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NAS KEY WEST
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SOIL SAMPLING AND ANALYSIS PLAN FOR SIGSBEE WATER TOWERS WITH TRANSMITTAL LETTER NAS KEY WEST FL
12/8/2008
TETRA TECH NUS

AIK-08-0745

December 8, 2008

Project Number 01769 *via U.S. Mail*

Wayne Woodrum, PE
NAVFAC SE, IPT South Atlantic
Building 903
Naval Air Station
Jacksonville, FL 32212

Reference: CLEAN Contract No. N62467-04-D-0055
Contract Task Order No. 0130

Subject: Soil Sampling and Analysis Plan for Sigsbee Water Towers, Rev. 1, and the Health and Safety Plan for Sampling Activities at Sigsbee Annex Water Towers, Naval Air Station, Key West, Florida

Dear Mr. Woodrum:

I have enclosed a CD containing the PDF files for the Soil Sampling and Analysis Plan for Sigsbee Water Towers, Rev. 1, and the Health and Safety Plan for Sampling Activities at Sigsbee Annex Water Towers Naval Air Station, Key West, Florida. These files are being sent to you via U.S. Mail to meet TtNUS's contractual obligation under CTO 0130 for submittal of our Work Plan. These revisions incorporate comments made by Mike Green. Please note FDEP has already approved these documents. I am not expecting any more comments on these documents.

Please call me at (803) 641-4943, if you have any questions regarding the enclosed documents.

Sincerely,

C. M. Bryan
Project Manager

CMB:spc

c: Ms. Debra M. Humbert (Cover Letter Only)
Mr. M. Perry/File
Files 01769-7.1.2, 4.2

Tetra Tech NUS, Inc.
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Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055

Rev. 1
12/05/08

Soil Sampling and Analysis Plan for Sigsbee Water Towers

Naval Air Station Key West
Key West, Florida

Contract Task Order 0130

December 2008

Naval Facilities Engineering Command
Southeast
NAS Jacksonville
Jacksonville, Florida 32212-0030

TETRA TECH NUS, Inc.

Rev. 1
12/05/08

SOIL SAMPLING AND ANALYSIS PLAN
FOR
SIGSBEE WATER TOWERS

NAVAL AIR STATION
KEY WEST, FLORIDA

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Naval Facilities Engineering Command
Southeast
NAS Jacksonville
Jacksonville, FL 32212-0030

Submitted by:
Tetra Tech NUS
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220

CONTRACT NUMBER N62467-04-D-0055
CONTRACT TASK ORDER 0130

DECEMBER 2008

PREPARED UNDER THE SUPERVISION OF:

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ACRONYMS/ABBREVIATIONS

bgs	Below ground surface
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CTO	Contract Task Order
EPA	United States Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
FKAA	Florida Keys Aqueduct Authority
GPS	Global Positioning System
IDW	Investigation-derived waste
KW	Key West
mg/kg	miligram per kilogram
MS	Matrix spike
MSD	Matrix spike duplicate
MW	Monitoring well
NAS	Naval Air Station
NAVFAC SE	Naval Facilities Engineering Command, Southeast
QC	Quality control
SAP	Sampling and Analysis Plan
SB	Soil boring
SOP	Standard Operating Procedure
SSR	Soil Sampling Report
SWT	Sigbee Water Tower
TAT	Turnaround time
TtNUS	Tetra Tech NUS, Inc.

1.0 SITE BACKGROUND

Tetra Tech NUS, Inc. (TtNUS) has been contracted by the Department of the Navy, Naval Facilities Engineering Command, Southeast (NAVFAC SE) to perform a Soil Assessment at two water tower locations within the Sigsbee area of Naval Air Station (NAS) Key West, Florida. This Sampling and Analysis Plan (SAP) was prepared under the Comprehensive Long-term Environmental Action, Navy (CLEAN) Contract Number N62467-04-D-0055, Contract Task Order (CTO) Number 0130.

1.1 SITE DESCRIPTION

The two water tower sites are both located within the Sigsbee housing area located within the Key West Naval Air Station as shown in Figure 1-1. The Sigsbee area is also known as Dredgers Key and is located in Key West, Monroe County, Florida. The site lies within Sections 28 and 29, Township 67 South, Range 25 East.

Both water tower sites are currently occupied by unused, public water supply towers. Figure 1-2 shows the locations of the two water tower sites within the Sigsbee area. The northern-most of the two towers is identified as U.S. Navy Tank 989; the southern tower is identified as U.S. Navy Tank 1275. Both sites are generally flat with mostly scrub grass and sand/gravel surface. Both sites are enclosed by security fencing and gates with restricted acces.

The water towers were built and maintained by the Navy as part of the NAS Key West public water supply system. The Sigsbee Annex water towers have provided potable water to the Sigsbee housing area for more than 40 years. The elevated water tanks are constructed of steel and supported by tall steel leg structures, as common to the era of construction and use. The tanks, supporting structures, water piping, and related equipment are painted with a distinct red and white paint scheme. It appears from an initial reconnaissance visit that the paint is very weathered and that no maintenance work or painting has been performed recently on either water tower.

NAS Key West has transferred the water distribution system from the U.S. Government to the Florida Keys Aqueduct Authority (FKAA). The tanks are now the property of the FKAA; however, the land remains the property of the Navy. The FKAA has determined that the tanks and towers are no longer needed as part of its water distribution network and has initiated a demolition task to remove the towers. FKAA is planning to remove both tanks between August and September 2008.

1.2 ENVIRONMENTAL SITE HISTORY

The only known environmental sampling or assessment efforts at either site occurred in June 2008. This sampling event was conducted by FKAA personnel to determine if elevated levels of lead existed at either

site prior to demolition work (FKAA, 2008). Results of the limited soil sampling are summarized in Table 1-1 and the data package is presented in Appendix A.

Results of this preliminary soil sampling event show that shallow soil beneath each tower has detectable concentrations of lead, ranging from 88 to 3,000 mg/kg. These shallow soil samples were reportedly collected from depths of 0 to 6 inches below ground surface (bgs).

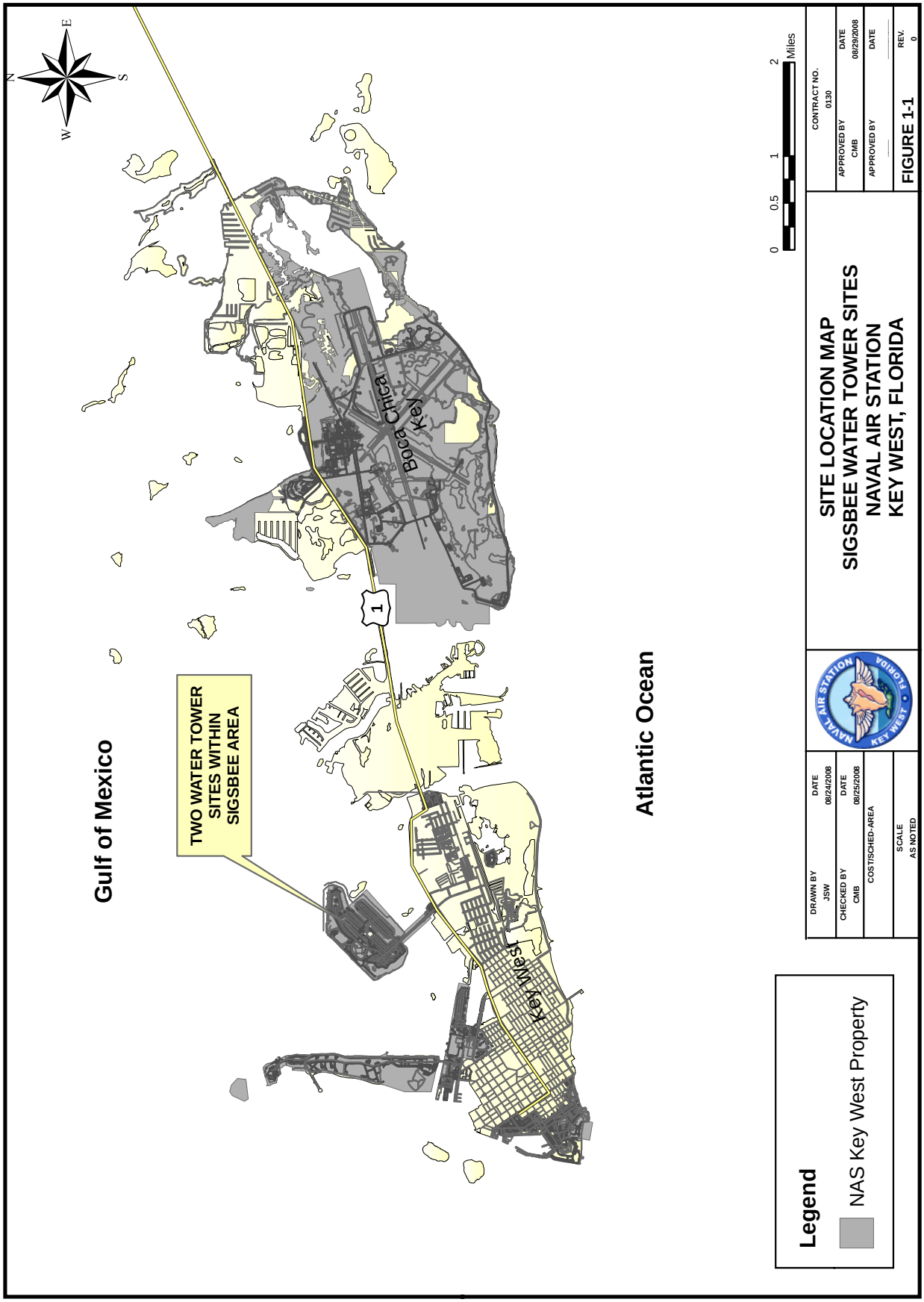
Soil contamination is commonly found under structures of this type and era due to the painting, sandblasting, and maintenance of the steel tank and support structure over time. The purpose of this SAP is to provide additional soil sampling in these areas prior to, and following, tower demolition.

