: GC/MSD
Lab File ID: 26305A1.D
Initial Weight/Volume: 250 mL
Final Weight/Volume: 1.0 mL
Injection Volume:

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	PQL
2-Methylphenol		0.0080	U	0.0080	0.040
3 & 4 Methylphenol		0.0072	U	0.0072	0.080
2,4-Dinitrotoluene		0.0052	U	0.0052	0.040
Hexachloroethane		0.0048	U	0.0048	0.040
Hexachlorobutadiene		0.0040	U	0.0040	0.040
Hexachlorobenzene		0.00068	U J3	0.00068	0.040
Nitrobenzene		0.0032	U	0.0032	0.040
Pentachlorophenol		0.0080	U	0.0080	0.040
2,4,5-Trichlorophenol		0.0048	U	0.0048	0.040
2,4,6-Trichlorophenol		0.0052	U	0.0052	0.040
Pyridine		0.040	U	0.040	0.040

Surrogate	%Rec	Acceptance Limits
2,4,6-Tribromophenol	62	31 - 123
2-Fluorobiphenyl	55	40 - 100
2-Fluorophenol	45	18 - 77
Nitrobenzene-d5	55	33 - 92
Phenol-d5	55	23 - 84
Terphenyl-d14	87	58 - 114

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Client Sample ID: ROLL OFF

Lab Sample ID: 400-26305-1
Client Matrix: Solid

% Moisture: 9.9

Date Sampled: 11/13/2007 1416
Date Received: 11/13/2007 1750

FL-PRO Florida Method for Determination of Petroleum Range Organics by GC/FID

Method: FL-PRO
Preparation: 3550B
Dilution: 100
Date Analyzed: 11/19/2007 1925
Date Prepared: 11/14/2007 1459

Analysis Batch: 400-59374
Prep Batch: 400-59167

Instrument ID: GC/FID
Lab File ID: 4901049.D
Initial Weight/Volume: 30.38 g
Final Weight/Volume: 1.6 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	PQL
C8-C40		11000		120	880
C8-C10		120	U	120	880
C10-C28		11000		120	880
C28-C40		120	U	120	880

Surrogate	%Rec		Acceptance Limits
n-C39	0	J1	37 - 138
o-Terphenyl	354	J1	50 - 121

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Client Sample ID: ROLL OFF

Lab Sample ID: 400-26305-1
Client Matrix: Solid

Date Sampled: 11/13/2007 1416
Date Received: 11/13/2007 1750

6010B TCLP RCRA Metals-TCLP

Method: 6010B
Preparation: 3010A
Dilution: 5.0
Date Analyzed: 11/16/2007 1908
Date Prepared: 11/15/2007 1328
Date Leached: 11/14/2007 1615

Analysis Batch: 400-59356
Prep Batch: 400-59239
Leachate Batch: 400-59226

Instrument ID: ICP-AES
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	PQL
Arsenic		0.020	U	0.020	0.025
Barium		0.058		0.0050	0.050
Cadmium		0.0050	U	0.0050	0.025
Silver		0.010	U	0.010	0.025
Chromium		0.010	U	0.010	0.025
Lead		0.014	U	0.014	0.025
Selenium		0.020	U	0.020	0.050

7470A TCLP Mercury-TCLP

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 11/20/2007 0934
Date Prepared: 11/19/2007 0930
Date Leached: 11/14/2007 1615

Analysis Batch: 400-59474
Prep Batch: 400-59414
Leachate Batch: 400-59226

Instrument ID: PE FLOW
Lab File ID: N/A
Initial Weight/Volume: 2.5 mL
Final Weight/Volume: 25 mL

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	PQL
Mercury		0.00070	U	0.00070	0.0020

General Chemistry

Client Sample ID: **ROLL OFF**

Lab Sample ID: 400-26305-1
Client Matrix: Solid

Date Sampled: 11/13/2007 1416
Date Received: 11/13/2007 1750

Analyte	Result	Qual	Units	Dil	Method
Flashpoint	>212		Degrees F	1.0	SW846 Ch. 7
	Anly Batch: 400-59253	Date Analyzed	11/15/2007 1642		

Analyte	Result	Qual	Units	MDL	PQL	Dil	Method
Percent Solids	90		%	0.10	0.10	1.0	PercentMoisture
	Anly Batch: 400-59164	Date Analyzed	11/14/2007 0000				

Analyte	Result	Qual	Units	Dil	Method
pH-S	6.55	Q	SU	1.0	9045C
	Anly Batch: 400-59524	Date Analyzed	11/14/2007 1859		DryWt Corrected: N

DATA REPORTING QUALIFIERS

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates that the compound was analyzed for but not detected.
GC/MS Semi VOA		
	J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.
GC Semi VOA		
	J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
	U	Indicates that the compound was analyzed for but not detected.
Metals		
	U	Indicates that the compound was analyzed for but not detected.
General Chemistry		
	Q	Sample held beyond the accepted holding time.

SERIAL NUMBER: 13330

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001
Fax: 850-478-2671
Website: www.stl-inc.com

QUOTE NO.

BOTTLE ORDER NO. MPE

ORDER - LOG-IN NO. C 400-26305 ~~400-26004~~

CLIENT: IAG

ADDRESS: 6911 Pistol Range Road Suite 101A Tampa FL 33635

PAGE: 1 OF: 2

PROJECT NAME:

PROJECT NO:

CLIENT PROJECT MANAGER: Bryan Harper

PROJECT LOC. (STATE): FL

SAMPLED BY: Art Leskowich

CONTRACT / P.O. NO.:

CLIENT PHONE: 813-967-6239

CLIENT E-MAIL OR FAX: BHarper@JJSOSA.com

TAT REQUESTED: RUSH NEEDS LAB PREAPPROVAL ☐ NORMAL - 10 BUSINESS DAYS

☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ 5 DAYS ☐ 20 DAYS (Package) ☐ OTHER:

SAMPLE DISPOSAL: ☐ RETURN TO CLIENT ☐ DISPOSAL BY LAB

☐ SEE CONTRACT ☐ OTHER:

REQUESTED ANALYSIS

POSSIBLE HAZARD IDENTIFICATION

Δ NON-HAZARD
Δ FLAMMABLE
Δ RADIOACTIVE
Δ POISON B
Δ UNKNOWN
Δ OTHER:

NO. OF COOLERS PER SHIPMENT:

LAB USE ONLY - SAMPLE NUMBER

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	PRESERVATIVE: No Preservative	HCL - Hydrochloric Acid	HNO3 - Nitric Acid	H2SO4 - Sulfuric Acid or H3PO4	NAOH - Sodium Hydroxide	CH3OH - Methanol	NAHSO4 - Sodium Bisulfate	NA2S2O3 - Sodium Thiosulfate	Other DI	MATRIX: Drinking Water	Aqueous GW, SW, WW	Solid, Semisolid, Sediment	Air	NonAqueous (Oil,Solvent, etc.)	NUMBER OF CONTAINERS SUBMITTED: 6010 B Total Metals	8260B TCLP VOA	8260B BTEX+MTBE	8260B - BTEX+MTBE	8260B - BTEX+MTBE	8270 - PAH 8270	FL Pro -	SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT
11/13	14:16	Roll off												✓			2	1						
11/13	16:00	North Wall						X			X			✓					X			X	X	
11/13	15:05	East Wall						X			X			✓					X			X	X	
11/13	15:10	South Wall						X			X			✓					X			X	X	
11/13	15:05	West Wall						X			X			✓					X			X	X	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Jennifer Deal	11/9/07	1110	Cathy Fuller	11/13/07	17:50			
RECEIVED BY: (SIGNATURE) EMPTY CONTAINERS	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY:	DATE	TIME	CUSTODY INTACT? Δ YES Δ NO	CUSTODY SEAL NO.	REMARKS:
Kon	11/13/07	17:50			28.7°C

Login Sample Receipt Check List

Client: J.J. Sosa & Associates Inc

Job Number: 400-26305-1

Login Number: 26305
Creator: Hor, Koma
List Number: 1

List Source: TestAmerica Pensacola

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	28.7°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

APPENDIX B

Chapter 62-770 Petroleum Site Closure Checklist

Chapter 62-770 Petroleum Site Closure Checklist
TACAN Building 1917
NAS Pensacola, Pensacola, Florida

NOTE: Chapter 62-770 applies to cleanup of any site in Florida contaminated with petroleum or petroleum products, except for the following scenarios:
(1) petroleum or petroleum products at a site are contaminated with significant quantities of other substances;
(2) site is contaminated with liquefied petroleum gas and ASTM grades no. 5 and no. 6 residual oils, bunker C residual oils, intermediate fuel oils with a viscosity of 30 and higher used for marine bunkering, asphalt oils, and petrochemical feedstocks; or
(3) discharge of petroleum or petroleum products of less than 25 gallons onto a pervious surface, as long as the discharge is removed and properly treated or properly disposed, or otherwise remediated, so that no contamination from the discharge remains on-site.

