

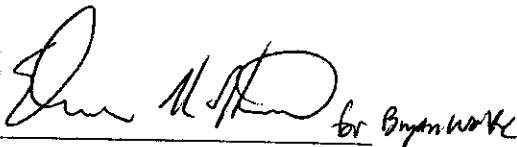
GEOTECHNICAL APR 11 2003

ADDITIONAL SITE ASSESSMENT
PARCEL 24B, JOHN MACCLEMENTS ET AL PROPERTY
301 NORTH SMITH STREET
CHARLOTTE, NORTH CAROLINA
STATE PROJECT NO. 9.9080100 (P-3800)

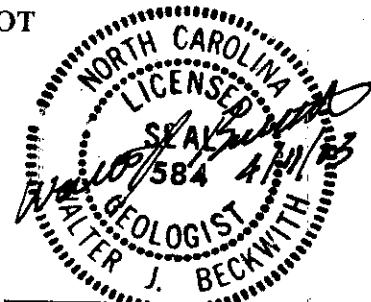
Prepared for:
NCDOT Geotechnical Unit
PO Box 25201
Raleigh, North Carolina 27611-5201

Prepared by:
Solutions Industrial & Environmental Services, Inc.
3722 Benson Drive
Raleigh, North Carolina 27609

Solutions-IES Project No. 1580.02A2.NDOT


for Bryan Wolfe

Bryan M. Wolfe
Environmental Specialist



Walter J. Beckwith, P.G.
Senior Hydrogeologist

April 11, 2003

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	BACKGROUND	1
3.0	SITE DESCRIPTION	2
4.0	FIELD ACTIVITIES	2
5.0	LABORATORY RESULTS.....	3
6.0	DISCUSSION	3
7.0	CONCLUSIONS.....	4

FIGURES

FIGURE 1 – SITE LOCATION MAP

FIGURE 2 –SOIL BORING LOCATIONS

TABLES

TABLE 1 - SUMMARY OF SOIL ANALYTICAL RESULTS

APPENDICES

APPENDIX A – LABORATORY ANALYTICAL REPORTS

1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is planning to construct a Multi-Modal Station in Charlotte, Mecklenburg County, North Carolina. The planned construction will require the NCDOT acquire properties located along the rail alignment. On December 10, 2002, Solutions Industrial & Environmental Services, Inc. (Solutions-IES) submitted proposal NC02055P to the NCDOT to conduct preliminary site assessment (PSA) of Parcel 24b, sited within the planned Multi-Modal Station construction area (Figure 1). In response to NCDOT's request to evaluate the property for possible evidence of former metal plating activities, Solutions-IES submitted proposal NC03101P on April 4, 2003 to the NCDOT to conduct additional sampling within Parcel 24b. This report summarizes the results of field and laboratory activities conducted at Parcel 24b on April 7, 2003.

2.0 BACKGROUND

According to information provided by the NCDOT, the property is owned by John E. MacClements et al. and is located at 301 North Smith Street in downtown Charlotte, North Carolina. Parcel 24b encompasses approximately 1.456 acres. A 25,000 square foot building was reportedly built in 1958 and is currently occupied by Carolina Rim & Wheel.

In October of 2001, Solutions-IES performed PSA for a number of properties located along the existing railroad right-of-way between West 1st and West 9th Streets¹. Because the Phase I Environmental Assessment Report² of the Multi-Modal Station area described most properties as presenting some environmental risk, Solutions-IES opened two borings (SB-20 and SB-21) to a depth of 8 feet below ground surface (bgs) in the general vicinity of Carolina Rim & Wheel shop. Boring SB-20 was located approximately 82' southwest of the west corner of the building and SB-21 was located approximately 22' north of the north corner of the building. The soil sample collected from SB-20 at a depth of 6-8' below ground surface (bgs) was reported to contain 26 mg/kg of diesel range organics. No volatile organics or petroleum hydrocarbons were reported in the sample collected from SB-21.