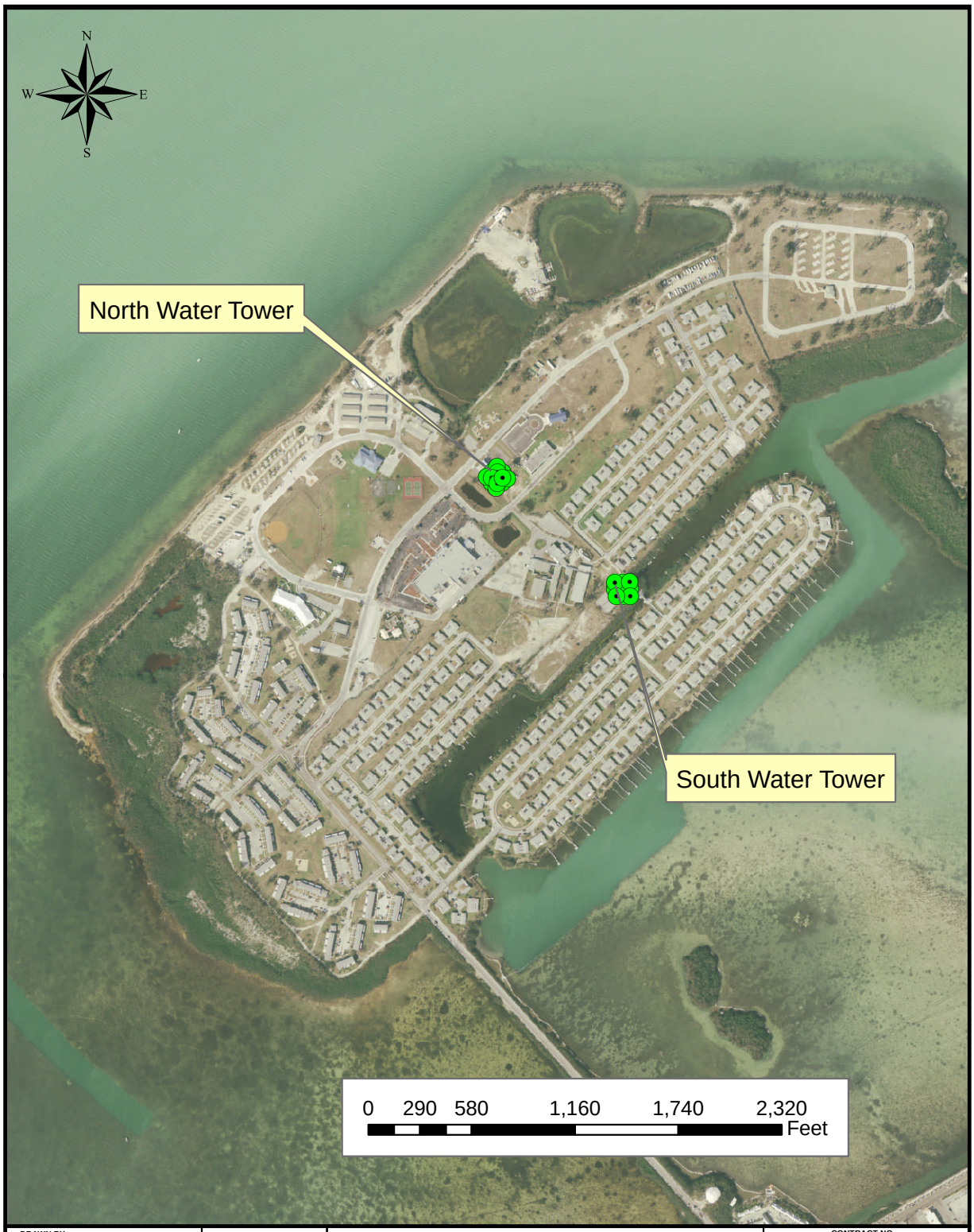
TABLE 1-1

HISTORICAL LEAD RESULTS – JUNE 2008 FKAA SAMPLING
SIGSBEE WATER TOWER SITES
NAVAL AIR STATION
KEY WEST, FLORIDA

Shallow Soil Sample ID	Location	Depth (in-bgs)	Lead (mg/kg)
1 T1	North Tower - NW	0-6	590
2 T1	North Tower - N	0-6	3,000
3 T1	North Tower - NE	0-6	2,300
4 T1	North Tower - S	0-6	420
5 T2	South Tower - NW	0-6	120
6 T2	South Tower - N	0-6	1,700
7 T2	South Tower - S	0-6	88

Samples collected by FKAA contractor on June 24, 2008
Laboratory results as reported by ELAB


N
E
S
W
Gulf of Mexico
TWO WATER TOWER SITES WITHIN SIGSBEE AREA
Boca Chica Key
1
Key West
Atlantic Ocean
0
0.5
1
2
Miles
Legend
NAS Key West Property
DRAWN BY JSW
DATE 08/24/2008
CHECKED BY CMB
DATE 08/25/2008
COST/SCHED-AREA
SCALE AS NOTED
NAVAL AIR STATION KEY WEST FLORIDA
SITE LOCATION MAP
SIGSBEE WATER TOWER SITES
NAVAL AIR STATION
KEY WEST, FLORIDA
CONTRACT NO. 0130
APPROVED BY CMB
DATE 08/29/2008
APPROVED BY
DATE
FIGURE 1-1
REV. 0



DRAWN BY JSW	DATE 08/23/2008	SOIL SAMPLING AND ANALYSIS PLAN SIGSBEE WATER TOWERS LOCATION OF TOWER SITES NAVAL AIR STATION KEY WEST, FLORIDA	CONTRACT NO. 0130
CHECKED BY CMB	DATE 08/24/2008		APPROVED BY CMB / DATE 08/29/2008
COST/SCHED-AREA			APPROVED BY / DATE
SCALE AS NOTED			FIGURE 1-2 / REV. 0

2.0 SAMPLING AND ANALYSIS PLAN

2.1 SCOPE OF SOIL SAMPLING

Surface soil sampling will be conducted at both water towers at the Sigsbee area to further delineate soil contamination from historic painting and maintenance activities. All soil sampling will be done in compliance with FDEP Standard Operating Procedure (SOP)-001/01 FS 3000. The sampling will be done using manual hand auger techniques to collect shallow soil samples (i.e., 0 to 6 inches bgs).