Site Closure Criteria		Yes/No	Comments
Site Assessment/General Considerations			
Contamination beyond property boundary (Beyond property boundary notice)		**No**	
Contamination delineated to residential values (horiz. & vertical)		**Yes**	Contamination delineated horizontally and vertically to below residential values.
Free product is not present		**Yes**	There is no free product present
Risk Management Option Level I — No Further Action			
Soil	Direct Exposure - Based on individual concentrations or average concentration based on the 95% UCL approach. Requires one or more of the following criteria		
	Option IA		
	COCs ≤ Residential SCTLs; or		
	COCs ≤ Background; or		
	COCs ≤ Best achievable detection limits		
	Option IB		
	COCs ≤ Alternative Residential SCTLs calculated using site-specific soil properties		
	Option IC		
	TRPH fractions ≤ Residential TRPH SCTL fractions		
	Leachability - requires one or more of the following criteria		
	Option IA		
	COCs ≤ Default Leachability SCTLs based on GCTLs or SWCTLs; or		
	COCs ≤ Background; or		
	COCs ≤ Best achievable detection limits		
	Option IB		
	COCs ≤ Alternative Leachability SCTLs calculated using applicable groundwater or surface water background		
	Option IC		
	Direct leachate results ≤ GCTLs and/or SWCTLs		
	Option ID		
	COCs ≤ Alternative Leachability SCTLs calculated using site-specific soil properties and applicable GCTLs and SWCTLs	-	
	Option IE		
	TRPH fractions ≤ Leachability TRPH SCTL fractions		
	Option IF		
	For soil that has been exposed for a minimum of two years, demonstration by a minimum of one year of groundwater monitoring that shows that contaminants will not leach above applicable GCTLs and SWCTLs		

NOTE: Chapter 62-770 applies to cleanup of any site in Florida contaminated with petroleum or petroleum products, except for the following scenarios:
(1) petroleum or petroleum products at a site are contaminated with significant quantities of other substances;
(2) site is contaminated with liquefied petroleum gas and ASTM grades no. 5 and no. 6 residual oils, bunker C residual oils, intermediate fuel oils with a viscosity of 30 and higher used for marine bunkering, asphalt oils, and petrochemical feedstocks; or
(3) discharge of petroleum or petroleum products of less than 25 gallons onto a pervious surface, as long as the discharge is removed and properly treated or properly disposed, or otherwise remediated, so that no contamination from the discharge remains on-site.

Site Closure Criteria		Yes/No	Comments
Risk Management Option Level I — No Further Action (continued)			
Groundwater	Option 1A		
	COCs ≤ Default GCTLs; or		
	COCs ≤ Background; or		
	COCs ≤ Best achievable detection limits; and		
	COCs ≤ Applicable Freshwater or Marine SWCTLs if the site's groundwater is affecting or potentially may affect a surface water body		
Surface Water	Option 1A		
	COCs ≤ Applicable Freshwater or Marine SWCTLs; or		
	COCs ≤ Background; or		
	COCs ≤ Best achievable detection limits		
Sediment	Option 1A		
	Contaminated sediment does not exist (based on comparison to SQAGs); or		
	COCs ≤ Background		
Risk Management Option Level II — No Further Action with Controls			
Soil	Direct Exposure - Based on individual concentrations or average concentration based on the 95% UCL approach. Requires one or more of the following criteria		
	Option IIA		
	COCs ≤ Commercial/Industrial SCTLs	**Yes**	There are no COC exceedances of industrial direct exposure SCTLs.
	Option IIB		
	Engineering control prevents human exposure, such as permanent cover material or a minimum of 2 feet of soil above soil that exceeds direct exposure SCTLs	**Yes**	Only suspected impacted soil lies beneath building floor.
	Option IIC		
	COCs ≤ Alternative Commercial/Industrial SCTLs calculated using site-specific soil properties		
	Option IID		
	TRPH fractions ≤ Commercial/Industrial TRPH SCTL fractions		
	Leachability - requires one or more of the following criteria		
	Option IIA		
	COCs ≤ Alternative Leachability SCTLs calculated using applicable GCTLs and SWCTLs		
	Option IIB		
	Direct leachate results ≤ applicable GCTLs and SWCTLs		
	Option IIC		
	Engineering control that prevents infiltration; demonstrated by a minimum of one year of groundwater monitoring that shows that contaminants will not leach above applicable GCTLs and SWCTLs		
	Option IID		
	COCs ≤ Alternative Leachability SCTLs calculated using site specific soil properties and applicable GCTLs and SWCTLs	-	

NOTE: Chapter 62-770 applies to cleanup of any site in Florida contaminated with petroleum or petroleum products, except for the following scenarios:
(1) petroleum or petroleum products at a site are contaminated with significant quantities of other substances;
(2) site is contaminated with liquefied petroleum gas and ASTM grades no. 5 and no. 6 residual oils, bunker C residual oils, intermediate fuel oils with a viscosity of 30 and higher used for marine bunkering, asphalt oils, and petrochemical feedstocks; or
(3) discharge of petroleum or petroleum products of less than 25 gallons onto a pervious surface, as long as the discharge is removed and properly treated or properly disposed, or otherwise remediated, so that no contamination from the discharge remains on-site.

Site Closure Criteria		Yes/No	Comments
Risk Management Option Level II — No Further Action with Controls (continued)			
Soil (continued)	Option IIE		
	TRPH fractions ≤ Alternative Leachability TRPH SCTL fractions based on applicable GCTLs and SWCTLs		
	Option IIF		
	Demonstration via a minimum of one year of groundwater monitoring (and fate and transport monitoring, if needed) that COCs will not leach at levels above applicable GCTLs and SWCTLs based on site-specific conditions		
Groundwater	Considers current and projected use of groundwater. Requires one or more of the following criteria		
	Option IIA		
	COCs ≤ Groundwater of Low Yield/Poor Quality Criteria		
	Demonstration via a minimum of one year of groundwater monitoring that concentrations at the source property boundary will not exceed Level I GCTLs; and		
	Plume has not impacted, and will not impact a surface water body		
	Option IIB		
	Engineering control (permanent containment) that prevents migration of the plume		
	Demonstration via a minimum of one year of groundwater monitoring that concentrations at the source property boundary will not exceed Level I GCTLs; and		
	Plume has not impacted, and will not impact a surface water body		
	Option IIC		
	COCs ≤ Marine SWCTLs		
	For groundwater contamination that may potentially affect only a marine surface water body with no other properties or freshwater surface water bodies located between the source property and the marine surface water body		
	Option IID		
	Groundwater contamination is contained within the source property boundary, is limited to the immediate vicinity of the source area, and the area of contamination is less than 1/4 acre	**Yes**	Three rounds of groundwater sampling were performed and show that the groundwater plume is stable, attenuating, and not migrating outside of the site boundary.
	Demonstration via a minimum of one year of groundwater monitoring that groundwater contamination is not migrating; and	**Yes**	Three rounds of groundwater sampling were performed and show that the groundwater plume is stable, attenuating, and not migrating outside of the site boundary.
	Plume has not impacted, and will not impact a surface water body	**Yes**	A complete surface water pathway does not exist.

