

**RECEIVED**  
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**SAMPLING AND ANALYSIS OF  
STREET SWEEPING AND DITCH CLEANING  
FROM  
NORTH AND SOUTH COUNTY STOCKPILES,  
SARASOTA COUNTY, FLORIDA**



**Ardaman & Associates, Inc.**

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**Tallahassee**, 3175 West Tharpe Street, Tallahassee, Florida 32303, Phone (850) 576-6131  
**Tampa**, 1406 Tech Boulevard, Tampa, Florida 33619, Phone (813) 620-3389  
**West Palm Beach**, 2511 Westgate Avenue, Suite 10, West Palm Beach, Florida 33409, Phone (561) 687-8200

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American Concrete Institute  
American Society for Testing and Materials  
Florida Institute of Consulting Engineers



## Ardaman & Associates, Inc.

Geotechnical, Environmental and  
Materials Consultants

October 11, 1999  
File No. 99-8597

TO: Sarasota County Public Works Business Center  
Drainage Operations Division  
100 Cattlemen Road  
Sarasota FL 34232

Attention: Mr. Jim Sommers and Mr. Gary Downing

SUBJECT: Sampling and Analysis of Street Sweeping and Ditch Cleaning Materials from  
North and South County Stockpiles, Sarasota County, Florida

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Ladies and Gentlemen:

As requested, Ardaman & Associates, Inc. has conducted sampling and analysis of street sweeping and ditch cleaning material from Sarasota County North and South County Stockpile areas. This report will document the results of our field sampling and analysis.

On September 28, 1999, street sweeping and ditch cleaning materials stockpiled at Sarasota County locations were collected. Materials were identified by County personnel. The South County stockpile is located in a maintenance facility on State Road 776, in Venice, Florida. The area of street sweeping materials was approximately 20 feet by 50 feet in size with no significant stockpile of materials. Two (2) samples were collected at this location for submittal to the laboratory.

Samples were collected generally at five (5) locations each and composited on-site prior to placing the samples in containers. Samples were collected with stainless steel augers and a trowel, composited in a stainless steel bowl and then placed in laboratory supplied containers, capped, labeled and packed on ice for transport to the laboratory. The sample collected for volatile organics analysis according to EPA Method 8260 was collected from one (1) discrete location and was not a part of the composited sample. The street sweepings collected from the South County Stockpile are identified as South County Street Sweepings 1 and South County Street Sweepings 2 (SCSS-1 and SCSS-2).

The stockpiled materials from North County street sweepings were collected from the County facility, adjacent to the intersection of McIntosh Road and Gypsy Lane. The location of the street sweepings was identified by County personnel. The area was approximately 25 feet by 35 feet and a soil stockpile was present at this location. Again, soil samples were collected from five (5) locations for each sample and composited as explained above. The samples for volatile organics were collected as discrete samples. The North County street sweepings are identified as NCSS-1 and NCSS-2.

The soil samples were submitted to the laboratory for analysis according to EPA Methods 8260 for volatile organics, 8270 for semi-volatile organics, according to EPA Methods 6010 and 7471 for the 8 RCRA Metals and Zinc, Copper and Nickel, and for petroleum hydrocarbons according to the FL-PRO Method. A copy of the chain-of-custody form, laboratory analysis and field notes are included as an Appendix to this report. The detected analytes of concern in the street sweepings are summarized in Table 1.

As indicated, a number of semi-volatile organics and metals, as well as petroleum hydrocarbons were detected. The analytes which were detected above direct exposure limits for residential applications include Benzo (b) Fluoranthene, which was detected at both North County street sweepings stockpiles at 1400 and 5700 micrograms per kilogram (ug/kg) respectively. The direct exposure limits for this constituent in a residential setting is 1400 ug/kg. The detected concentrations do not however, exceed the leachability standard based on groundwater criteria of 10,000 ug/kg. Di Benzo (a,h) Anthracene, also exceeded the direct exposure limit of 100 ug/kg at the North County Street Sweeping Sample 2, which was detected at 300 ug/kg. The leachability standard for Di-Benzo (a, h) Anthracene is 3000 ug/kg. Benzo (a) Pyrene was detected in all four (4) samples at concentrations of 231, 573, 925 and 3000 ug/kg for SCSS-1, SCSS-2, NCSS-1 and NCSS-2, respectively. The direct exposure Soil Cleanup Target Level (SCTL) for residential setting is 100 ug/kg. The leachability standard, however, is 8000 ug/kg.

The only metal detected at levels exceeding SCTL's for direct exposure in a residential setting was Arsenic which was detected at SCSS-1 at 2.0 milligrams per kilogram (mg/kg) and in NCSS-2 at 0.88 mg/kg. The direct exposure limit in a residential setting is 0.8 mg/kg and 3.7 mg/kg in a commercial/industrial setting. The leachability standard is 29 mg/kg.

Petroleum hydrocarbons were also detected in all four (4) samples collected. Concentrations included 230, 420, 940 and 590 mg/kg respectively for SCSS-1, SCSS-2, NCSS-1 and NCSS-2. The direct exposure limit and leachability standard for petroleum hydrocarbons is 340 mg/kg.