Sampling locations are based on 20-foot grid spacing positioned on the centerline of each tower. A total of 17 sampling locations will be established at each tower as depicted on Figures 2-1 and 2-2 for the North and South tower sites, respectively. Specifically, one sample will be taken at the center of the tower near the water standpipe; 8 samples will be collected on a first tier of 20-foot grid spacing out from the center point; and an outer tier of points will consist of 8 samples located on the grid at a 40-foot spacing out from the center point. Both tanks are approximately 30 feet in diameter; therefore, the middle tiers of samples are just to the outside of the tank perimeter footprint. The outer tier sample locations are to define the potential extent of lead contamination with increasing distance from the tank footprint.

Sampling locations for both the pre- and post-demolition sampling events will be co-located with the intent of collecting samples from approximately the same location.

2.2 SOIL SAMPLING PROCEDURES

All soil sampling locations will be established using either distance/bearing or Global Positioning System (GPS) methods. Soil samples will be collected from 0 to 6 inches of surface soil using either manual auger or power-hand auger methods. A one-inch auger is planned to be used in the soil conditions typically found in the Sigsbee area of Key West. The auger will be advanced to 6 inches, then slowly removed without turning the auger to keep the material from the surface soil interval intact within the auger. The material from the auger will be placed into an unused plastic bag and homogenized to obtain a 0-to-6-inch composite sample for each location. The composite sample from the plastic bag will subsequently be placed into the certified pre-cleaned sample jars, sealed, and shipped to the laboratory.

For each sampling event, two quality control (QC) field duplicate samples will collected (one from each tank site) and will be collected in compliance with FDEP SOP-001/01 FQ 1000.

The remaining soil material in the plastic bags will be returned to the corresponding sample location. Pre-demolition sample locations will be marked with a durable subsurface marker (e.g. whisker high visibility survey markers) for easy relocation during the post-demolition sampling event.

All sample collection equipment and supplies will be thoroughly decontaminated between samples in compliance with FDEP SOP-001/01 FC 1000. One rinsate blank will be collected during each sampling task to demonstrate the effectiveness of the decontamination procedure.

2.2.1 Pre-Demolition Sampling Event

Pre-demolition soil sampling will be coordinated with the Navy and the demolition contractor to assure samples are collected before any construction activities are started or any surface soil conditions are altered from the present condition.

Sample identification numbering for the pre-demolition sampling event is listed on Table 2-1.

2.2.2 Post-Demolition Sampling Event

Post-demolition soil sampling will follow the same methods and procedures as described in Section 2.2. Results of the pre-demolition sampling will be reviewed and reported to the Navy prior to conducting the post-demolition sampling event. TtNUS will coordinate the timing of this event based on the demolition schedule and when safe access to the site is available. It is anticipated that this sampling event will represent surface soil conditions after all demolition and related site disturbance activities are complete.

Sample identification numbering for the pre-demolition sampling event is listed on Table 2-2.

It is possible that the initial pre-demolition soil sampling results may indicate lead contamination at a distance exceeding the outer tier of the 40-feet grid spacing. In this case, the results will be evaluated and discussed with the Partnering Team to determine if additional post-demolition sampling in a wider area is warranted.

2.3 ANALYSIS

All samples collected will be documented and shipped to the analytical laboratory for Lead analysis by EPA Method SW-846 6010B.

For pre-demolition sampling, an analytical turnaround time (TAT) of 7 to 14 days will be requested to facilitate discussion by the NASKW Partnering Team. The analytical TAT may be decreased to 24/48-hours if required to maintain the project schedule due to site conditions, weather conditions, and coordination/access issues.

For post-demolition sampling, an analytical TAT of 14 to 28 days will be requested to facilitate discussion by the NASKW Partnering Team. A decision will be made during the sampling event as to the requested TAT.

Once the results have returned from the analytical laboratory, the data will be validated. This process involves checking the instrumentation, notation, dilution, and analytical procedures used. Any faulty data points will be noted and possibly rejected. Next the data will be analyzed as a whole and the evaluation process will begin. The soil data will be compared to Chapter 62-777, F.A.C. soil target levels. Finally the data will be evaluated following the Chapter 62-780, F.A.C. process.

2.4 INVESTIGATION-DERIVED WASTE

All soil removed from the ground will be placed back in the original boring location after the required sample volume has been collected. No soil or solid investigation-derived waste (IDW) generation is expected.

Water from decontamination will be kept to minimum using best management practices. All decontamination water will be collected and managed as IDW and containerized in Department of Transportation (DOT) approved 55-gallon drum(s). All drum(s) will be labeled, at a minimum, with the following: contents, date, source, and NAS Key West generator number (FL 6170022952). All IDW will be handled in accordance with the United States Environmental Protection Agency (EPA) guidance document “Management of Investigation-Derived Wastes during Site Inspections” (EPA, 1991).

Although it is possible that several drums of aqueous IDW will be generated, it is anticipated that only a single drum of aqueous IDW will be produced. The IDW drum or drums will be placed while empty either at the nearby Sigsbee Marina site or at the Truck Fill Stand site where upcoming investigation work is planned. IDW from each tower site will be transported in manageable quantities to the storage site and transferred into the IDW drums. An aqueous sample will be taken at the conclusion of the post-demolition sampling event to represent the decontamination water from both events. A single composite IDW sampling will be obtained in the event that more than one drum of IDW is filled. The IDW sample will be submitted to the analytical laboratory for Total Lead analysis. Following receipt of laboratory analytical results, TtNUS personnel will properly dispose of the IDW.

TABLE 2-1

**PLANNED PRE-DEMOLITION SOIL SAMPLE NUMBERS AND LOCATIONS
SIGSBEE WATER TOWER SITES
NAVAL AIR STATION
KEY WEST, FLORIDA**

Sample ID	Location	Matrix	Depth (in-bgs)
SWTNSB01-SS-0001	North Tower – Center of Tower	Shallow Soil	0-6
SWTNSB02-SS-0001	North Tower – 20’ grid N	Shallow Soil	0-6
SWTNSB03-SS-0001	North Tower – 20’ grid NE	Shallow Soil	0-6
SWTNSB04-SS-0001	North Tower – 20’ grid E	Shallow Soil	0-6
SWTNSB05-SS-0001	North Tower – 20’ grid SE	Shallow Soil	0-6
SWTNSB06-SS-0001	North Tower – 20’ grid S	Shallow Soil	0-6
SWTNSB07-SS-0001	North Tower – 20’ grid SW	Shallow Soil	0-6
SWTNSB08-SS-0001	North Tower – 20’ grid W	Shallow Soil	0-6
SWTNSB09-SS-0001	North Tower – 20’ grid NW	Shallow Soil	0-6
SWTNSB10-SS-0001	North Tower – 40’ grid N	Shallow Soil	0-6
SWTNSB11-SS-0001	North Tower – 40’ grid NE	Shallow Soil	0-6
SWTNSB12-SS-0001	North Tower – 40’ grid E	Shallow Soil	0-6
SWTNSB13-SS-0001	North Tower – 40’ grid SE	Shallow Soil	0-6
SWTNSB14-SS-0001	North Tower – 40’ grid S	Shallow Soil	0-6
SWTNSB15-SS-0001	North Tower – 40’ grid SW	Shallow Soil	0-6
SWTNSB16-SS-0001	North Tower – 40’ grid W	Shallow Soil	0-6
SWTNSB17-SS-0001	North Tower – 40’ grid NW	Shallow Soil	0-6
SWTSSB01-SS-0001	South Tower – Center of Tower	Shallow Soil	0-6
SWTSSB02-SS-0001	South Tower – 20’ grid N	Shallow Soil	0-6
SWTSSB03-SS-0001	South Tower – 20’ grid NE	Shallow Soil	0-6
SWTSSB04-SS-0001	South Tower – 20’ grid E	Shallow Soil	0-6
SWTSSB05-SS-0001	South Tower – 20’ grid SE	Shallow Soil	0-6
SWTSSB06-SS-0001	South Tower – 20’ grid S	Shallow Soil	0-6
SWTSSB07-SS-0001	South Tower – 20’ grid SW	Shallow Soil	0-6
SWTSSB08-SS-0001	South Tower – 20’ grid W	Shallow Soil	0-6
SWTSSB09-SS-0001	South Tower – 20’ grid NW	Shallow Soil	0-6
SWTSSB10-SS-0001	South Tower – 40’ grid N	Shallow Soil	0-6
SWTSSB11-SS-0001	South Tower – 40’ grid NE	Shallow Soil	0-6
SWTSSB12-SS-0001	South Tower – 40’ grid E	Shallow Soil	0-6
SWTSSB13-SS-0001	South Tower – 40’ grid SE	Shallow Soil	0-6
SWTSSB14-SS-0001	South Tower – 40’ grid S	Shallow Soil	0-6
SWTSSB15-SS-0001	South Tower – 40’ grid SW	Shallow Soil	0-6
SWTSSB16-SS-0001	South Tower – 40’ grid W	Shallow Soil	0-6
SWTSSB17-SS-0001	South Tower – 40’ grid NW	Shallow Soil	0-6
SWTFD-mmddyy-01	QC Field Duplicate – North Tower	Shallow Soil	0-6
SWTFD-mmddyy-02	QC Field Duplicate – South Tower	Shallow Soil	0-6
SWTRB-mmddyy-01	QC Rinsate Blank	Aqueous	NA