NOTE: Chapter 62-770 applies to cleanup of any site in Florida contaminated with petroleum or petroleum products, except for the following scenarios:
(1) petroleum or petroleum products at a site are contaminated with significant quantities of other substances;
(2) site is contaminated with liquefied petroleum gas and ASTM grades no. 5 and no. 6 residual oils, bunker C residual oils, intermediate fuel oils with a viscosity of 30 and higher used for marine bunkering, asphalt oils, and petrochemical feedstocks; or
(3) discharge of petroleum or petroleum products of less than 25 gallons onto a pervious surface, as long as the discharge is removed and properly treated or properly disposed, or otherwise remediated, so that no contamination from the discharge remains on-site.

Site Closure Criteria		Yes/No	Comments
Risk Management Option Level II — No Further Action with Controls (continued)			
Surface Water	Option IIA		
	COCs ≤ Applicable Freshwater or Marine SWCTLs; or		
	COCs ≤ Background; or		
	COCs ≤ Best achievable detection limits		
Sediment	Option IIA		
	Contaminated sediment does not exist; or		
	COCs ≤ Background		
Risk Management Option Level III — No Further Action with Controls and Risk Assessment			
Soil	Direct Exposure - Based on individual concentrations or average concentration based on the 95% UCL approach. Requires one or more of the following criteria		
	Option IIIA		
	COCs ≤ Alternative Direct exposure SCTLs calculated using site-specific exposure assumptions		
	Leachability - requires one or more of the following criteria		
	Option IIIA		
	COCs ≤ Alternative Leachability SCTLs calculated using applicable GCTLs and SWCTLs		
	Option IIIB		
	Direct leachate results ≤ applicable GCTLs and SWCTLs		
	Option IIIC		
	Engineering control that prevents infiltration; demonstrated by a minimum of one year of groundwater monitoring that shows that contaminants will not leach above applicable GCTLs and SWCTLs		
	Option IIID		
	COCs ≤ Alternative Leachability SCTLs calculated using site specific soil properties and applicable GCTLs and SWCTLs	-	
	Option IIIE		
	TRPH fractions ≤ Alternative Leachability TRPH SCTL fractions based on applicable GCTLs and SWCTLs		
	Option IIIF		
	Demonstration via a minimum of one year of groundwater monitoring (and fate and transport monitoring, if needed) that COCs will not leach at levels above applicable GCTLs and SWCTLs based on site-specific conditions		

NOTE: Chapter 62-770 applies to cleanup of any site in Florida contaminated with petroleum or petroleum products, except for the following scenarios:
(1) petroleum or petroleum products at a site are contaminated with significant quantities of other substances;
(2) site is contaminated with liquefied petroleum gas and ASTM grades no. 5 and no. 6 residual oils, bunker C residual oils, intermediate fuel oils with a viscosity of 30 and higher used for marine bunkering, asphalt oils, and petrochemical feedstocks; or
(3) discharge of petroleum or petroleum products of less than 25 gallons onto a pervious surface, as long as the discharge is removed and properly treated or properly disposed, or otherwise remediated, so that no contamination from the discharge remains on-site.

Site Closure Criteria		Yes/No	Comments
Groundwater	Considers current and projected use of groundwater		
	Option IIIA		
	COCs ≤ Alternative GCTLs based on site-specific risk assessment		
	Demonstration via a minimum of one year of groundwater monitoring that concentrations at the institutional control boundary will not exceed GCTLs; and		
	Plume has not impacted, and will not impact a surface water body		
Surface Water	Option IIIA		
	COCs ≤ Applicable Freshwater or Marine SWCTLs; or		
	COCs ≤ Background; or		
	COCs ≤ Best achievable detection limits		
Sediment	Option IIIA		
	Contaminated sediment does not exist; or		
	COCs ≤ Background		
Natural Attenuation with Monitoring			
Free product is not present; or removal of free product is not feasible and no fire or explosive hazard exists as a result of a release of petroleum products			
Contaminated soil is not present in the unsaturated zone			
Leachability values may be exceeded if TCLP or SPLP results are acceptable			
Groundwater contaminants not migrating horizontally beyond temporary point of compliance or vertically			
Contaminant characteristics conducive to Natural Attenuation			
Available data show an overall decrease in contamination			
Expect NFA (I, II, or III) within 5 years			
COCs ≤ CTLs or background at the temporary point of compliance			
COCs ≤ Natural Attenuation Default Criteria (Table V of 62-777)			
Or			
Demonstrate that NFA can happen through:			
Modeling			
Life-cycle cost analysis of remedial alternatives			

APPENDIX C

DRAFT NAS TACAN Building 1917 LUC

LAND USE CONTROL IMPLEMENTATION PLAN
TACAN BUILDING 1917

Naval Air Station (NAS) Pensacola
Pensacola, Florida

This Land Use Control Implementation Plan (LUCIP) is a component of the remedy proposed for Tacan Building 1917 being managed under the Florida Petroleum Cleanup Program. A Risk-Based Closure Request was prepared by AerostarSES LLC. (Aerostar). The report documented that current site conditions are protective of human health, public safety, and the environment and there are no current human or ecological exposures to petroleum-related constituents in soil or groundwater. Based on the site's environmental data and risk assessment included in the closure request; a No Further Action Status, per RMO Level II in Chapter 62-780.680(2), Florida Administrative Code (F.A.C.), was recommended for the site.

1. SITE LOCATION

The site is located on the airfield in the central portion of NAS Pensacola and includes Building 1917 and the surrounding parking lot. The areas surrounding the facility are developed with the airfield runways. The site is developed with Building 1917, an AST containment area and various pieces of equipment on concrete pads.

NAS Pensacola is located in Escambia County, approximately five miles west of the Pensacola city limits. The approximate 5,000-acre installation was constructed in the 1800s. Prior to construction, the facility was undeveloped and sparsely vegetated. Land use at NAS Pensacola consists of various military housing, training, and support facilities, as well as large industrial complexes for major repairs and refurbishment of aircraft frames and engines.

2. SITE DESCRIPTION

Tacan Building 1917 is an active radar control facility. Soils at the site consist of dark brown medium grained sand, with the water table encountered from two to three feet below ground surface (bgs). The majority of the site soils are covered by the site building, the AST containment area, the various equipment pads and the adjacent par king area.

Petroleum impacted soils are presumed to exist beneath the Tacan Building 1917 floor slab and the AST containment area. Other impacted soils previously identified at the site were excavated in November 2007. Following completion of the third quarter of groundwater monitoring in March 2011, laboratory analytical results indicated all concentrations of the tested parameters were below their respective Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs).

Because site contamination is limited to subsurface soils protected by concrete foundations, surface water runoff or potential migration of the petroleum-related constituent contamination to surface water is not expected to occur at the site. Also, because site contamination is limited to subsurface soil there is no exposure pathway for ecological receptors.

3. LAND USE CONTROL (LUC) OBJECTIVES

The objectives of implementing LUCs at Tacan Building 1917 are to prohibit the exposure to presumed impacted subsurface soils and to periodically verify that the presumed impacted soils have not impacted groundwater in the vicinity. The LUCs at Tacan Building 1917 protect human health by limiting exposure to the COCs in subsurface soil that are presumed to exceed

their respective Florida Cleanup Target Levels.

4. ESTABLISHMENT AND IMPLEMENTATION OF LUCS

NAS Pensacola will implement, maintain, and enforce LUCs; which will protect human health and the environment.