In addition to the street sweepings, samples collected. Samples were collected from the North County and South County ditch cleanings. Locations of the stockpiled materials were identified by County personnel. At the South County location, two (2) soil stockpiles were identified, one which was stockpiled approximately 70 feet in diameter and in excess of 20 feet high. The material is reported to be in excess of 1 year at the site. The South County Ditch Cleaning No. 1 sample (SCDC-1) was collected at this location. The South County Ditch Cleaning 2 (SCDC-2) was collected from a smaller pile of stockpiled materials, which is reportedly the active ditch cleaning stockpile. Samples were collected from five (5) locations at each stockpile utilizing a precleaned stainless steel auger composited on-site and placed in laboratory supplied containers.

Sarasota County Public Works Business Center  
File No. 99-8597  
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The North County Ditch Cleaning stockpiles are located at the northeast corner of the intersection of Palmer Boulevard and Bell Road. Stockpiled materials are approximately 200 feet north to south by 100 feet east to west and include individual loads of dumped material. The sample identified as NCDC-1 was collected at five (5) locations in the south half of the stockpiled material and NCDC-2 was collected from the north half of the stockpiled materials. Samples were placed directly into laboratory supplied containers for transport to the laboratory.

The ditch cleaning samples SCDC-1, SCDC-2, NCDC-1 and NCDC-2 were submitted to the laboratory for toxicity characteristic leachate procedure (TCLP) analysis for volatile organics according to EPA Method 1311/8260, for base neutral acids according to Method 1311/8270, for pesticides according to Method 1311/8011 and for RCRA 8 Metals analysis according to Method 1311/6010? and 7470. Copies of the chain-of-custody forms laboratory analysis and field notes are also included in the Appendix to this report.

As indicated in the laboratory analysis, the only analytes of concern detected from the ditch cleaning stockpiles include Barium at 0.064, 0.073, 0.059 and 0.062 milligrams per liter (mg/L) for Samples SCDC-1, SCDC-2, NCDC-1 and NCDC-2 respectively.

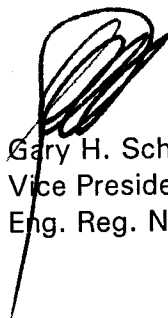
It has been a pleasure to be of assistance to you with this project. Please contact our office when we may be of further service to you or should you have any questions concerning this report.

Very truly yours,

Ardaman & Associates, Inc.



Ashby Hoover, P.E.  
Project Engineer  
Eng. Reg. No. 49942



Gary H. Schmidt, P.E.  
Vice President  
Eng. Reg. No. 12305

AH/GHS:nh

10-11-99



**TABLE 1 ANALYTES DETECTED IN STREET SWEEPINGS**

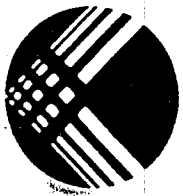
ANALYTES	SCSS-1	SCSS-2	NCSS-1	NCSS-2	DE	L
Acenaphthylene	ND	ND	25.5	30	1,100,000	27,000
Acenaphthene	ND	ND	28.8	100	1,900,000	2,100
Di Benzofuran	ND	ND	ND	53	280,000	15,000
Fluorene	ND	16.8	30.3	140	2,200,000	160,000
Phenanthrene	162	505	939	3300	2,000,000	250,000
Anthracene	17.6	50.5	86.6	470	18,000,000	2,500,000
Fluoranthene	548	1410	2880	6600	2,900,000	1,200,000
Pyrene	440	1140	2290	5000	2,200,000	880,000
Naphthalene	ND	ND	ND	17	40,000	1700
Benzo (a) Anthracene	172	475	736	2900	1,400	3200
Chrysene	346	744	1300	3800	140,000	77,000
Bis(2-Ethylhexyl) Phthalate	104	126	148	220	7600	3,600,000
Di-n-Octylphthalate	ND	122	ND	2100	1,500,000	480,000,000
Benzo(b)Fluoranthene	303	851	1400	5700	1400	10,000
Benzo(k)Fluoranthene	268	567	1070	2500	15000	25,000
Benzo(a) Pyrene	231	573	925	3000	100	8,000
Indeno(1,2,3-cd)Pyrene	124	210	339	950	1500	28,000
Benzo(ghi)Perylene	99.7	148	221	740	2,300,000	32,000,000
DiBenzo(a,h)Anthracene	ND	49.2	95	300	100	30,000
Benzoic Acid	ND	ND	ND	180	150,000,000	110,000
Butyl Benzyl Phthalate	ND	ND	53.2	ND	15,000,000	310,000
O-cresol	ND	ND	ND	26	2,400,000	300
m&p Cresol	ND	ND	ND	95	250,000	300
Above Concentrations in Micrograms per Kilogram (ug/kg)						

Silver	ND	ND	ND	ND	390	17
Arsenic	2.0	1.1	ND	0.88	0.8	29
Barium	12	9.4	8.6	9.8	110	1600
Cadmium	0.17	0.16	0.14	0.19	75	8
Chromium	4.1	4.2	6.1	4.6	210	38
Lead	3.0	5.3	6.5	9.0	400	--
Selenium	ND	ND	ND	ND	390	5
Mercury	ND	ND	ND	ND	3.4	2.1
Zinc	18	18	26	33	23,000	6000
Copper	2.6	6.4	14	5.0	110	--
Nickel	0.98	1.2	1.0	1.2	110	130
Petroleum Hydrocarbons	230	420	940	590	340	340
Concentrations of Metals and Petroleum Hydrocarbons in Milligrams per Kilogram (mg/kg)						