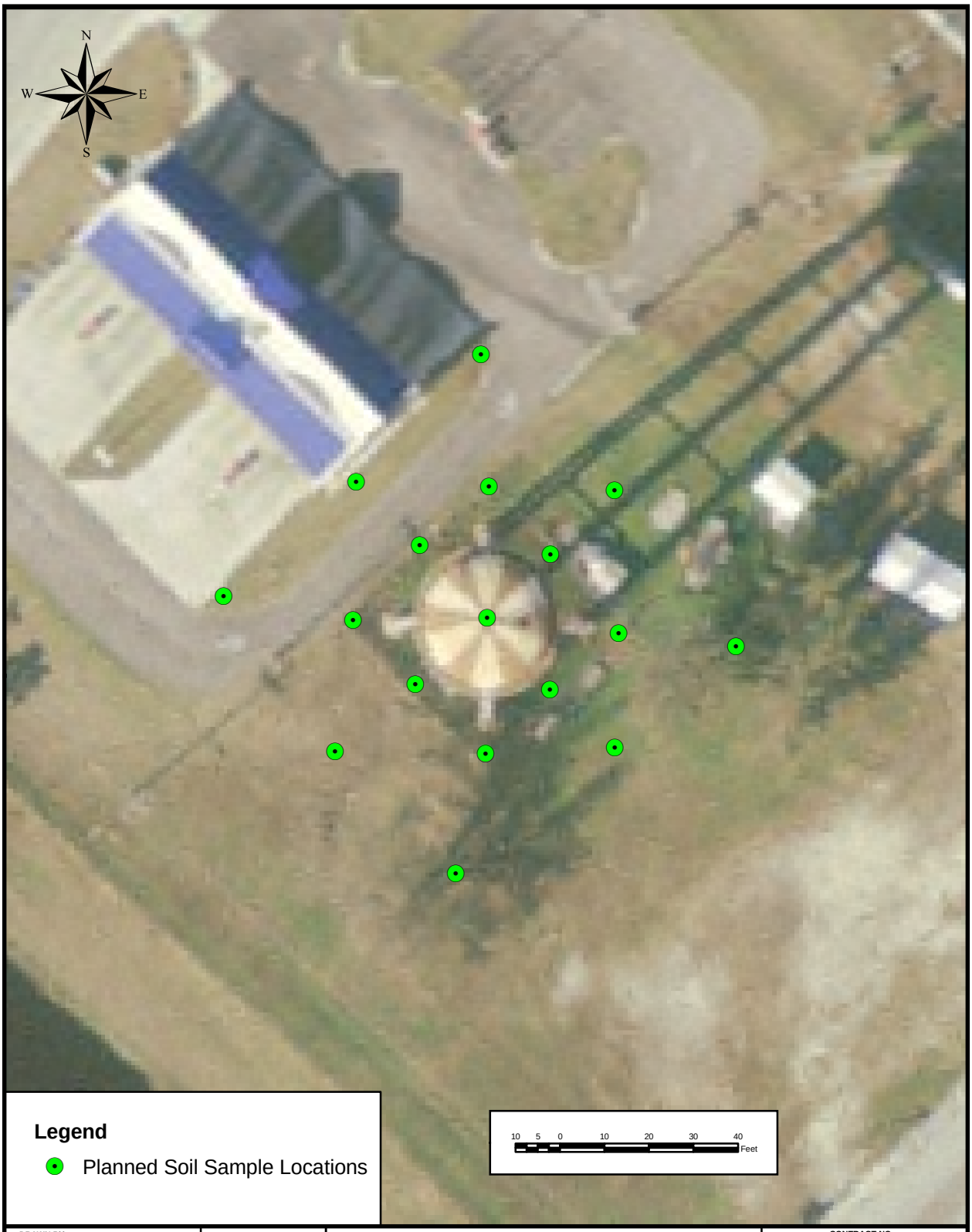
See Figures for sample locations for assigning sample IDs

TABLE 2-2

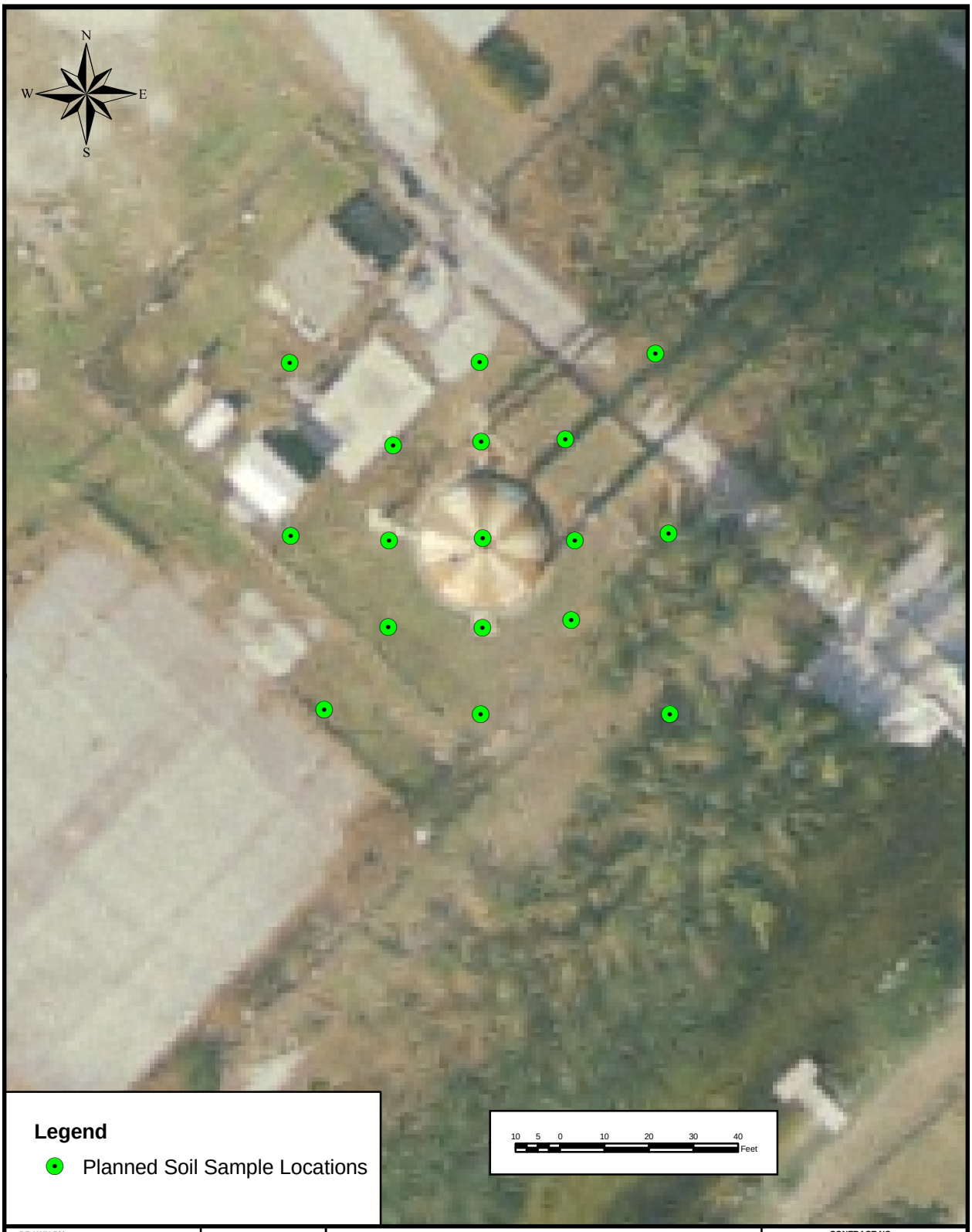
**PLANNED POST-DEMOLITION SOIL SAMPLE NUMBERS AND LOCATIONS
SIGSBEE WATER TOWER SITES
NAVAL AIR STATION
KEY WEST, FLORIDA**