LUCs will be established and implemented as follows:

- NAS Pensacola will implement, monitor, maintain, and enforce the remedies at Tacan Building 1917 that protect human health and the environment in accordance with Chapter 62-770.68(2), F.A.C. The current recommendation for Tacan Building 1917 is No Further Action (NFA) with Controls. The following LUCs will be implemented:

  1. Establish an Institutional Control (IC) to prohibit future use or reuse of the Site for residential or residential-like land uses unless prior written approval is obtained from the FDEP. Residential and residential-like land use restrictions prohibit uses including, but not limited to, any form of housing, any kind of school (including pre-schools, elementary schools, and secondary schools), child care facilities, playgrounds, and adult convalescent or nursing care facilities.

  2. Establish an IC to prohibit all uses of groundwater from the surficial aquifer underlying the Site including, but not limited to, human consumption, dewatering, irrigation, heating/cooling purposes, and industrial processes unless prior written approval is obtained from the FDEP.

- The LUC objectives for Tacan Building 1917 are to protect human health by monitoring the existing engineering controls (building and containment area floor slabs) to limit exposure to subsurface soils that are presumed to exceed the industrial direct exposure SCTLs for petroleum products and periodically verify that the groundwater in the vicinity has not been impacted by the presumed soil impacts.

- NAS Pensacola has administrative controls in the form of "dig permits" that require approval for projects involving construction or subsurface disturbance. The LUC will be documented in the NAS Pensacola Base Master Plan (BMP). After receiving notice from FDEP of Site Rehabilitation Closeout Order (SRCO) finalization, the Navy will update the NAS Pensacola BMP to reflect the LUCs selected in the SRCO for Tacan Building 1917. LUC information incorporated into the BMP will include a depiction of the Tacan Building 1917 boundaries shown on Attachment 1.

- NAS Pensacola will conduct annual inspections and provide annual certification to FDEP to verify compliance with the requirements, objectives and controls in this LUCIP. The following LUC oversight and maintenance procedures will apply to Tacan Building 1917 in lieu of those otherwise specified in Section V of the NAS Pensacola LUC MOA (1999):

  1. Annual Site Inspections: Beginning upon notice by FDEP of SRCO finalization, NAS Pensacola personnel will conduct annual physical inspections of the Tacan Building 1917 floor slab and the adjacent AST containment area floor slab and provide annual certification to FDEP to verify compliance with the requirements, objectives and controls in this LUCIP. Inspections will document any violations of these controls and confirm that all necessary LUCs have been implemented and are properly maintained.

  2. Annual Groundwater Sample Collection: Annually, upon notice by FDEP of SRCO

SRCO finalization, NAS Pensacola will conduct or contract groundwater sample collection of monitor wells MW-3, MW-6, MW-13 and MW-14 to confirm that the capped subsurface soils are not impacting the groundwater in the vicinity.

3. Compliance Reporting: Beginning upon notice by FDEP of SRCO finalization, the NAS Pensacola Installation Restoration Manager will provide to FDEP an annual LUC Compliance Certificate for Tacan Building 1917 consistent with Attachment 2.

- NAS Pensacola will provide prompt notice to FDEP (verbal report within 24 hours, written report within 5 days) if it discovers any activity at Tacan Building 1917 that is inconsistent with the LUCIP requirements, objectives, or controls; or any action that may interfere with the effectiveness of the ICs.

- NAS Pensacola will provide notice to FDEP at least six months prior to any transfer or sale of Tacan Building 1917 including transfers to private, state, or local entities so that FDEP can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the facility to notify FDEP within six months prior to transfer or sale, than the facility will notify FDEP as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. In addition to the land transfer notice and discussion provisions above, The Navy further agrees to provide similar notice, within the same time frames, as to federal to federal transfer of property accountability and administrative control of Tacan Building 1917. Review and comment opportunities afforded to FDEP as to federal to federal transfers will be in accordance with all applicable federal laws.

5. DECISION DOCUMENT

AerostarSES LLC (Aerostar), 2013. Request for Site Closure – Risk Management Options Level II, Tacan Building 1917, NAS Pensacola, Pensacola, Florida.

FDEP (Florida Department of Environmental Protection), Issued _____ . Site Rehabilitation Closeout Order (SRCO) for Tacan Building 1917, NAS Pensacola, Pensacola, Florida.

6. OTHER PERTINENT INFORMATION

Except as specified in Section 5 above, all existing terms and conditions contained in the NAS Pensacola LUC MOA (1999) between Navy, FDEP and U.S. EPA (included as Attachment 3) shall apply to this site.

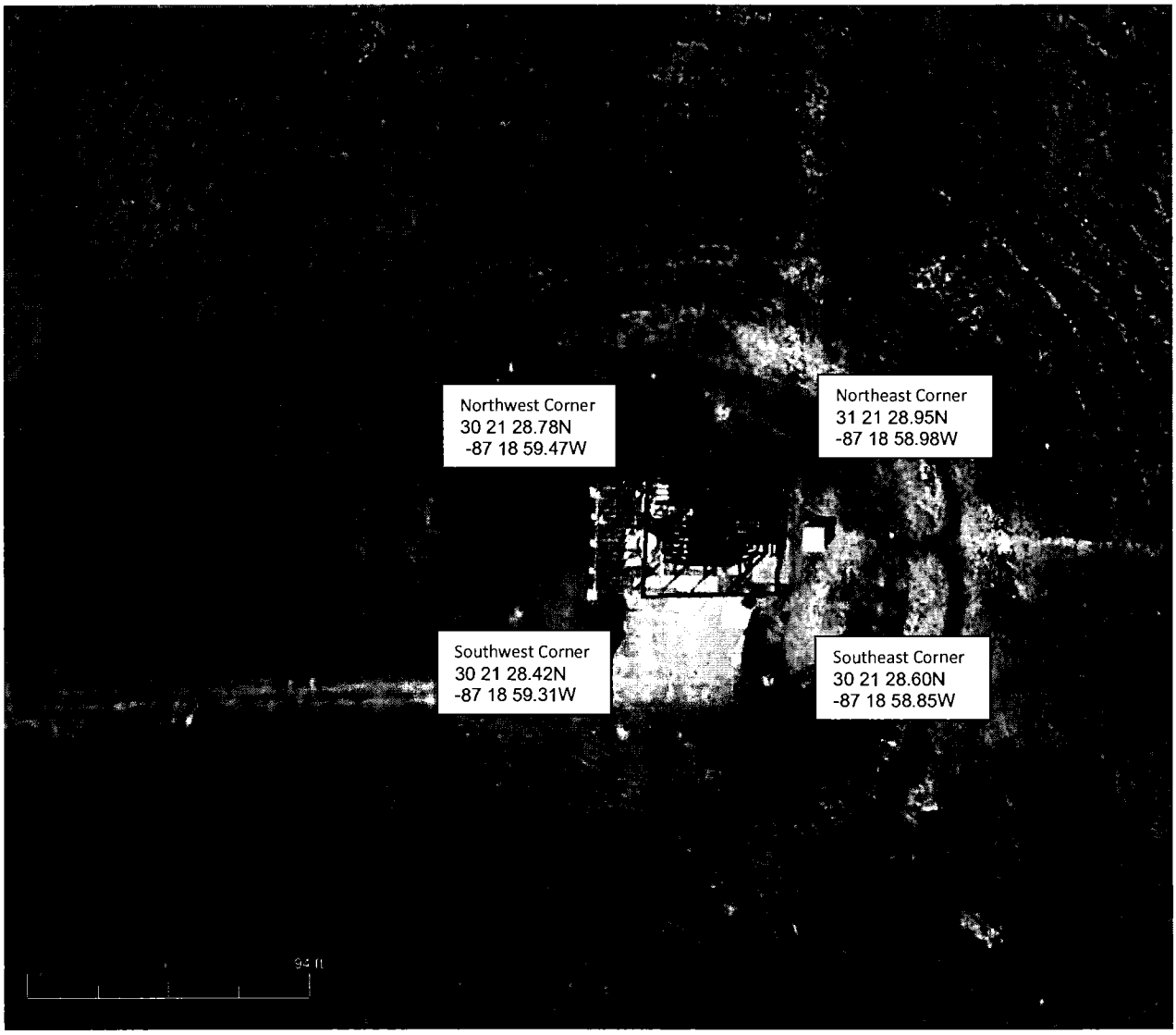
7. GEOGRAPHIC LOCATION WHERE LAND USE CONTROLS APPLY