DR = Direct Exposure Limits for Residential Settings FAC-62-777

L = Leachability Limits FAC 62-777

APPENDIX



# Progress Environmental Laboratories

No 20909

4420 Pendola Point Road  
Tampa, Florida 33619  
(813) 247-2805  
FAX: (813) 248-1537

Hold  
TCPL (6813)  
8/14/8081  
FL-PRO  
PCA-8 + 2n, Cu, Ni  
8270  
8260

Client: Ardaman (Sarasota)		Due Date (TAT):		Fax Reports to: (941) 922-6743		Bill to:		Sampler's Initials: <i>CPA</i>		Remarks			
Station ID	Date	Time	PEL Lab #	# of Btcls	P	T	Res	8260	8270	PCA-8 + 2n, Cu, Ni	FL-PRO	8/14/8081	TCPL (6813)
SCSS-1	9/28/99	10:58		5				1	1	1	1	1	
SCSS-2	9/28/99	11:23		5				1	1	1	1	1	
SCDC-1	9/28/99	11:23		1								1	
SCDC-2	9/28/99	11:35		1								1	
NCSS-1	9/28/99	3:45		5				1	1	1	1	1	
NCSS-2	9/28/99	3:55		5				1	1	1	1	1	
NCDC-1	9/28/99	3:04		1								1	
NCDC-2	9/28/99	5:16		1								1	
Relinquished By:	<i>CPA</i>	Received By:	<i>Sheri J. Howard</i>	Date	9/27/99	Time	8:30	Project Notes					
Relinquished By:		Received By:		Date		Time		Do not analyze 8141 or 8081 total until after analysis is seen for other constituents.					
Relinquished By:		Received By:		Date		Time							
Relinquished By:		Received By:		Date		Time							

No 20909

# Progress Environmental Laboratories

4420 Pandora Point Road  
 Tampa, Florida 33619  
 (813) 247-2805  
 FAX: (813) 248-1537

Client: Arclamon (Sarasota)  
 Project Mgr: Chip Weaver  
 Project: County Stack Piles  
 Project #: 99-9597  
 PO #:

Due Date(TAT):  
 Fax Reports to: (941) 922-6743  
 Bill to:  
 Sampler's Initials: [Signature]

8270  
 8270  
 RCL-8 + 2 in. N.  
 FL-PRO  
 814/8081  
 TLP(8081)  
 Hold 8270, 8270, 8270

9909-258

Station ID	Date	Time	PEL Lab #	# of Bits	Pres	8270	8270	RCL-8 + 2 in. N.	FL-PRO	814/8081	TLP(8081)	Remarks
SCSS-1	9/28/99	10:58	01 (S)	5		1	1	1	1	1		SC = south county
SCSS-2	9/28/99	11:13	02	5		1	1	1	1	1		NC = north county
SCDC-1	9/28/99	11:23	03	1		1	1	1	1	1		SS = street sweeping
SCDC-2	9/28/99	11:35	04	1		1	1	1	1	1		DC = ditch cleaning
NCSS-1	9/29/99	3:45	05 (S)	5		1	1	1	1	1		
NCSS-2	9/29/99	3:55	06	5		1	1	1	1	1		
NCDC-1	9/29/99	3:07	07	1		1	1	1	1	1		
NCDC-2	9/29/99	5:16	08	1		1	1	1	1	1		
<p>Relinquished By: <u>[Signature]</u> Received By: <u>Joel V. Gaud</u> Date: <u>9/29/99</u> Time: <u>8:30</u></p> <p>Relinquished By: <u>[Signature]</u> Received By: <u>[Signature]</u> Date: <u>10/1/99</u> Time: <u>10:00</u></p> <p>Relinquished By: <u>[Signature]</u> Received By: <u>[Signature]</u> Date: <u>10/1/99</u> Time: <u>10:00</u></p> <p>Relinquished By: <u>[Signature]</u> Received By: <u>[Signature]</u> Date: <u>10/1/99</u> Time: <u>10:00</u></p>												

Project Notes  
 Do not analyze 814/8081 total until after analysis is seen for other constituents  
 TLP upon next (Be)  
 Solid rec'd in soil jar  
 Date: 10-6-99

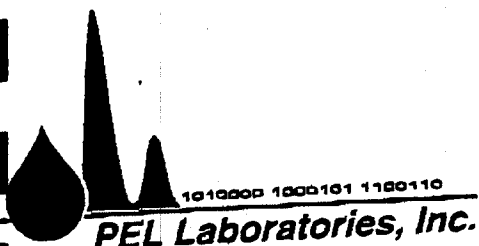


## PEL LABORATORIES, INC.

Please note that the following report contains a Data Qualifier Code. Data Qualifier Codes have been adopted by the Florida Department of Environment Protection for use in environmental programs. These codes provide a description of anomalies that have occurred in the analytical process. The alpha code is located in the results column of the report body, and is defined by the State as follows:

- J Estimated value; the sample matrix interfered with the ability to make any accurate determination.