Sample ID	Location	Matrix	Depth (in-bgs)
SWTNSB18-SS-0001	North Tower – Center of Tower	Shallow Soil	0-6
SWTNSB19-SS-0001	North Tower – 20’ grid N	Shallow Soil	0-6
SWTNSB20-SS-0001	North Tower – 20’ grid NE	Shallow Soil	0-6
SWTNSB21-SS-0001	North Tower – 20’ grid E	Shallow Soil	0-6
SWTNSB22-SS-0001	North Tower – 20’ grid SE	Shallow Soil	0-6
SWTNSB23-SS-0001	North Tower – 20’ grid S	Shallow Soil	0-6
SWTNSB24-SS-0001	North Tower – 20’ grid SW	Shallow Soil	0-6
SWTNSB25-SS-0001	North Tower – 20’ grid W	Shallow Soil	0-6
SWTNSB26-SS-0001	North Tower – 20’ grid NW	Shallow Soil	0-6
SWTNSB27-SS-0001	North Tower – 40’ grid N	Shallow Soil	0-6
SWTNSB28-SS-0001	North Tower – 40’ grid NE	Shallow Soil	0-6
SWTNSB29-SS-0001	North Tower – 40’ grid E	Shallow Soil	0-6
SWTNSB30-SS-0001	North Tower – 40’ grid SE	Shallow Soil	0-6
SWTNSB31-SS-0001	North Tower – 40’ grid S	Shallow Soil	0-6
SWTNSB32-SS-0001	North Tower – 40’ grid SW	Shallow Soil	0-6
SWTNSB33-SS-0001	North Tower – 40’ grid W	Shallow Soil	0-6
SWTNSB34-SS-0001	North Tower – 40’ grid NW	Shallow Soil	0-6
SWTSSB18-SS-0001	South Tower – Center of Tower	Shallow Soil	0-6
SWTSSB19-SS-0001	South Tower – 20’ grid N	Shallow Soil	0-6
SWTSSB20-SS-0001	South Tower – 20’ grid NE	Shallow Soil	0-6
SWTSSB21-SS-0001	South Tower – 20’ grid E	Shallow Soil	0-6
SWTSSB22-SS-0001	South Tower – 20’ grid SE	Shallow Soil	0-6
SWTSSB23-SS-0001	South Tower – 20’ grid S	Shallow Soil	0-6
SWTSSB24-SS-0001	South Tower – 20’ grid SW	Shallow Soil	0-6
SWTSSB25-SS-0001	South Tower – 20’ grid W	Shallow Soil	0-6
SWTSSB26-SS-0001	South Tower – 20’ grid NW	Shallow Soil	0-6
SWTSSB27-SS-0001	South Tower – 40’ grid N	Shallow Soil	0-6
SWTSSB28-SS-0001	South Tower – 40’ grid NE	Shallow Soil	0-6
SWTSSB29-SS-0001	South Tower – 40’ grid E	Shallow Soil	0-6
SWTSSB30-SS-0001	South Tower – 40’ grid SE	Shallow Soil	0-6
SWTSSB31-SS-0001	South Tower – 40’ grid S	Shallow Soil	0-6
SWTSSB32-SS-0001	South Tower – 40’ grid SW	Shallow Soil	0-6
SWTSSB33-SS-0001	South Tower – 40’ grid W	Shallow Soil	0-6
SWTSSB34-SS-0001	South Tower – 40’ grid NW	Shallow Soil	0-6
SWTFD-mmddyy-01	QC Field Duplicate – North Tower	Shallow Soil	0-6
SWTFD-mmddyy-02	QC Field Duplicate – South Tower	Shallow Soil	0-6
SWTRB-mmddyy-01	QC Rinsate Blank	Aqueous	NA
SWTIDW-mmddyy-01	IDW Sample – Decon Water	Aqueous	NA

See Figures for sample locations for assigning sample IDs



DRAWN BY JSW	DATE 08/23/2008	SOIL SAMPLING AND ANALYSIS PLAN SIGSBEE WATER TOWER - NORTH PLANNED SOIL SAMPLE LOCATIONS NAVAL AIR STATION KEY WEST, FLORIDA	CONTRACT NO. 0130
CHECKED BY CMB	DATE 08/24/2008		APPROVED BY CMB / DATE 08/29/2008
COST/SCHED-AREA			APPROVED BY / DATE
SCALE AS NOTED			FIGURE 2-1 / REV. 0



DRAWN BY JSW	DATE 08/23/2008	SOIL SAMPLING AND ANALYSIS PLAN SIGSBEE WATER TOWER - SOUTH PLANNED SOIL SAMPLE LOCATIONS NAVAL AIR STATION KEY WEST, FLORIDA	CONTRACT NO. 0130
CHECKED BY CMB	DATE 08/24/2008		APPROVED BY CMB / DATE 08/29/2008
COST/SCHED-AREA			APPROVED BY / DATE
SCALE AS NOTED			FIGURE 2-2 / REV. 0

3.0 SAMPLING AND ANALYTICAL REPORTING

3.1 PRE-DEMOLITION REPORTING

A Soil Sampling Memorandum will be prepared to present the results of the pre-demolition lead analysis. The memorandum will present the data package for the 34 soil samples, two QC field duplicates, one rinsate blank, and any QC performed by the analytical laboratory. A data summary table will be prepared and sample locations and identification information will be provided.

The memorandum will be issued in a final version only and distributed to the NASKW Partnering Team for review and discussion.

It is expected that no immediate action or change of plans for the demolition of the water towers will be made as an outcome of the sampling results.

3.2 POST-DEMOLITION REPORTING

A Soil Sampling Report (SSR) will be prepared to present a summary of the tasks performed to complete this scope of work and to present the results of the post-demolition lead sampling and analysis. The SSR will also include the results from the pre-demolition sampling event.

The report will contain a recommendation on the need, if any, for additional sampling or actions needed based on impact to shallow soil from lead.

The SSR will be prepared in draft and final forms, with review of the draft by the Navy for incorporation of comments. The final SSR will be submitted to both the Navy and to the regulators for review. After the state's review of the final SAR, TtNUS will prepare an addendum (if necessary) to incorporate any comments received.

REFERENCES

FDEP (Florida Department of Environmental Protection). 1992. SOPs for Laboratory Operations and Sample Collection Activities, FDEP-SOP QA-001/92 (Revision 2004). Tallahassee, Florida, February.

FDEP (Florida Department of Environmental Protection). 2004. SOPs for Soil Sampling, FDEP-SOP-001/01 FS 3000. Tallahassee, Florida, February.

FKAA (Florida Keys Aqueduct Authority). 2008. ELAB June 2008 Soil Sampling Data Package, U. S. Navy Tanks on Sigsbee, June.

TtNUS. 2002. Florida Regional Quality Assurance Program Manual. Tallahassee, Florida, October.

APPENDIX A

FKAA JUNE 2008 DATA PACKAGE

July 03, 2008

Ms. Jolynn Reynolds
Florida Keys Aqueduct Authority
1100 Kennedy Drive
Key West, FL 33040

RE: Sigsbee Park Order No.: F08060583

Dear Ms. Jolynn Reynolds:

ELAB, Inc. received 7 samples on 6/12/2008 11:00:00 AM for the analyses presented in the following report.
Analyses are performed with method-required calibration and QA/QC samples whenever applicable. Method performance, which is based on the calibration and QA/QC samples, establishes the validity and certainty of the reported sample results. This data is provided along with the sample results when requested.