The area in which the LUCs will be applied is shown on Attachment 1 of this LUCIP. The area is outlined by the coordinates that define the corners of the LUC area. Specifically the coordinates include:

Tacan Building 1917, Boundary Coordinates

	Latitude	Longitude
Northwest Corner	30 21 28.78N	-87 18 59.47W
Northeast Corner	31 21 28.95N	-87 18 58.98W
Southwest Corner	30 21 28.42N	-87 18 59.31W
Southeast Corner	30 21 28.60N	-87 18 58.85W

Attachment 1



Attachment 2

TACAN Building 1917 Annual LUC Compliance Certificate

Naval Air Station Pensacola
FL9170024567

Property Owner: NAVAL AIR STATION PENSACOLA

Property Address: Tacan Building 1917, FLORIDA

Is evaluation for all or a portion of the Tacan Building 1917 property? _____
If evaluating only a portion of the site, attach a figure identifying the portion being evaluated.

This evaluation covers the period from 1 January _____through 31 December_____.
Form shall be submitted by **1 March** of the year following the reporting period.

Certification Checklist

	In Compliance	Non-Compliance	See Comment
1) Building and containment area floor slabs are present and in good condition.	☐	☐	☐
2) Groundwater samples collected from MW-3, MW-6, MW-13 and MW-14 show no petroleum impacts above the Industrial GCTLs.	☐	☐	☐
3) No potable use of groundwater within the Site boundary.	☐	☐	☐

I, the undersigned, herby certify that I am an authorized representative of the above named property owner and that the above described Land Use Controls have been complied with for the period noted. Alternately, any known deficiencies and owner's completed or planned actions to address such deficiencies are described in the attached Explanation of Deficiency(ies).

_____ _____
Signature – Greg Campbell (Navy) Date

_____ _____
Signature – Patty Whittemore (Navy) Date

_____ _____
Signature Date

_____ _____
Signature Date

Mail completed form(s) to:

Florida Dept of Environmental Protection
Division of Waste
Management Bureau
of Waste Cleanup
Federal Programs
Section
Attn: NAS Pensacola RPM; Mr. David Gabka
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Commanding Officer
Naval Facilities Engineering Command, Southeast
Attn: Environmental Restoration Division RPM; Ms. Patty Marajh-Whittmore
Building 903
Jacksonville, FL 32212-0030

Commanding Officer
Naval Air Station Pensacola
Attn: Environmental Department Coordinator; Mr. Greg Campbell
310 John Tower Road
Pensacola, FL 32508-5000

Attachment 3

MEMORANDUM OF AGREEMENT
BETWEEN
U.S. ENVIRONMENTAL PROTECTION AGENCY
THE
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AND THE
U.S. DEPARTMENT OF THE NAVY
NAVAL AIR STATION (NAS) PENSACOLA

THIS AGREEMENT is entered into this 24th day of September 1999, by and between the U.S. Environmental Protection Agency ("U.S. EPA"), the Florida Department of Environmental Protection ("FDEP") and the U.S. Department of the Navy NAS Pensacola also referred to herein as "the Parties," for the specific purposes hereinafter set forth.

I. BACKGROUND

Environmental investigative activities being undertaken on NAS Pensacola have revealed and may in the future reveal certain areas of environmental contamination ("sites") on the Station. These sites include those where CERCLA hazardous substances, RCRA hazardous wastes or hazardous constituents, and/or petroleum products or their derivatives were or may have been released into the environment as a result of activities conducted over the history of the installation.
Such sites may generally be categorized as follows:

(i) Those that have been fully investigated and site specific remedy(ies) previously implemented;

(ii) Those that have been fully investigated and for which site remedy(ies) have been selected but have not yet been implemented;

(iii) Those that have been fully investigated but for which final remedy selection decisions have not yet been made;

(iv) Those that are in need of initial or further site investigative activities before the appropriate final remedy(ies) can be selected and implemented.

Because NAS Pensacola is currently and will likely remain a multi-use facility with industrial, recreational and residential land uses, the Station desires that future site remedy determinations take land use into account in order to facilitate the use of risk-based cleanup criteria. The Parties agree that when land use controls (LUCs) are necessary to assure the reliability of land use assumptions, it is essential that appropriate procedures be put in place to ensure that such controls will be maintained for as long as necessary to keep the chosen remedy fully protective of human health and the environment.

II. DEFINITION

As used herein, the term "land use control" or "LUC" means any restriction or control arising from the need to protect human health and the environment, that limits the use of and/or exposure to, environmentally contaminated media (e.g. soils, surface water, ground water) at any site on NAS Pensacola. The term includes controls on access (e.g., engineered and non-engineered mechanisms such as fences, caps, security guards.) Additionally, the term encompasses both affirmative measures to achieve the desired control (e.g., night lighting of an area) and prohibitive directives (e.g., no drilling of drinking water wells). The term also includes "institutional controls," which are non-engineered mechanisms for ensuring compliance with necessary land use limitations (e.g., public advisories, Base Master Plan notations, applicable legal restrictions on land or water usage).

III. PURPOSE

The Parties intend to accomplish the following specific objectives through execution of this Agreement:

a). To implement a process to ensure appropriate long term maintenance of those LUCs which may have already or which may hereafter be selected for implementation as part of remedy selection for any site on the Station. It is intended that such a process will in turn:

1. Facilitate the application of Federal and/or State risk-based cleanup criteria to site cleanups through consideration of assumed future land usage at those sites where LUCs will be necessary to make such assumptions reliable;

2. Elevate the general level of awareness amongst NAS Pensacola personnel as to the need to maintain such controls in order to ensure long term protection of human health and the environment.

b). To implement a process for NAS Pensacola to periodically advise U.S. EPA and FDEP representatives of the continued maintenance of any LUCs implemented on board the Station and of any planned changes in land use which might impact any site remediated in accordance with risk-based criteria based on the assumption that land usage would be controlled, (e.g., restricted to industrial use);

c). To implement procedures for integrating all site remedies which include LUCs into the Base Master Planning Process;

d). To provide, in part, through NAS Pensacola's good faith compliance with this Agreement, reasonable assurances to U.S. EPA and FDEP that those specific pathway and exposure assumptions relied upon in applying a risk-based cleanup standard to a given site will remain valid until such time as the Parties agree that either different site controls or unrestricted site usage would be appropriate.

IV. APPENDICES

Within thirty (30) days after execution of this Agreement, NAS Pensacola agrees to develop the following Agreement Appendices:

a). A draft site listing (Appendix A) for those presently known sites on NAS Pensacola which appropriately should be covered under the terms of this Agreement. That draft will be sent to U.S. EPA and FDEP for review and concurrence prior to finalization and should include a site location reference tied to the Base Master Plan. Once finalized, that initial Appendix will be updated on at least a quarterly basis by NAS Pensacola reflect any additions or deletions of sites as may hereafter be agreed to by the Parties. Copies of all agreed upon updates shall be promptly distributed to U.S. EPA and FDEP. If no site additions or deletions have been made during a previous quarter, then no Appendix update need be prepared or distributed for that period.

b). Individual Land Use Control Implementation Plans ("LUCIPs") (Appendix B) for all known sites to be covered under the terms of this Agreement. Each LUCIP shall identify both the LUC objective for the site being addressed as well as those particular LUCs which will be relied upon to achieve that objective. Each LUCIP will also specify what must be done in order to implement and maintain the specific LUC's required for the site and should contain a cross reference to whatever decision document(s) apply to that site. As future decisions involving LUCs are made at sites on NAS Pensacola, these sites will become covered under this Agreement and listed in Appendix A, and a new LUCIP appropriate to each such newly covered site will be added to Appendix B. In conjunction with NAS Pensacola Base Master Plan, these plans should serve as a central LUC reference source to assist Station personnel with completing those periodic site inspections, reviews, and certifications required under Paragraph V of this Agreement.