¹ Preliminary Site Assessment, Approximately 4.29 Acres Along Norfolk and Southern Railroad, Mecklenburg County, North Carolina, State Project No. 9.9081000 (P-3800). Consultant's report prepared by Solutions-IES for NCDOT Geotechnical Unit. Dated December 6, 2001

² Limited Phase I Environmental Site Assessment Report. State Project No. 9.9080178 (AMTRACK) Proposed AMTRACK Rail Station. Downtown Charlotte. Charlotte, North Carolina. Consultant's report prepared by Arcadis Geraghty & Miller. Dated September 28, 2000.

On January 9-10, 2003, Solutions-IES returned to the site to complete an assessment of site conditions related to anomalies detected during a geophysical evaluation of the site. Ten soil borings were opened to depths of 7 to 10 feet bgs. The borings are identified as SB-1 through SB-10 on Figure 2. From these borings, five soil samples were collected and submitted to Prism Laboratories in Charlotte, NC for analysis of total petroleum hydrocarbons. No gasoline range organics (GRO) or diesel range organics (DRO) were reported by the laboratory.

3.0 SITE DESCRIPTION

The John MacClements et al. property (Parcel 24b) is located on the north side of North Smith Street between Hearn Place and 7th Street. The railroad tracks abut the property to the north. Carolina Rim & Wheel currently occupies a single story masonry structure. The structure, housing warehouse and office space is surrounded by asphalt and concrete paving to the west and south and grass to the east. The railroad tracks are elevated on a fill embankment that begins a few feet north of the building.

Most of the building is currently being used as warehouse storage space. The remaining is being used for office space. A service pit, located inside the warehouse, was reportedly used for automotive front-end alignments³. The pit was covered with wood and pallets containing inventory were stacked on the wood making the pit inaccessible during the site visit. An oil water separator was identified just outside the garage door on the west side of the building. No staining was observed and no major cracks were visible on the warehouse floor. Figure 2 shows the location of the service pit and oil/water separator.

4.0 FIELD ACTIVITIES

On April 7, 2003, Solutions-IES staked seven boring locations outside the building. Several other locations were tentatively located inside the building. An attempt to access the first location inside the building was initiated by coring through the concrete floor with a concrete core drill. The core drill encountered a radiant heat pipe located in the floor, which resulted a small release of fluid. Coring was terminated at that point and additional locations within the building were not attempted. The heating system was reported to be abandoned by the owner and the core hole was patched. Figure 2 shows the location of the boring. All seven of the soil borings located outside the building were opened with a hand auger to a depth of 2 ft bgs. One sample was collected from each at a depth of approximately 1 to 2 ft

³ Personal communication with Carolina Rim & Wheel employee.

bgs. The sample locations are denoted with the "HB" prefix on Figure 2. Four samples (HB-1 through HB-4) were collected from the west side of the building near the loading dock area. One sample (HB-5) was collected outside the door on the northeast side of the building. Sample HB-7 was collected due east of HB-5 beyond a wooded area of the site. HB-6 was collected from the grassed area near the north property line. The samples were placed in laboratory-supplied jars and hand delivered at Pace Analytical Laboratories, Inc. in Huntersville, NC on the evening of April 7, 2003 under Chain-of-Custody procedures. The samples were requested to be analyzed for total concentrations of the 8 RCRA metals including arsenic, barium, cadmium, chromium, lead, selenium, and silver by EPA Method 6010 and mercury by EPA Method 7471.

5.0 LABORATORY RESULTS

The individual analytical laboratory reports for the soil samples are included in Appendix A. Table 1 summarizes the metals concentrations reported for the seven sample locations. Cadmium, silver and mercury were less than 1 mg/kg (ppm) in the samples. Selenium was less than 2.5 mg/kg. Arsenic was less than 10 mg/kg and chromium was less than 75 mg/kg. Barium and lead were less than 200 mg/kg.