Thank you for this opportunity to be of service. If you have any questions regarding this data, please feel free to call me at (386) 672-5668, extension 338.

Sincerely,
Shawn Horsley

Project Manager
ELAB, Inc.
P.O. Box 468
Ormond Beach, FL 32175-0468

THIS DOCUMENT MEETS NELAC
STANDARDS NELAC Certification #E83079

The following acronyms may be utilized within this report:

%REC	Percent Recovery
A	Absent
ABLK	Analytical Method Blank
CG	Confluent Growth
CGB	Confluent Growth Without Coliforms
CGC	Confluent Growth With Coliforms
DUP	Sample Duplicate
LCS	Laboratory Control Spike (may also be appended with an abbreviation indicating spiking level)
MBLK	Preparation Method Blank
MDL	Laboratory Method Detection Limit
MS	Matrix Spike (may also be appended with an abbreviation indicating spiking level)
MSD	Matrix Spike Duplicate (may also be appended with an abbreviation indicating spiking level)
P	Present
PQL	Practical Quantitation Limit
QCS	Alternate source Calibration Verification Standard (may also be reported as analytical LCS in some
RL	Reporting Limit
RPD	Relative Percent Difference
SPK	Spike
TIC	Tentatively Identified Compound
TNTC	Too Numerous To Count

The following notes may apply to analytical results within this report:

Residue (solids) analysis may employ a single, heated drying process of at least 12 hours duration in lieu of employing short, repeated drying cycles, which represents a deviation from the methodology.

Because the EPA-recommended holding time for pH, residual chlorine, chloramines and chlorine dioxide is 15 minutes from time of collection, these analyses are routinely performed outside of their EPA-recommended holding time when performed in the laboratory.

Analytical results for ammonia analysis, or calculated analytical results depending on ammonia analysis, do not include a sample distillation procedure. A study comparing distilled versus non-distilled analytical results has been performed to document the validity of the analysis without prior distillation, and represents equivalent results for the represented project matrices.

Since N-nitrosodiphenylamine decomposes in the GC inlet and cannot be chromatographically resolved from diphenylamine, these compounds are reported as a single analyte in the report.

Since m-cresol and p-cresol cannot be chromatographically resolved, these compounds are reported as a single analyte in the report.

The following certifications may apply to analytical results within this report:

Alabama	DEM	41320
Arizona	DHS	AZ0640
Colorado	DPHE	FL NELAC Reciprocity
Connecticut	DPH	PH-0216
Florida	DOH	E83079
Georgia	DNR	955
Kentucky	DEP	90050
Maine	LCP	2006032
Massachusetts	DEP	M-FL020
Michigan	DEQ	9911
Mississippi	DOH	FL NELAC Reciprocity
Nevada	EP	ELAB FL-00020
New Hampshire	DES	295805
New Jersey	DEP	FL765
New York	DOH	11608
Pennsylvania	DEP	68-00547
Puerto Rico	DOH	FL 00020
South Carolina	DHEC	96027001
Tennessee	DOH	02974
Texas	CEQ	T104704184-05-TX

Case Narrative

CLIENT: Florida Keys Aqueduct Authority
Project: Sigsbee Park
Lab Order: F08060583

I. SAMPLE RECEIVING/ CUSTODY

The samples were received and processed by the Sample Custody section of the laboratory. There were no significant logistics or quality problems unless noted below.

II. ANALYTICAL DATA

The samples were analyzed according to ELAB Standard Operating Procedures for the methodologies requested. There were no significant logistics or quality problems unless noted below or in the text of the report.

III. QUALITY CONTROL

There were no significant quality control problems unless noted below or in the text of the report.

FLPRO: Trace amounts of the target compound Petroleum Range Organics were detected at levels between the RL and MDL in the Method Blank associated with batch 53794; however, the levels detected were insignificant when compared to the levels detected in the sample associated with this batch.

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT: Florida Keys Aqueduct Authority
Lab Order: F08060583
Project: Sigsbee Park
Lab ID: F08060583-001

Client Sample ID: 1 T1
Collection Date: 6/11/2008 1:30:00 PM
Sample Description: Soil (NW)
Matrix: Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	590		1.0	2.0	mg/Kg-dry	5	06/24/08 13:50	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/17/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	27		1.9	4.2	mg/Kg-dry	1	06/18/08 17:40	53703
Hydrocarbon Range C8-C10	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 17:40	53703
Hydrocarbon Range C10-C28	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 17:40	53703
Hydrocarbon Range C28-C40	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 17:40	53703
Surr: C-39	105		0	60-118	%REC	1	06/18/08 17:40	53703
Surr: o-Terphenyl-d14	94.2		0	62-109	%REC	1	06/18/08 17:40	53703
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	94.3		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT: Florida Keys Aqueduct Authority
Lab Order: F08060583
Project: Sigsbee Park
Lab ID: F08060583-002

Client Sample ID: 2 T1
Collection Date: 6/11/2008 1:37:00 PM
Sample Description: Soil (N)
Matrix: Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	3000		1.1	2.2	mg/Kg-dry	5	06/24/08 13:56	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/17/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	36		1.9	4.2	mg/Kg-dry	1	06/18/08 18:13	53703
Hydrocarbon Range C8-C10	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 18:13	53703
Hydrocarbon Range C10-C28	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 18:13	53703
Hydrocarbon Range C28-C40	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 18:13	53703
Surr: C-39	76.1		0	60-118	%REC	1	06/18/08 18:13	53703
Surr: o-Terphenyl-d14	71.8		0	62-109	%REC	1	06/18/08 18:13	53703
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	94.6		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT: Florida Keys Aqueduct Authority
Lab Order: F08060583
Project: Sigsbee Park
Lab ID: F08060583-003

Client Sample ID: 3 T1
Collection Date: 6/11/2008 1:45:00 PM
Sample Description: Soil (NE)
Matrix: Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	2300		1.0	2.0	mg/Kg-dry	5	06/24/08 14:11	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/17/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	53		1.9	4.2	mg/Kg-dry	1	06/18/08 18:46	53703
Hydrocarbon Range C8-C10	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 18:46	53703
Hydrocarbon Range C10-C28	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 18:46	53703
Hydrocarbon Range C28-C40	2.3	U	2.3	4.2	mg/Kg-dry	1	06/18/08 18:46	53703
Surr: C-39	73.3		0	60-118	%REC	1	06/18/08 18:46	53703
Surr: o-Terphenyl-d14	71.4		0	62-109	%REC	1	06/18/08 18:46	53703
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	96.3		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT: Florida Keys Aqueduct Authority
Lab Order: F08060583
Project: Sigsbee Park
Lab ID: F08060583-004

Client Sample ID: 4 T1
Collection Date: 6/11/2008 1:50:00 PM
Sample Description: Soil (S)
Matrix: Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	420		1.0	2.1	mg/Kg-dry	5	06/24/08 14:18	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/20/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	31	V	1.9	4.1	mg/Kg-dry	1	06/25/08 20:01	53794
Hydrocarbon Range C8-C10	2.2	U	2.2	4.1	mg/Kg-dry	1	06/25/08 20:01	53794
Hydrocarbon Range C10-C28	2.2	U	2.2	4.1	mg/Kg-dry	1	06/25/08 20:01	53794
Hydrocarbon Range C28-C40	2.2	U	2.2	4.1	mg/Kg-dry	1	06/25/08 20:01	53794
Surr: C-39	82.7		0		%REC	1	06/25/08 20:01	53794
Surr: o-Terphenyl-d14	78.6		0		%REC	1	06/25/08 20:01	53794
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	96.9		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT: Florida Keys Aqueduct Authority
Lab Order: F08060583
Project: Sigsbee Park
Lab ID: F08060583-005