When a sample fails to meet quality assurance limits for precision or accuracy, the sample analyses are repeated in an effort to meet criteria. However, if values continue to fail criteria but the batch QC for the samples meet established QC criteria the failure is a result of matrix interference. The effected results are flagged with a "J" data qualifier code.



- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Report Date: 10/07/99  
Page: 1 of 28

Attn: Chip Hoover

PEL Lab # : 9909-00258-1  
Client ID : SCSS-1  
Project ID : 99-8597  
Location : County Stockpile  
Matrix : Solid

Collection Information:  
Sample Date: 9/28/99  
Sample Time: 10:58  
Sampled By: Client  
Sample Quality:

ND = Less than RL  
Units RL

Parameter	Method	Results	Units	RL
VOC (for >200 ug/kg)	EPA 5035/8260		ug/kg	190
Dichlorodifluoromethane	EPA 8260	ND	ug/kg	190
Chloromethane	EPA 8260	ND	ug/kg	190
Vinyl chloride	EPA 8260	ND	ug/kg	190
Bromomethane	EPA 8260	ND	ug/kg	190
Chloroethane	EPA 8260	ND	ug/kg	190
Trichlorofluoromethane	EPA 8260	ND	ug/kg	190
1,1-Dichloroethene	EPA 8260	ND	ug/kg	190
Methylene chloride	EPA 8260	ND	ug/kg	190
trans-1,2-Dichloroethene	EPA 8260	ND	ug/kg	190
1,1-Dichloroethane	EPA 8260	ND	ug/kg	190
2,2-Dichloropropane	EPA 8260	ND	ug/kg	190
cis-1,2-Dichloroethene	EPA 8260	ND	ug/kg	190
Bromochloromethane	EPA 8260	ND	ug/kg	190
Chloroform	EPA 8260	ND	ug/kg	190
1,1,1-Trichloroethane	EPA 8260	ND	ug/kg	190
Carbontetrachloride	EPA 8260	ND	ug/kg	190
1,1-Dichloropropene	EPA 8260	ND	ug/kg	190
Benzene	EPA 8260	ND	ug/kg	190
1,2-Dichloroethane	EPA 8260	ND	ug/kg	190
Trichloroethene	EPA 8260	ND	ug/kg	190
1,2-Dichloropropane	EPA 8260	ND	ug/kg	190
Dibromomethane	EPA 8260	ND	ug/kg	190
Bromodichloromethane	EPA 8260	ND	ug/kg	190
cis-1,3-Dichloropropene	EPA 8260	ND	ug/kg	160
Toluene	EPA 8260	ND	ug/kg	190
trans-1,3-Dichloropropene	EPA 8260	ND	ug/kg	190
1,1,2-Trichloroethane	EPA 8260	ND	ug/kg	190
Tetrachloroethene	EPA 8260	ND	ug/kg	190
1,3-Dichloropropane	EPA 8260	ND	ug/kg	190

PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

Report Date: 10/07/99  
Page: 2 of 28

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Attn: Chip Hoover

PEL Lab # : 9909-00258-1 (Continued ...)  
Client ID : SCSS-1

Parameter	Method	Results	ND = Less than RL	
			Units	RL
Dibromochloromethane	EPA 8260	ND	ug/kg	190
1,2-Dibromoethane (EDB)	EPA 8260	ND	ug/kg	190
Chlorobenzene	EPA 8260	ND	ug/kg	190
1,1,1,2-Tetrachloroethane	EPA 8260	ND	ug/kg	190
Ethylbenzene	EPA 8260	ND	ug/kg	190
p,m-Xylenes	EPA 8260	ND	ug/kg	190
o-Xylene	EPA 8260	ND	ug/kg	190
Styrene	EPA 8260	ND	ug/kg	190
Bromoform	EPA 8260	ND	ug/kg	190
Isopropylbenzene	EPA 8260	ND	ug/kg	190
Bromobenzene	EPA 8260	ND	ug/kg	190
1,1,2,2-Tetrachloroethane	EPA 8260	ND	ug/kg	190
n-Propylbenzene	EPA 8260	ND	ug/kg	190
2-Chlorotoluene	EPA 8260	ND	ug/kg	190
4-Chlorotoluene	EPA 8260	ND	ug/kg	190
1,3,5-Trimethylbenzene	EPA 8260	ND	ug/kg	190
tert-Butylbenzene	EPA 8260	ND	ug/kg	190
1,2,4-Trimethylbenzene	EPA 8260	ND	ug/kg	190
sec-Butylbenzene	EPA 8260	ND	ug/kg	190
1,3-Dichlorobenzene	EPA 8260	ND	ug/kg	190
1,4-Dichlorobenzene	EPA 8260	ND	ug/kg	190
p-Isopropyltoluene	EPA 8260	ND	ug/kg	190
n-Butylbenzene	EPA 8260	ND	ug/kg	190
1,2-Dichlorobenzene	EPA 8260	ND	ug/kg	190
1,2-Dibromo-3-chloropropane	EPA 8260	ND	ug/kg	190
1,2,4-Trichlorobenzene	EPA 8260	ND	ug/kg	190
Hexachlorobutadiene	EPA 8260	ND	ug/kg	190
Naphthalene	EPA 8260	ND	ug/kg	190
1,2,3-Trichlorobenzene	EPA 8260	ND	ug/kg	190
1,2,3-Trichloropropane	EPA 8260	ND	ug/kg	960
Acetone	EPA 8260	ND	ug/kg	480
Acrolein	EPA 8260	ND	ug/kg	190
Acrylonitrile	EPA 8260	ND	ug/kg	190
Iodomethane	EPA 8260	ND	ug/kg	190
Carbon disulfide	EPA 8260	ND	ug/kg	190

## PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
 (HRS #E84207 and FDER CompQap #900306)

Report Date: 10/07/99  
 Page: 3 of 28

To: Ardaman & Associates  
 2500 BeeRidge Road  
 Sarasota, FL 34239

Attn: Chip Hoover

PEL Lab # : 9909-00258-1 (Continued ...)  
 Client ID : SCSS-1

Parameter	Method	Results	ND = Less than RL	
			Units	RL
2-Butanone (MEK)	EPA 8260	ND	ug/kg	190
Vinyl acetate	EPA 8260	ND	ug/kg	190
4-Methyl-2-pentanone (MIBK)	EPA 8260	ND	ug/kg	190
Ethyl methacrylate	EPA 8260	ND	ug/kg	190
2-Hexanone	EPA 8260	ND	ug/kg	190
1,4-Dichloro-2-butene	EPA 8260	ND	ug/kg	190
Analysis Date	EPA 8260	10-01-99		
*Dibromofluoromethane (80-120)	EPA 8260	96	%R	
*Toluene-d8 (81-117%)	EPA 8260	100	%R	
*4-BFB (74-121%)	EPA 8260	96	%R	
Semi-volatiles by GCMS	EPA 8270		ug/kg	138
N-nitrosodimethylamine	EPA 8270	ND	ug/kg	104
Aniline	EPA 8270	ND	ug/kg	12.7
Bis(2-chloroethyl) ether	EPA 8270	ND	ug/kg	25.4
Phenol	EPA 8270	ND	ug/kg	14.2
2-Chlorophenol	EPA 8270	ND	ug/kg	14.2
1,3-Dichlorobenzene	EPA 8270	ND	ug/kg	14.8
1,4-Dichlorobenzene	EPA 8270	ND	ug/kg	13.7
1,2-Dichlorobenzene	EPA 8270	ND	ug/kg	32.0
Benzyl Alcohol	EPA 8270	ND	ug/kg	13.2
Bis(2-Chloroisopropyl) ether	EPA 8270	ND	ug/kg	19.8
o-cresol	EPA 8270	ND	ug/kg	13.2
Hexachloroethane	EPA 8270	ND	ug/kg	13.7
N-Nitrosodi-N-Propylamine	EPA 8270	ND	ug/kg	49.3
m&p cresol	EPA 8270	ND	ug/kg	20.8
Nitrobenzene	EPA 8270	ND	ug/kg	16.8
Isophorone	EPA 8270	ND	ug/kg	10.2
2-Nitrophenol	EPA 8270	ND	ug/kg	17.8
Benzoic Acid	EPA 8270	ND	ug/kg	17.2
Bis(2-chloroethoxy)methane	EPA 8270	ND	ug/kg	10.2
2,4-Dichlorophenol	EPA 8270	ND	ug/kg	93.6
2,4-Dimethylphenol	EPA 8270	ND	ug/kg	16.3
1,2,4-Trichlorobenzene	EPA 8270	ND	ug/kg	11.2
Naphthalene	EPA 8270	ND	ug/kg	17.3
4-Chloroaniline	EPA 8270	ND	ug/kg	

PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Report Date: 10/07/99  
Page: 4 of 28

Attn: Chip Hoover

PEL Lab # : 9909-00258-1 (Continued ...)  
Client ID : SCSS-1

Parameter	Method	Results	Units	ND = Less than RL	RL
1-Methylnaphthalene	EPA 8270	ND	ug/kg		10.2
Hexachlorobutadiene	EPA 8270	ND	ug/kg		72.2
4-chloro-3-methylphenol	EPA 8270	ND	ug/kg		49.8
2-Methylnaphthalene	EPA 8270	ND	ug/kg		10.7
Hexachlorocyclopentadiene	EPA 8270	ND	ug/kg		11.7
2,4,6-Trichlorophenol	EPA 8270	ND	ug/kg		22.9
2,4,5-Trichlorophenol	EPA 8270	ND	ug/kg		15.8
2-Chloronaphthalene	EPA 8270	ND	ug/kg		12.7
2-Nitroaniline	EPA 8270	ND	ug/kg		13.7
Acenaphthylene	EPA 8270	ND	ug/kg		10.2
Dimethyl phthalate	EPA 8270	ND	ug/kg		10.7
2,6-Dinitrotoluene	EPA 8270	ND	ug/kg		23.4
Acenaphthene	EPA 8270	ND	ug/kg		12.7
3-Nitroaniline	EPA 8270	ND	ug/kg		13.7
2,4-Dinitrophenol	EPA 8270	ND	ug/kg		93.1
Dibenzofuran	EPA 8270	ND	ug/kg		12.7
2,4-Dinitrotoluene	EPA 8270	ND	ug/kg		12.2
4-Nitrophenol	EPA 8270	ND	ug/kg		69.7
Fluorene	EPA 8270	ND	ug/kg		11.7
4-Chlorophenyl Phenyl Ether	EPA 8270	ND	ug/kg		11.7
Diethyl phthalate	EPA 8270	ND	ug/kg		16.3
4-Nitroaniline	EPA 8270	ND	ug/kg		11.2
2-Methyl-4,6-Dinitrophenol	EPA 8270	ND	ug/kg		10.7
N-nitrosodiphenylamine	EPA 8270	ND	ug/kg		23.9
4-Bromophenyl Phenyl Ether	EPA 8270	ND	ug/kg		11.7
Hexachlorobenzene	EPA 8270	ND	ug/kg		13.7
Pentachlorophenol	EPA 8270	ND	ug/kg		71.2
Phenanthrene	EPA 8270	162	ug/kg		10.7
Anthracene	EPA 8270	17.6	ug/kg		13.7
Di-n-Butylphthalate	EPA 8270	ND	ug/kg		18.3
Fluoranthene	EPA 8270	548	ug/kg		11.2
Pyrene	EPA 8270	440	ug/kg		11.2
Benzidine	EPA 8270	ND	ug/kg		141
Butyl Benzyl Phthalate	EPA 8270	ND	ug/kg		11.2
3,3-Dichlorobenzidine	EPA 8270	ND	ug/kg		109

## PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

Report Date: 10/07/99  
Page: 5 of 28

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Attn: Chip Hoover

PEL Lab # : 9909-00258-1 (Continued ...)  
Client ID : SCSS-1

Parameter	Method	Results	Units	ND = Less than RL	RL
Benzo(a) anthracene	EPA 8270	172	ug/kg		11.7
Chrysene	EPA 8270	346	ug/kg		12.2
Bis(2-Ethylhexyl) Phthalate	EPA 8270	104	ug/kg		32.0
Di-n-Octylphthalate	EPA 8270	ND	ug/kg		13.7
Benzo(b) Fluoranthene	EPA 8270	303	ug/kg		15.2
Benzo(k) Fluoranthene	EPA 8270	268	ug/kg		12.7
Benzo(a) Pyrene	EPA 8270	231	ug/kg		10.7
Indeno(1,2,3-cd) Pyrene	EPA 8270	124	ug/kg		32.0
Dibenzo(a,h) Anthracene	EPA 8270	ND	ug/kg		24.4
Benzo(ghi) Perylene	EPA 8270	99.7	ug/kg		10.2
*2-Fluorophenol (25-121%)	EPA 8270	84.6	%R		
*Phenol-d5 (24-113%)	EPA 8270	87.9	%R		
*Nitrobenzene-d5 (23-120%)	EPA 8270	94.5	%R		
*2-Fluorobiphenyl (30-115%)	EPA 8270	86.6	%R		
*246-Tribromophenol 19-122%	EPA 8270	94.4	%R		
*4-Terphenyl-d14 (18-137%)	EPA 8270	106	%R		
Analysis Date	EPA 8270	10-05-99			
RCRA Metals	EPA 6010/EPA 7471				
Silver	EPA 6010	ND	mg/kg		0.20
Arsenic	EPA 6010	2.0	mg/kg		0.75
Barium	EPA 6010	12	mg/kg		0.10
Cadmium	EPA 6010	0.17	mg/kg		0.090
Chromium	EPA 6010	4.1	mg/kg		0.11
Lead	EPA 6010	3.0	mg/kg		0.12
Selenium	EPA 6010	ND	mg/kg		0.67
Mercury	EPA 7471	ND	mg/kg		0.01
Zinc	EPA 6010	18	mg/kg		0.14
Copper	EPA 6010	2.6	mg/kg		0.10
Nickel	EPA 6010	0.98	mg/kg		0.23
Petroleum Hydrocarbons	FL-PRO				
Petroleum Hydrocarbons	FL-PRO	230	mg/kg (DW)		9.1
*C39 (60-118%)	FL-PRO	J	%R		
*o-Terphenyl (62-109%)	FL-PRO	J	%R		

PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Report Date: 10/07/99  
Page: 6 of 28

Attn: Chip Hoover

PEL Lab # : 9909-00258-2  
Client ID : SCSS-2  
Project ID : 99-8597  
Location : County Stockpile  
Matrix : Solid

Collection Information:  
Sample Date: 9/28/99  
Sample Time: 11:13  
Sampled By : Client  
Sample Quality:

ND = Less than RL  
Units RL

Parameter	Method	Results	Units	RL
VOC (for >200 ug/kg)	EPA 5035/8260		ug/kg	180
Dichlorodifluoromethane	EPA 8260	ND	ug/kg	180
Chloromethane	EPA 8260	ND	ug/kg	180
Vinyl chloride	EPA 8260	ND	ug/kg	180
Bromomethane	EPA 8260	ND	ug/kg	180
Chloroethane	EPA 8260	ND	ug/kg	180
Trichlorofluoromethane	EPA 8260	ND	ug/kg	180
1,1-Dichloroethene	EPA 8260	ND	ug/kg	180
Methylene chloride	EPA 8260	ND	ug/kg	180
trans-1,2-Dichloroethene	EPA 8260	ND	ug/kg	180
1,1-Dichloroethane	EPA 8260	ND	ug/kg	180
2,2-Dichloropropane	EPA 8260	ND	ug/kg	180
cis-1,2-Dichloroethene	EPA 8260	ND	ug/kg	180
Bromochloromethane	EPA 8260	ND	ug/kg	180
Chloroform	EPA 8260	ND	ug/kg	180
1,1,1-Trichloroethane	EPA 8260	ND	ug/kg	180
Carbontetrachloride	EPA 8260	ND	ug/kg	180
1,1-Dichloropropene	EPA 8260	ND	ug/kg	180
Benzene	EPA 8260	ND	ug/kg	180
1,2-Dichloroethane	EPA 8260	ND	ug/kg	180
Trichloroethene	EPA 8260	ND	ug/kg	180
1,2-Dichloropropane	EPA 8260	ND	ug/kg	180
Dibromomethane	EPA 8260	ND	ug/kg	180
Bromodichloromethane	EPA 8260	ND	ug/kg	180
cis-1,3-Dichloropropene	EPA 8260	ND	ug/kg	150
Toluene	EPA 8260	ND	ug/kg	180
trans-1,3-Dichloropropene	EPA 8260	ND	ug/kg	180
1,1,2-Trichloroethane	EPA 8260	ND	ug/kg	180
Tetrachloroethene	EPA 8260	ND	ug/kg	180
1,3-Dichloropropane	EPA 8260	ND	ug/kg	180

PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Report Date: 10/07/99  
Page: 7 of 28

Attn: Chip Hoover

PEL Lab # : 9909-00258-2 (Continued ...)  
Client ID : SCSS-2

ND = Less than RL  
Units RL

Parameter	Method	Results	Units	RL
Dibromochloromethane	EPA 8260	ND	ug/kg	180
1,2-Dibromoethane (EDB)	EPA 8260	ND	ug/kg	180
Chlorobenzene	EPA 8260	ND	ug/kg	180
1,1,1,2-Tetrachloroethane	EPA 8260	ND	ug/kg	180
Ethylbenzene	EPA 8260	ND	ug/kg	180
p,m-Xylenes	EPA 8260	ND	ug/kg	180
o-Xylene	EPA 8260	ND	ug/kg	180
Styrene	EPA 8260	ND	ug/kg	180
Bromoform	EPA 8260	ND	ug/kg	180
Isopropylbenzene	EPA 8260	ND	ug/kg	180
Bromobenzene	EPA 8260	ND	ug/kg	180
1,1,2,2-Tetrachloroethane	EPA 8260	ND	ug/kg	180
n-Propylbenzene	EPA 8260	ND	ug/kg	180
2-Chlorotoluene	EPA 8260	ND	ug/kg	180
4-Chlorotoluene	EPA 8260	ND	ug/kg	180
1,3,5-Trimethylbenzene	EPA 8260	ND	ug/kg	180
tert-Butylbenzene	EPA 8260	ND	ug/kg	180
1,2,4-Trimethylbenzene	EPA 8260	ND	ug/kg	180
sec-Butylbenzene	EPA 8260	ND	ug/kg	180
1,3-Dichlorobenzene	EPA 8260	ND	ug/kg	180
1,4-Dichlorobenzene	EPA 8260	ND	ug/kg	180
p-Isopropyltoluene	EPA 8260	ND	ug/kg	180
n-Butylbenzene	EPA 8260	ND	ug/kg	180
1,2-Dichlorobenzene	EPA 8260	ND	ug/kg	180
1,2-Dibromo-3-chloropropane	EPA 8260	ND	ug/kg	180
1,2,4-Trichlorobenzene	EPA 8260	ND	ug/kg	180
Hexachlorobutadiene	EPA 8260	ND	ug/kg	180
Naphthalene	EPA 8260	ND	ug/kg	180
1,2,3-Trichlorobenzene	EPA 8260	ND	ug/kg	180
1,2,3-Trichloropropane	EPA 8260	ND	ug/kg	920
Acetone	EPA 8260	ND	ug/kg	460
Acrolein	EPA 8260	ND	ug/kg	180
Acrylonitrile	EPA 8260	ND	ug/kg	180
Iodomethane	EPA 8260	ND	ug/kg	180
Carbon disulfide	EPA 8260	ND	ug/kg	180



PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #EB4207 and FDER CompQap #900306)

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Report Date: 10/07/99  
Page: 8 of 28