V. SITE INSPECTION / REVIEW / CERTIFICATION

Within thirty (30) days of finalizing the Appendices to be developed in accordance with the requirements of Paragraph IV above, NAS Pensacola agrees to initiate the following specific actions:

a). Conduct quarterly visual inspections of all sites where LUCs have previously or may hereafter be implemented as such sites shall be identified in Appendix A to this Agreement. These inspections shall be for the purposes of verifying that all necessary LUCs have been implemented and are being properly maintained. The Station's Environmental Program Manager will be responsible for ensuring that all required inspections are performed; that U.S. EPA and FDEP are provided with thirty days advance notice of, and opportunity to observe Station personnel as they conduct at least one of the quarterly inspections each year; that U.S. EPA and FDEP are notified of any deficiencies noted; and that all appropriate measures are undertaken in a timely fashion to correct any deficiencies with timely notification to U.S. EPA and FDEP detailing corrective actions taken.

b). Conduct quarterly reviews by the Station's Environmental Compliance Board (ECB) as established IAW Paragraph 1-2.14 of OPNAVINST 5090.1B) of the Station's status in complying with all previously implemented LUCs. Any non-compliance issues will be appropriately resolved with U.S. EPA and FDEP.

c). Prepare and forward an annual report to U.S. EPA and FDEP signed by the Station Commanding Officer (with copy to SOUTHNAVFACENGCOM), certifying the continued retention of all implemented LUCs associated with those sites identified in Appendix A to this Agreement (as last updated).

VI. AGENCY COORDINATION

Effective upon execution of this Agreement, NAS Pensacola agrees to implement the following agency notification and concurrence procedures:

a). At least sixty days (except in emergency situations) prior to implementation of any major change in land usage (as hereinafter defined) at any site subject to LUCs, the Station shall provide notification of any such change to U.S. EPA and FDEP. Such notifications shall be provided for the purpose of obtaining U.S. EPA and/or FDEP concurrence with the Station's determination as to whether the contemplated change will or will not necessitate the need for re-evaluation of the selected remedy or implementation of specific measures to ensure continued protection of human health and the environment. No major land use change should be implemented until such concurrence is obtained, consistent with the timeliness requirements set forth in subparagraph (b) below. For major land use changes affecting petroleum contaminated sites, although such notifications will be sent to both U.S. EPA and FDEP, the Station need only obtain FDEP's concurrence with the proposed change. Each notification / request for concurrence shall include:

1. an evaluation of whether the anticipated land use change will pose unacceptable risks to human health and the environment or negatively impact the effectiveness of the selected site remedy;

2. an evaluation of the need for any additional remedial action or LUCs resulting from implementation of the anticipated major land use change; and,

3. a proposal for any necessary changes in the selected site remedy.

b). Upon being notified by the Station of an anticipated major land use change at a site U.S. EPA and/or FDEP shall evaluate the information provided pursuant to paragraph (a) above, and shall respond in a timely fashion prior to such land use change.

c). The Parties agree that the following shall constitute a major change in land usage:

1. Any change in land use (e.g., from industrial or recreational to residential) that would be inconsistent with those specific exposure assumptions in the

human health and/or ecological risk assessments that served as the basis for the LUCs that were implemented at the site;

2. Any site activity that may disrupt the effectiveness of the implemented LUC. For example, excavation at a landfill; groundwater pumping that may impact a groundwater pump and treat system; a construction project that may impact ecological habitat protected by the remedy; removal of a fence; unlocking of a gate, or removal of warning signs.

3. Any site activity intended to alter or negate the need for the specific LUC(s) implemented at the site.

d). The Station also agrees to immediately notify U.S. EPA and FDEP if, despite its best efforts to ensure compliance with Paragraph (a) above, any major change in land use at any site with an implemented LUC is discovered which has not been previously reviewed and concurred in by U.S. EPA and/or FDEP in accordance with that Paragraph. Such notifications will provide all pertinent information as to the nature and extent of the change and describe any measures implemented or to be implemented (to include a timetable for future completion) to reduce or prevent human health or ecological impacts.

VII. MOA INTEGRATION

The Parties agree that when site-specific LUCS are to be implemented, an adequate description of the same along with conditions for their use should be included in whatever Decision Document reflects the selected remedy for a site as well as in the associated LUCIP. Additionally, Appendix C contains standard language for inclusion in such documents which may consist of CERCLA Records of Decision (RODs) or Decision Documents (DDs), Remedial Action Plans (RAPs), closure or post closure plans for RCRA regulated units or formal modifications to a facility's RCRA / HSWA permit, or in separate approval or No-Further-Action (NFA) letters issued by U.S. EPA or FDEP whichever has oversight authority over the site in question.

VIII. FUNDING COMMITMENT

The Station agrees to use its best efforts to obtain all necessary funding through the appropriate authorities or source(s) to ensure the continued maintenance of all LUCs covered under this Agreement and, where necessary, the timely re-implementation of any LUCs and/or completion of site restoration activities necessitated by any inappropriate change to an implemented LUC. It is not intended by the Parties that this Paragraph be construed in any way to limit the rights otherwise reserved by U.S. EPA and FDEP under Paragraph XIV of this Agreement.

IX. FUTURE PROPERTY CONVEYANCE

Should the decision later be made to transfer to any other agency, private person or entity, either title to, or some lesser form of property interest (e.g., an easement, or right of way) in any site on NAS Pensacola with an existing LUC(s), then the Station shall ensure that:

a). U.S. EPA and FDEP are provided with notice at least sixty days prior to any such intended conveyance. Such notice shall indicate the mechanism(s) which it is intended will be used to reasonably ensure that any LUC(s) which may need to remain in place after interest conveyance will be maintained, and

b). each LUC is reviewed and incorporated into those property disposal procedures (e.g., preparation of the Environmental Baseline Survey for Transfer (EBST) and Finding of Suitability for Transfer (FOST)) to be utilized to meet CERCLA and 40 CFR 373 notice requirements so that the transferee(s) is given adequate notice of existing site condition(s).

It is understood that the planned conveyance of any site with LUCs may prompt U.S. EPA or FDEP to re-evaluate the continued appropriateness of any previously agreed upon LUC(s) based upon the level of assurance provided, that necessary LUCs will be maintained.

X. CHANGE IN APPLICABLE STANDARDS

Nothing herein should be construed to preclude NAS Pensacola from proposing at any time or from the Parties otherwise agreeing to effect the deletion of any site from coverage under the terms of this Agreement on account of either: (i) a post-remedy implementation change to applicable Federal or State risk-based cleanup standards, or (ii) a change in previously documented contaminant concentration levels allowing for unrestricted use solely as a result of the effects of man induced or naturally occurring bioremediation / attenuation.

XI. FUTURE COMMUNICATIONS

Within ten days of execution of this Agreement each Party shall notify the other Parties as to the name(s), address(es), telephone number(s), electronic mail address(es) and facsimile number(s) of their respective representative(s) who shall receive all correspondence and communications on behalf of that Party pertaining to all matters falling under the terms of this Agreement. A listing of agency POCs shall be attached hereto as Appendix D and updated by the Parties as appropriate.