Client Sample ID: 5 T2
Collection Date: 6/11/2008 2:00:00 PM
Sample Description: Soil (NW)
Matrix: Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	120		1.0	2.1	mg/Kg-dry	5	06/24/08 14:23	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/17/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	48		2.0	4.3	mg/Kg-dry	1	06/18/08 19:19	53703
Hydrocarbon Range C8-C10	2.4	U	2.4	4.3	mg/Kg-dry	1	06/18/08 19:19	53703
Hydrocarbon Range C10-C28	2.4	U	2.4	4.3	mg/Kg-dry	1	06/18/08 19:19	53703
Hydrocarbon Range C28-C40	2.4	U	2.4	4.3	mg/Kg-dry	1	06/18/08 19:19	53703
Surr: C-39	94.0		0	60-118	%REC	1	06/18/08 19:19	53703
Surr: o-Terphenyl-d14	85.0		0	62-109	%REC	1	06/18/08 19:19	53703
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	92.4		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT: Florida Keys Aqueduct Authority
Lab Order: F08060583
Project: Sigsbee Park
Lab ID: F08060583-006

Client Sample ID: 6 T2
Collection Date: 6/11/2008 2:05:00 PM
Sample Description: Soil (N)
Matrix: Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	1700		1.1	2.1	mg/Kg-dry	5	06/24/08 14:29	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/17/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	39		2.0	4.3	mg/Kg-dry	1	06/18/08 19:51	53703
Hydrocarbon Range C8-C10	2.4	U	2.4	4.3	mg/Kg-dry	1	06/18/08 19:51	53703
Hydrocarbon Range C10-C28	2.4	U	2.4	4.3	mg/Kg-dry	1	06/18/08 19:51	53703
Hydrocarbon Range C28-C40	2.4	U	2.4	4.3	mg/Kg-dry	1	06/18/08 19:51	53703
Surr: C-39	71.7		0	60-118	%REC	1	06/18/08 19:51	53703
Surr: o-Terphenyl-d14	70.2		0	62-109	%REC	1	06/18/08 19:51	53703
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	92.6		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

ELAB, Inc. 8 East Tower Cr., Ormond Beach, FL 32174-87 **Date:** *03-Jul-08*

Analytical Report

CLIENT:	Florida Keys Aqueduct Authority	**Client Sample ID:**	7 T2
Lab Order:	F08060583	**Collection Date:**	6/11/2008 2:10:00 PM
Project:	Sigsbee Park	**Sample Description:**	Soil (S
Lab ID:	F08060583-007	**Matrix:**	Soil

Analyses	Result	Qual	MDL	PQL	Units	DF	Date Analyzed	Batch ID
ICP METALS		**SW6010**	PrepDate:	**6/20/2008 2:08:00 P**			Analyst: **TPI**	
Lead	88		1.1	2.2	mg/Kg-dry	5	06/24/08 14:35	53815
FL-PRO: PETROLEUM RANGE ORGANICS		**FLPRO**	PrepDate:	**6/17/2008 9:00:00 A**			Analyst: **JKR**	
Petroleum Range Organics	56		2.0	4.4	mg/Kg-dry	1	06/18/08 19:51	53703
Hydrocarbon Range C8-C10	2.4	U	2.4	4.4	mg/Kg-dry	1	06/18/08 19:51	53703
Hydrocarbon Range C10-C28	2.4	U	2.4	4.4	mg/Kg-dry	1	06/18/08 19:51	53703
Hydrocarbon Range C28-C40	2.4	U	2.4	4.4	mg/Kg-dry	1	06/18/08 19:51	53703
Surr: C-39	99.3		0	60-118	%REC	1	06/18/08 19:51	53703
Surr: o-Terphenyl-d14	86.4		0	62-109	%REC	1	06/18/08 19:51	53703
SOLIDS, PERCENT		**SM2540G**	PrepDate:				Analyst: **MDE**	
Percent Solid	91.2		0.100	0.100	%	1	06/13/08	R69093

Data Qualifier Code Key:

U Not Detected Above the MDL

V Analyte detected in the associated Method Blank

CLIENT: Florida Keys Aqueduct Authority
Work Order: F08060583
Project: Sigsbee Park

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015M-FLPRO_S

Sample ID	**MB-53703**	SampType:	**MBLK**	TestCode:	**8015M-FLPR**	Units:	**mg/Kg**	Prep Date:	**6/17/2008**	RunNo:	**69207**
Client ID:	**MB-53703**	Batch ID:	**53703**	TestNo:	**FLPRO**			Analysis Date:	**6/18/2008**	SeqNo:	**2029866**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	1.8	U	1.8								
Hydrocarbon Range C8-C10	2.2	U	2.2								
Hydrocarbon Range C10-C28	2.2	U	2.2								
Hydrocarbon Range C28-C40	2.2	U	2.2								
Surr: C-39	5.2		0	6.0	0	85.9	60	118			
Surr: o-Terphenyl-d14	1.3		0	2.0	0	65.8	62	109			

Sample ID	**LCS-53703**	SampType:	**LCS**	TestCode:	**8015M-FLPR**	Units:	**mg/Kg**	Prep Date:	**6/17/2008**	RunNo:	**69207**
Client ID:	**LCS-53703**	Batch ID:	**53703**	TestNo:	**FLPRO**			Analysis Date:	**6/18/2008**	SeqNo:	**2029870**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	150		1.8	200	0	74.0	63	153			
Surr: C-39	5.2		0	6.0	0	86.3	60	118			
Surr: o-Terphenyl-d14	1.5		0	2.0	0	75.6	62	109			

Sample ID	**F08060583-001AMS**	SampType:	**MS**	TestCode:	**8015M-FLPR**	Units:	**mg/Kg-dry**	Prep Date:	**6/17/2008**	RunNo:	**69207**
Client ID:	**1 T1 MS**	Batch ID:	**53703**	TestNo:	**FLPRO**			Analysis Date:	**6/18/2008**	SeqNo:	**2029878**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	190		1.9	210	27	78.5	63	153			
Surr: C-39	5.5		0	6.3	0	87.1	60	118			
Surr: o-Terphenyl-d14	1.7		0	2.1	0	78.8	62	109			

Data Qualifier Code Key:

I Analyte detected below quantitation limits
U Not Detected Above the MDL
S Spike Recovery outside accepted recovery limits

CLIENT: Florida Keys Aqueduct Authority
Work Order: F08060583
Project: Sigsbee Park

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015M-FLPRO_S

Sample ID **F08060583-001AMSD** SampType: **MSD** TestCode: **8015M-FLPR** Units: **mg/Kg-dry** Prep Date: **6/17/2008** RunNo: **69207**
Client ID: **1 T1 MSD** Batch ID: **53703** TestNo: **FLPRO** Analysis Date: **6/18/2008** SeqNo: **2029882**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	220		1.9	210	27	93.4	63	153	190	15.2	20
Surr: C-39	6.4		0	6.3	0	101	60	118	5.5	0	0
Surr: o-Terphenyl-d14	2.0		0	2.1	0	92.6	62	109	1.7	0	0

Sample ID **MB-53794** SampType: **MBLK** TestCode: **8015M-FLPR** Units: **mg/Kg** Prep Date: **6/20/2008** RunNo: **69445**
Client ID: **MB-53794** Batch ID: **53794** TestNo: **FLPRO** Analysis Date: **6/25/2008** SeqNo: **2039697**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	**4.9**		1.8								
Hydrocarbon Range C8-C10	2.2	U	2.2								
Hydrocarbon Range C10-C28	2.2	U	2.2								
Hydrocarbon Range C28-C40	2.2	U	2.2								
Surr: C-39	5.4		0	6.0	0	89.3	60	118			
Surr: o-Terphenyl-d14	1.6		0	2.0	0	79.6	62	109			

Sample ID **LCS-53794** SampType: **LCS** TestCode: **8015M-FLPR** Units: **mg/Kg** Prep Date: **6/20/2008** RunNo: **69445**
Client ID: **LCS-53794** Batch ID: **53794** TestNo: **FLPRO** Analysis Date: **6/25/2008** SeqNo: **2039704**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	150		1.8	200	0	75.9	63	153			
Surr: C-39	5.3		0	6.0	0	89.1	60	118			
Surr: o-Terphenyl-d14	1.6		0	2.0	0	81.6	62	109			

Data Qualifier Code Key:

I Analyte detected below quantitation limits
U Not Detected Above the MDL
S Spike Recovery outside accepted recovery limits

CLIENT: Florida Keys Aqueduct Authority
Work Order: F08060583
Project: Sigsbee Park