Attn: Chip Hoover

PEL Lab # : 9909-00258-2 (Continued...)  
Client ID : SCSS-2

ND = Less than RL  
Units RL

Parameter	Method	Results	Units	RL
2-Butanone (MEK)	EPA 8260	ND	ug/kg	180
Vinyl acetate	EPA 8260	ND	ug/kg	180
4-Methyl-2-pentanone (MIBK)	EPA 8260	ND	ug/kg	180
Ethyl methacrylate	EPA 8260	ND	ug/kg	180
2-Hexanone	EPA 8260	ND	ug/kg	180
1,4-Dichloro-2-butene	EPA 8260	ND	ug/kg	180
Analysis Date	EPA 8260	10-01-99		
*Dibromofluoromethane (80-120)	EPA 8260	94	%R	
*Toluene-d8 (81-117%)	EPA 8260	98	%R	
*4-BFB (74-121%)	EPA 8260	96	%R	
Semi-volatiles by GCMS	EPA 8270			
N-nitrosodimethylamine	EPA 8270	ND	ug/kg	148
Aniline	EPA 8270	ND	ug/kg	111
Bis(2-chloroethyl) ether	EPA 8270	ND	ug/kg	13.6
Phenol	EPA 8270	ND	ug/kg	27.2
2-Chlorophenol	EPA 8270	ND	ug/kg	15.2
1,3-Dichlorobenzene	EPA 8270	ND	ug/kg	15.2
1,4-Dichlorobenzene	EPA 8270	ND	ug/kg	15.8
1,2-Dichlorobenzene	EPA 8270	ND	ug/kg	14.7
Benzyl Alcohol	EPA 8270	ND	ug/kg	34.3
Bis(2-Chloroisopropyl) ether	EPA 8270	ND	ug/kg	14.2
o-cresol	EPA 8270	ND	ug/kg	21.2
Hexachloroethane	EPA 8270	ND	ug/kg	14.2
N-Nitrosodi-N-Propylamine	EPA 8270	ND	ug/kg	14.7
m&p cresol	EPA 8270	ND	ug/kg	52.8
Nitrobenzene	EPA 8270	ND	ug/kg	22.3
Isophorone	EPA 8270	ND	ug/kg	18.0
2-Nitrophenol	EPA 8270	ND	ug/kg	10.9
Benzoic Acid	EPA 8270	ND	ug/kg	19.1
Bis(2-chloroethoxy) methane	EPA 8270	ND	ug/kg	13.1
2,4-Dichlorophenol	EPA 8270	ND	ug/kg	10.9
2,4-Dimethylphenol	EPA 8270	ND	ug/kg	100
1,2,4-Trichlorobenzene	EPA 8270	ND	ug/kg	17.4
Naphthalene	EPA 8270	ND	ug/kg	12.0
4-Chloroaniline	EPA 8270	ND	ug/kg	18.5

PEL Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -  
(HRS #E84207 and FDER CompQap #900306)

To: Ardaman & Associates  
2500 BeeRidge Road  
Sarasota, FL 34239

Report Date: 10/07/99  
Page: 9 of 28

Attn: Chip Hoover

PEL Lab # : 9909-00258-2 (Continued ...)  
Client ID : SCSS-2

ND = Less than RL  
Units RL

Parameter	Method	Results	Units	RL
1-Methylnaphthalene	EPA 8270	ND	ug/kg	10.9
Hexachlorobutadiene	EPA 8270	ND	ug/kg	77.3
4-chloro-3-methylphenol	EPA 8270	ND	ug/kg	53.4
2-Methylnaphthalene	EPA 8270	ND	ug/kg	11.4
Hexachlorocyclopentadiene	EPA 8270	ND	ug/kg	12.5
2,4,6-Trichlorophenol	EPA 8270	ND	ug/kg	24.5
2,4,5-Trichlorophenol	EPA 8270	ND	ug/kg	16.9
2-Chloronaphthalene	EPA 8270	ND	ug/kg	13.6
2-Nitroaniline	EPA 8270	ND	ug/kg	14.7
Acenaphthylene	EPA 8270	ND	ug/kg	10.9
Dimethyl phthalate	EPA 8270	ND	ug/kg	11.4
2,6-Dinitrotoluene	EPA 8270	ND	ug/kg	25.0
Acenaphthene	EPA 8270	ND	ug/kg	13.6
3-Nitroaniline	EPA 8270	ND	ug/kg	14.7
2,4-Dinitrophenol	EPA 8270	ND	ug/kg	99.7
Dibenzofuran	EPA 8270	ND	ug/kg	13.6
2,4-Dinitrotoluene	EPA 8270	ND	ug/kg	13.1
4-Nitrophenol	EPA 8270	ND	ug/kg	74.6
Fluorene	EPA 8270	16.8	ug/kg	12.5
4-Chlorophenyl Phenyl Ether	EPA 8270	ND	ug/kg	12.5
Diethyl phthalate	EPA 8270	ND	ug/kg	17.4
4-Nitroaniline	EPA 8270	ND	ug/kg	12.0
2-Methyl-4,6-Dinitrophenol	EPA 8270	ND	ug/kg	11.4
N-nitrosodiphenylamine	EPA 8270	ND	ug/kg	25.6
4-Bromophenyl Phenyl Ether	EPA 8270	ND	ug/kg	12.5
Hexachlorobenzene	EPA 8270	ND	ug/kg	14.7
Pentachlorophenol	EPA 8270	ND	ug/kg	76.2
Phenanthrene	EPA 8270	505	ug/kg	11.4
Anthracene	EPA 8270	50.5	ug/kg	14.7
Di-n-Butylphthalate	EPA 8270	ND	ug/kg	19.6
Fluoranthene	EPA 8270	1410	ug/kg	12.0
Pyrene	EPA 8270	1140	ug/kg	12.0
Benzidine	EPA 8270	ND	ug/kg	151
Butyl Benzyl Phthalate	EPA 8270	ND	ug/kg	12.0
3,3-Dichlorobenzidine	EPA 8270	ND	ug/kg	117