

Chemical Analysis Report

NW-DIST-2008-12-03-05

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

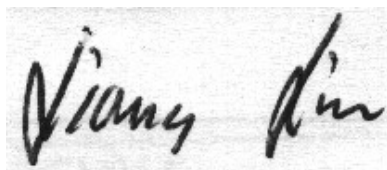
Event Description: **Sand for Greenshores**
Request ID: **RQ-2008-12-01-31**
Customer: **NW-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Bill Chandler

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Certified by: Liang Lin, Environmental Manager

Date Certified: 09-JAN-2009 16:10

A handwritten signature in black ink, appearing to read "Liang Lin", is written over a light gray rectangular background.

Abbreviations and data remark codes

CERT # - NELAP (National Environmental Laboratory Accreditation Program) Certification Number of the laboratory that performed the analysis.

LCS – Laboratory Control Sample; in the QC Failures column, this notation indicates a batch recovery failure.

MS – Matrix Spike; in the QC Failures column, this notation indicates a batch recovery failure.

RPD – Relative Percent Difference; in the QC Failures column, this notation indicates a batch failure for precision.

CCV – Continuing Calibration Verification; in the QC Failures column, this notation indicates a failure of the calibration verification check sample.

RSD – Relative Standard Deviation expressed as a percentage.

SMP – Sample.

* - Item was outside the QC Limits.

** - The laboratory is not NELAP certified for this analyte/method, or certification is not applicable.

A - Value reported is the mean of two or more determinations

B - Results based on colony counts outside the acceptable range.

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

J - Estimated value

K - Actual value is known to be less than value given

L - Actual value is known to be greater than value given

N - Presumptive evidence of presence of material.

O - Sampled, but analysis lost or not performed.

Q - Sample held beyond normal holding time.

T - Value reported is less than the criterion of detection.

U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.

V - Analyte was detected in both sample and method blank.

X - Too few individuals to calculate SCI value.

Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate

Z - Colonies were too numerous to count (TNTC).

Precision is reported as relative percent difference unless otherwise noted.

Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published test performance acceptance criteria.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

All sample collection performed by Bureau of Laboratories staff followed the field Standard Operating Procedures adopted by reference in Rule 62-160 FAC unless otherwise noted.

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Results for NELAP accredited tests contained in this report meet the requirements specified by the National Environmental Laboratory Accreditation Conference (NELAC). All samples received were in acceptable condition and met NELAC requirements unless otherwise noted. Results generated in this report pertain to the samples collected and submitted for analysis.

Sample Location: MAGAZINE POINT-NAS

Collection Date/Time: 03/14/2008 10:00 AM

Field ID: 1

Matrix: S-OTHER

Sample ID	Ref. Method	Component	Result	Code	QC Failures	Units	Cert #
1151358	EPA 8270D	Acenaphthene	61	UQ		ug/kg	E31780
		Acenaphthylene	61	UQ		ug/kg	
		Anthracene	61	UQ		ug/kg	
		Benzo(a)anthracene	61	UQ		ug/kg	
		Benzo(a)pyrene	61	UQ		ug/kg	
		Benzo(b)fluoranthene	61	UQ		ug/kg	
		Benzo(k)fluoranthene	61	UQ		ug/kg	
		Benzo(g,h,i)perylene	61	UQ		ug/kg	
		Chrysene	61	UQ		ug/kg	
		Dibenzo(a,h)anthracene	61	UQ		ug/kg	
		Fluoranthene	61	UQ		ug/kg	
		Fluorene	61	UQ		ug/kg	
		Indeno(1,2,3-cd)pyrene	61	UQ		ug/kg	
		Naphthalene	61	UQ		ug/kg	
		Phenanthrene	61	UQ		ug/kg	
		Pyrene	61	UQ		ug/kg	
1151359	DEP SOP: HG-008-3	Mercury	0.0046	UQ		mg/Kg	
	EPA 6010C	Aluminum	58	AQ		mg/Kg	
		Lead	0.50	UQ		mg/Kg	
		Zinc	2.0	UQ		mg/Kg	
	EPA 6020A	Arsenic	0.10	UQ		mg/Kg	
		Cadmium	0.050	UQ		mg/Kg	
		Copper	0.25	UQ		mg/Kg	

Ref. Method and Comment:

EPA 8270D Sample expired upon receipt.