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015M-FLPRO_S

Sample ID **F08060487-001AMS** SampType: **MS** TestCode: **8015M-FLPR** Units: **mg/Kg-dry** Prep Date: **6/20/2008** RunNo: **69445**
Batch ID: **53794** TestNo: **FLPRO** Analysis Date: **6/25/2008** SeqNo: **2039706**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	200		2.3	260	6.2	74.1	63	153			
Surr: C-39	6.2			7.7	0	80.3	60	118			
Surr: o-Terphenyl-d14	1.9			2.6	0	75.6	62	109			

Sample ID **F08060487-001AMSD** SampType: **MSD** TestCode: **8015M-FLPR** Units: **mg/Kg-dry** Prep Date: **6/20/2008** RunNo: **69445**
Batch ID: **53794** TestNo: **FLPRO** Analysis Date: **6/25/2008** SeqNo: **2039707**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Petroleum Range Organics	190		2.3	260	6.2	72.3	63	153	200	2.72	20
Surr: C-39	6.0			7.7	0	77.9	60	118	6.2	0	0
Surr: o-Terphenyl-d14	2.0			2.6	0	76.6	62	109	1.9	0	0

Data Qualifier Code Key:

I	Analyte detected below quantitation limits	S	Spike Recovery outside accepted recovery limits
U	Not Detected Above the MDL		

CLIENT: Florida Keys Aqueduct Authority
Work Order: F08060583
Project: Sigsbee Park

ANALYTICAL QC SUMMARY REPORT

TestCode: ICP-6010_S

Sample ID	MB-53815	SampType:	MBLK	TestCode:	ICP-6010_S	Units:	mg/Kg	Prep Date:	6/20/2008	RunNo:	69360
Client ID:	MB-53815	Batch ID:	53815	TestNo:	SW6010	SW3050B		Analysis Date:	6/24/2008	SeqNo:	2036432

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Lead	0.20	U	0.20								

Sample ID	LCS-53815	SampType:	LCS	TestCode:	ICP-6010_S	Units:	mg/Kg	Prep Date:	6/20/2008	RunNo:	69360
Client ID:	LCS-53815	Batch ID:	53815	TestNo:	SW6010	SW3050B		Analysis Date:	6/24/2008	SeqNo:	2036433

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Lead	11		0.20	10	0	106	80	120			

Sample ID	F08060587-001AMS	SampType:	MS	TestCode:	ICP-6010_S	Units:	mg/Kg-dry	Prep Date:	6/20/2008	RunNo:	69360
		Batch ID:	53815	TestNo:	SW6010	SW3050B		Analysis Date:	6/24/2008	SeqNo:	2036450

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Lead	16		0.28	14	0.69	108	75	125			

Sample ID	F08060587-001AMSD	SampType:	MSD	TestCode:	ICP-6010_S	Units:	mg/Kg-dry	Prep Date:	6/20/2008	RunNo:	69360
		Batch ID:	53815	TestNo:	SW6010	SW3050B		Analysis Date:	6/24/2008	SeqNo:	2036451

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Lead	16		0.29	15	0.69	108	75	125	16	5.15	20

Data Qualifier Code Key:

I	Analyte detected below quantitation limits	S	Spike Recovery outside accepted recovery limits
U	Not Detected Above the MDL		

CLIENT: Florida Keys Aqueduct Authority
Work Order: F08060583
Project: Sigsbee Park

ANALYTICAL QC SUMMARY REPORT

TestCode: PSOLID

Sample ID **F08060414-001ADUP** SampType: **DUP** TestCode: **PSOLID** Units: **%** Prep Date: RunNo: **69093**
Batch ID: **R69093** TestNo: **SM2540G** Analysis Date: **6/13/2008** SeqNo: **2026886**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Percent Solid	0.843		0.100						0.830	1.47	10

Sample ID **F08060587-001ADUP** SampType: **DUP** TestCode: **PSOLID** Units: **%** Prep Date: RunNo: **69093**
Batch ID: **R69093** TestNo: **SM2540G** Analysis Date: **6/13/2008** SeqNo: **2026910**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Percent Solid	71.2		0.100						70.5	1.04	10

Sample ID **F08060604-004ADUP** SampType: **DUP** TestCode: **PSOLID** Units: **%** Prep Date: RunNo: **69093**
Batch ID: **R69093** TestNo: **SM2540G** Analysis Date: **6/13/2008** SeqNo: **2026932**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Percent Solid	71.5		0.100						72.8	1.88	10

Sample ID **F08060633-001ADUP** SampType: **DUP** TestCode: **PSOLID** Units: **%** Prep Date: RunNo: **69093**
Batch ID: **R69093** TestNo: **SM2540G** Analysis Date: **6/13/2008** SeqNo: **2026978**

Analyte	Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Percent Solid	98.9		0.100						99.0	0.0166	10

Data Qualifier Code Key:

I Analyte detected below quantitation limits
U Not Detected Above the MDL
S Spike Recovery outside accepted recovery limits

Elab, Inc.
8 East Tower Circle
Ormond Beach, FL 32174
(386) 672-5668 ● FAX (386) 673-4001
(INSTRUCTIONS ON BACK OF THIS FORM)

CHAIN OF CUSTODY RECORD

No. E 123941

Page 1 of 1

FOR LAB USE ONLY
Temp. of Contents: 0.8 °C (or Received on Ice, ROI)
Condition of Contents:
Condition of Seals:

FOR LAB USE ONLY
Submission No. F08060583

1. Client: (Company or Individual) Florida Keys Aqueduct.
Address: 1100 Kennedy Drive
City Key West State FL Zip Code 33040
Phone: (305) 296-2454
Fax: ( )

2. Report to: (if different from above) Same as above
Address: N/A
City State Zip Code
Phone: ( )
Fax: ( )

3. Client Project Name: Sigsbee Park
4. Client Project No.:
5. P.O. No.:
6. Custody Seal No.:
7. Sampled By: Omar Lopez
8. Shipping Method: Fed-Ex Overnight

Water Sample Codes (for Item 13)
DW = Drinking Water
GW = Ground Water
SW = Surface Water
PW = Processed Water
WW = Waste Water

Container Codes (for Item 16)
V = VOA vial
G = glass
P = plastic
M = micro bag/cup
O = other

18. Report Type:
Routine
Standard QC
Datapackage

19. Turnaround Time
Standard
Rush: / /

Preservative Codes (for Item 15)
C = Cool Only
H = Hydrochloric Acid
M = Monochloroacetic Acid
N = Nitric Acid
OH = Sodium Hydroxide
S = Sulfuric Acid
T = Sodium Thiosulfate

Item	9. Sample ID or No.	10. Sample Description	11. Date	11. Time	12. Comp.	12. Grab	13. Water (Codes)	13. Air	13. Soil	13. Sludge	13. Other	14. No. of Containers	17. Analyses Requested: Soil FL-PRO	17. Analyses Requested: Lead	20 REMARK	LAB USE ONLY LAB SAMPLE NO.
1	1 T1	Soil (NW)	6/11/08	1:30					✓				✓	✓		
2	2 T1	Soil (N)	6/11/08	1:37					✓				✓	✓		
3	3 T1	Soil (NE)	6/11/08	1:45					✓				✓	✓		
4	4 T1	Soil (S) SOUTH "		1:50					✓				✓	✓		
5	5 T2	Soil (NW)	6/11/08	2:00					✓				✓	✓		
6	6 T2	Soil (N)	6/11/08	2:05					✓				✓	✓		
7	7 T2	Soil (S)	6/11/08	2:10					✓				✓	✓		
8																
9																
10																

21. RELINQUISHED BY	DATE	TIME	22. RECEIVED BY	DATE	TIME
1 SAMPLING KIT-EMPTY (Q)	6/6/08		Omar Lopez	6/10/08	8:05 A
2 Omar Lopez	6/11/08	3:00 pm	[signature]	6/12/08	1100
3					
4					

FOR LAB USE ONLY
Sampling Fee: _____ Hrs.
Equipment Rental Fee: _____
Profile No.:
Quote No.:

DISTRIBUTION: White with report; Blue, Green, Yellow to labs; Gold to submitter

Revised: 1/99