XII. SITE ACCESS

NAS Pensacola herein agrees to provide U.S. EPA and FDEP representatives, their contractors or consultants access to all sites to be covered by this Agreement at all reasonable times consistent with military mission, national security and health/safety requirements upon presentation of proper credentials. The Station's Environmental Program Manager or his/her designee will coordinate access and escort to restricted or controlled-access areas, arrange for base passes and coordinate any other access requests which arise. U.S. EPA and FDEP representatives shall have the authority to enter and move freely around any site at all reasonable times for purposes including, but not limited to, reviewing the efforts performed by NAS Pensacola in complying with the

terms of this Agreement; conducting such tests as these agencies may deem necessary and verifying all information / data submitted by NAS Pensacola personnel pursuant to this Agreement. Nothing in this Agreement is intended or shall be construed to limit in any way the right of entry or inspection that either U.S. EPA or FDEP may otherwise have by operation of law.

XIII. DISPUTES

All Parties agree to use Partnering principles in a good-faith effort to resolve any and all disputes which may hereafter arise with regards to the Station's substantial good-faith compliance with the terms of this Agreement or other matters relating to the Sites addressed hereunder

XIV. RESERVATION OF RIGHTS

It is agreed and understood that U.S. EPA and FDEP reserve all rights and authorities each agency may currently have or hereafter acquire by law to require that NAS Pensacola comply with those federal and state laws and regulations applicable to the investigation, cleanup and long term maintenance of those sites to be covered by this Agreement. It is also understood that the Commanding Officer, NAS Pensacola herein reserves those rights and authorities granted to the Department of Defense (DoD) by federal or state law, regulation, or executive order. On behalf of the Department of the Navy, the Commanding Officer NAS Pensacola further reserves the right to put all property under his cognizance to those uses deemed necessary in his discretion for mission accomplishment or otherwise deemed necessary by appropriate military authority to meet the needs of the DoD.

XV. ANTI-DEFICIENCY ACT

Nothing in this Agreement shall be construed as obligating the Navy or U.S. EPA, their officers, employees, or agents to expend any funds in excess of appropriations authorized for such purposes in violation of the federal Anti-Deficiency Act (31 U.S.C. Section 1341).

XVI. AMENDMENT

Any amendments to this Agreement shall be in writing and will be executed by the undersigned signatories or their duly authorized designees or successors and shall be attached to this original Agreement.

XVII. TERMINATION

This Agreement shall terminate at such time as the undersigned representatives of the Parties or their successors, mutually concur that the aforesaid objectives of the Parties have been fulfilled and that the need for such an Agreement no longer exists. Alternatively, any Party may unilaterally withdraw from this Agreement upon sixty (60) days written notice to the other Parties but only after reasonable efforts have first been made by all Parties to resolve the dispute(s) leading to the taking of such action. If any Party decides to unilaterally withdraw, the Parties shall nonetheless work towards

resolving any outstanding issues as may exist between them. It is understood that should the Navy choose to unilaterally withdraw from this Agreement, that U.S. EPA and FDEP may choose to reconsider any remedy(ies) associated with any site with a LUC still in place at the time of such withdrawal.

XVIII. REPRESENTATIVE AUTHORITY

Each undersigned representative of the Parties to this Agreement certifies that she or he is fully authorized to enter into the terms and conditions of this Agreement and to execute the same so as to effectively bind each Party to its terms.

XIX. EXECUTION

This Agreement shall become effective on the date the last of the authorized representatives of the Parties signs.

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV

By:

Title: Deputy Regional Administrator

FOR THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

By:

Title: Secretary DEP

FOR THE DEPARTMENT OF THE NAVY, NAVAL AIR STATION PENSACOLA

By:

Title: Captain JSN
Commanding Officer

APPENDIX A

LAND USE CONTROL SITE LISTING

NAVAL AIR STAITION PENSACOLA, FLORIDA

Date last updated: 07 FEBRUARY 2000

1. Operable Unit 01	(Site 1)	Sanitary Landfill
2. Operable Unit 04	(Site 15)	Pesticide Rinsate Disposal Area
3. Operable Unit 10	(Site 32) Drying Beds	Industrial Wastewater Treatment Plant Sludge
	(Site 33)	Wastewater Treatment Pond
	(Site 35) Sewer Line	Industrial Wastewater Treatment Plant (IWTP)

ENCLOSURE (1)

APPENDIX B

LAND USE CONTROL IMPLEMENTATION PLAN FOR OPERABLE UNIT 01 (SITE 1)

NAVAL AIR STATION PENSACOLA, FLORIDA

1. Site Description: Operable Unit 01 (Site 1) is an approximately 80 acre inactive sanitary landfill which received both household and industrial wastes that were generated by the activity from the early 1950's until 1976. The area was excavated to receive waste products during its active years and then covered with soil. It's elevation ranges from 8 to 20 feet above sea level and has been planted in pines, which are now 15 to 25 feet tall. The undergrowth is densely vegetated with natural scrub.

2. Site Location: The area is located approximately 0.5 mile east of Forest Sherman Airfield, bordered by Bayou Grande to the north, the A.C. Read Golf Course to the east, and Taylor Road to the south. The location is shown on the Attached Site Map dated 2/4/2000.

State Plain coordinate	Northing	Easting
Site 1	506,250	1,087,500

3. LUC Objective(s): In accordance with the Record of Decision the objectives of the LUC at this site is to prevent ingestion and inhalation of contaminated groundwater and aquatic exposure to groundwater migrating to adjacent surface waters.

4. LUC(s) Implemented to Achieve Objective(s): The NAS Pensacola Installation Restoration (IR) Manager shall be responsible and coordinate inspections of this Site. Any discrepancies will be forwarded to NAS Facilities Officer for correction to maintain the objectives. Institutional controls shall be imposed to restrict groundwater use of the surficial zone of the Sand-and Gravel Aquifer within 300 feet of the site boundaries. No intrusive activities shall be permitted within the site boundaries without prior approval from the NAS Pensacola Environmental Office. The NAS Pensacola IR Manager will submit an annual review of the institutional controls and certification that the controls should remain in place or be modified to reflect changing site conditions. Groundwater shall be monitored downgradient of the site to ensure natural attenuation processes are effective and contaminates above State and Federal levels are not being discharged into adjacent surface waters. The groundwater interception system installed to capture contaminated groundwater upgradient of Wetland 3 will continue operation with the effluent being treated prior to discharged shall be maintained until performance standards are achieved that are acceptable to both FDEP and EPA. The groundwater-monitoring program will continue until a five-year review

concludes that the alternative has achieved continued attainment of the performance standards and remains protective of human health and the environment.

5. Decision Document: Record of Decision for Operable Unit 01, dated June 5, 1998; concurrence letters from USEPA dated August 11, 1998 and September 25,1998

6. Other Pertinent Information: The Navy anticipates concurrence from FDEP after this appendix is submitted.

APPENDIX B (continued)

LAND USE CONTROL IMPLEMENTATION PLAN FOR OPERABLE UNIT 04 (SITE 15)

NAVAL AIR STATION PENSACOLA, FLORIDA

1. Site Description: Operable Unit 04 (Site 15) is the golf course maintenance area which from 1963 to present stored fertilizer, pesticide, and herbicide materials for application on NAS Pensacola's golf courses. From 1964 to 1979 water used to clean application equipment was disposed in this area. Now equipment is cleaned on wash racks, which recover the rinsates for future use.

2. Site Location: The area is bordered by the NAS Pensacola golf course on its southern and western sides, Bayou Grande approximately 600 feet to the north, and a tidal pond to the east. The location is shown on the Attached Site Map dated 2/4/2000.

State Plain coordinate	Northing	Easting
Site 1	507,000	1,091,000

3. LUC Objective(s): In accordance with the Record of Decision the objectives of the LUC at this site is to prevent ingestion and inhalation of contaminated groundwater and aquatic exposure to groundwater migrating to adjacent surface waters.