DEP SOP: HG-008-3 Sample expired prior to receipt.

EPA 6010C Sample expired prior to receipt.

EPA 6020A Sample expired prior to receipt.

Quality Control Report

Ref. Method	Analyte	LCS %Recovery		MS %Recovery		LCS	Precision SMP	MS
EPA 8270D	Acenaphthene	94.2	96.0	93.8	92.3	1.89		1.55
	Acenaphthylene	87.8	88.3	87.6	86.4	0.591		1.38
	Anthracene	94.4	97.7	95.1	95.6	3.46		0.504
	Benzo(a)anthracene	97.0	99.2	95.7	99.0	2.20		3.40
	Benzo(a)pyrene	98.9	103	99.4	100	3.61		0.642
	Benzo(b)fluoranthene	99.8	105	101	104	4.58		2.82
	Benzo(g,h,i)perylene	98.7	101	99.8	99.1	2.20		0.684
	Benzo(k)fluoranthene	105	104	104	103	0.845		0.931
	Chrysene	99.3	99.8	96.8	98.3	0.562		1.55
	Dibenzo(a,h)anthracene	101	104	101	102	2.11		0.276
	Fluoranthene	94.2	97.4	94.0	94.9	3.26		0.932
	Fluorene	92.4	93.0	90.8	90.8	0.604		0.0
	Indeno(1,2,3-cd)pyrene	99.9	103	101	100	3.27		0.635
	Naphthalene	85.0	85.8	83.6	79.8	0.937		4.70
	Phenanthrene	93.3	94.7	92.6	93.6	1.49		1.16
	Pyrene	99.2	102	98.7	102	2.47		3.62

Quality Control Report

Ref. Method	Analyte	LCS %Recovery		MS %Recovery		LCS	Precision SMP	MS
DEP SOP: HG-008-3 EPA 6010C	Mercury	93.2	92.2	91.9	92.5	1.13		0.555
	Aluminum	88.9		93.4	92.9		3.46	
	Lead	98.1		104	96.9			6.57
	Zinc	90.1		91.2	91.4			0.209
EPA 6020A	Arsenic	101		105	107			1.28
	Cadmium	102		109	108			0.789
	Copper	97.5		103	103			0.724

Reference Method Descriptions

Ref. Method:	Description
DEP SOP: HG-008-3	Mercury in solid samples using cold vapor AA spectroscopy, reported as dry weight.
EPA 6010C	Metals, total recoverable, in solid samples using ICP emission spectroscopy.
EPA 6020A	Metals, total recoverable, in solid samples using ICP mass spectrometry
EPA 8270D	Semi-volatile organic pollutants, excluding PCBs and Toxaphene, in soil/sediments by GC/MS.

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared by	Analysis Date/Time	Analyzed by	Associated Samples
DEP SOP: HG-008-3	12/3/2008	12/11/2008	Vijayalakshmi Reddy	12/15/2008	Martin Acosta	1151359
EPA 6010C	12/3/2008	12/16/2008	Joshua Ayres	12/17/2008	Chambray L. Dowdell-Page	1151359
EPA 6010C	12/3/2008	12/16/2008	Joshua Ayres	12/23/2008	Rebecca A Higgins	1151359
EPA 6020A	12/3/2008	12/16/2008	Joshua Ayres	01/06/2009	Charles J. Peterson	1151359
EPA 8270D	12/3/2008	12/09/2008	Hoor Shaik	12/13/2008	Mohammad Ghaffari	1151358