4. LUC(s) Implemented to Achieve Objective(s): The NAS Pensacola Installation Restoration (IR) Manager shall be responsible and coordinate inspections of this Site. Any discrepancies will be forwarded to NAS Facilities Officer for correction to maintain the objectives. Institutional controls shall be imposed to restrict groundwater use of the surficial zone of the Sand-and Gravel Aquifer within 300 feet of the site boundaries and restrict site use to industrial. The NAS Pensacola IR Manager will submit an annual review of the institutional controls and certification that the controls should remain in place or be modified to reflect changing site conditions. Groundwater shall be monitored downgradient of the site to ensure natural attenuation processes are effective and contaminates above State and Federal levels are not being discharged into adjacent surface waters. The groundwater-monitoring program will continue until a five-year review concludes that the alternative has achieved continued attainment of the performance standards and remains protective of human health and the environment.

5. Decision Document: Record of Decision for Operable Unit 04, dated November 30, 1999.

6. Other Pertinent Information: The Navy anticipates concurrence from EPA and FDEP after this appendix is submitted.

APPENDIX B (continued)

LAND USE CONTROL IMPLEMENTATION PLAN FOR OPERABLE UNIT 10 (SITES 32, 33, and 35)

NAVAL AIR STATION PENSACOLA, FLORIDA

1. Site Description: Operable Unit 10 (Sites 32, 33, and 35) is the NAS Pensacola waste water treatment facility area which over the years received various industrial waste products along with domestic wastes. Within the area waste products were placed in open sludge drying beds and wastewater treatment ponds. Both the sludge drying beds and ponds underwent RCRA closures in 1989 and groundwater is monitored under the HSWA permit.

2. Site Location: The area is bordered by Magazine Point to the north, Bayou Grande to the west, Pensacola Bay to the east, and the Chief of Naval Education and Training (CENT) facilities to the south. The location is shown on the Attached Site Map dated 2/4/2000.

State Plain coordinate	Northing	Easting
Site 1	506,500	1,096,500

3. LUC Objective(s): In accordance with the Record of Decision the objectives of the LUC at this site is to prevent ingestion and inhalation of contaminated groundwater and aquatic exposure to groundwater migrating to adjacent surface waters.

4. LUC(s) Implemented to Achieve Objective(s): The NAS Pensacola Installation Restoration (IR) Manager shall be responsible and coordinate inspections of this Site. Any discrepancies will be forwarded to NAS Facilities Officer for correction to maintain the objectives. Institutional controls shall be imposed to restrict groundwater use of the surficial zone of the Sand-and Gravel Aquifer within 300 feet of the site boundaries. The NAS Pensacola IR Manager will submit an annual review of the institutional controls and certification that the controls should remain in place or be modified to reflect changing site conditions. Groundwater shall be monitored downgradient of the site to ensure natural attenuation processes are effective and contaminates above State and Federal levels are not being discharged into adjacent surface waters. The groundwater-monitoring program will continue until a five-year review concludes that the alternative has achieved continued attainment of the performance standards and remains protective of human health and the environment.

5. Decision Document: Record of Decision for Operable Unit 10, dated May 16, 1997. Concurrence letters received from EPA and FDEP July 7, 1997 and October 2, 1997 respectively.

6. Other Pertinent Information: None.

APPENDIX C

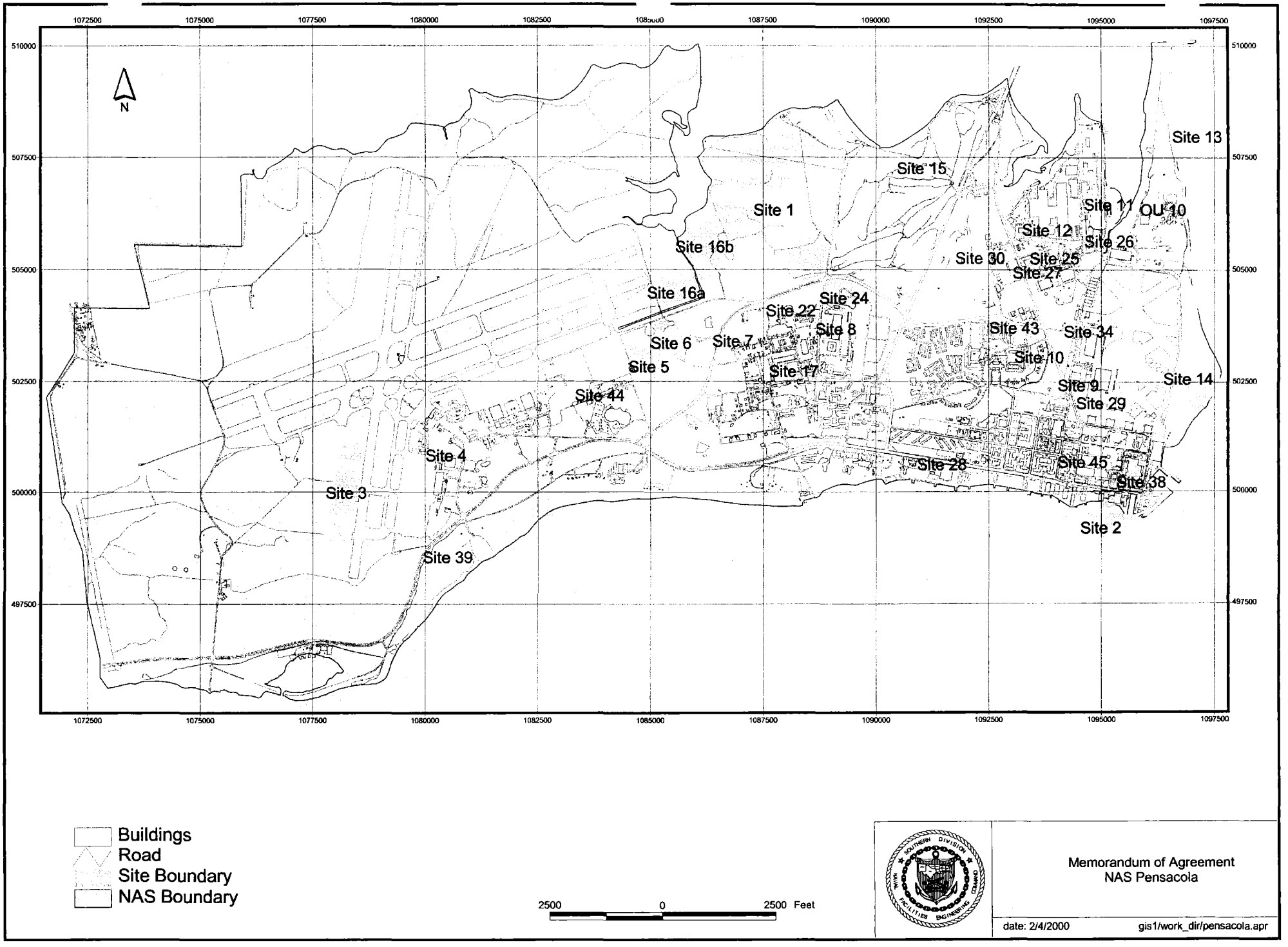
SAMPLE ROD / DD
MOA INCORPORATION LANGUAGE

Insert the following language in those RODs / DDs providing for the use of LUCs).

By separate Memorandum of Agreement (MOA) dated September 1999, with U.S. Environmental Protection Agency (U.S. EPA) and the Florida Department of Environmental Protection (FDEP), NAS Pensacola, on behalf of the Department of the Navy, agreed to implement base-wide, certain periodic site inspection, condition certification and agency notification procedures designed to ensure the maintenance by Station personnel of any site-specific Land Use Controls (LUCs) deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Navy's substantial good-faith compliance with the procedures called for therein, reasonable assurances would be provided to U.S. EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by the Navy, U.S. EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Station's substantial good-faith compliance with the specific LUC maintenance commitments reflected therein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

ENCLOSURE (3)



Memorandum of Agreement
NAS Pensacola

date: 2/4/2000 gis1/work_dir/pensacola.apr

ENCLOSURE (4)