6.0 DISCUSSION

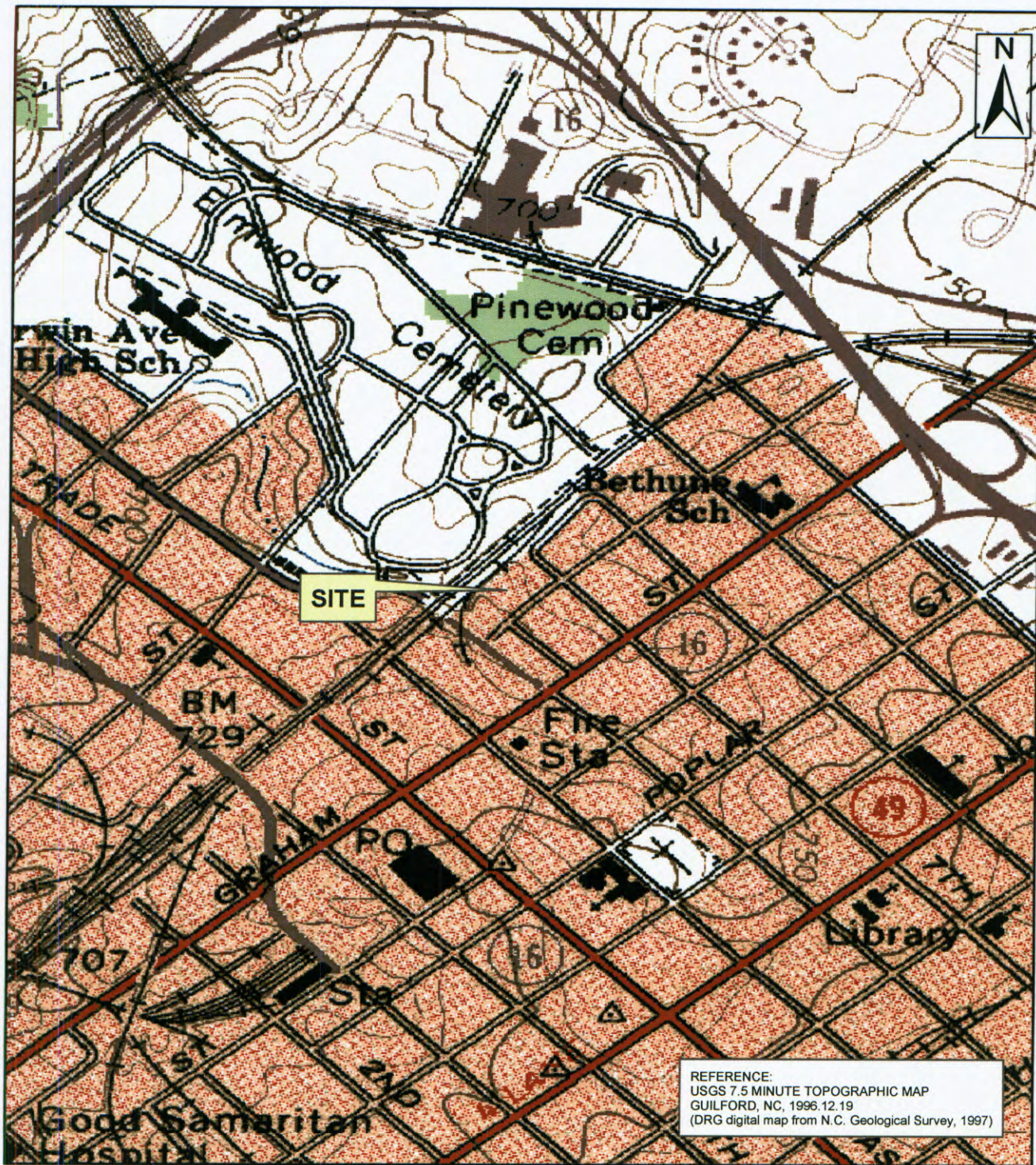
Seven soil borings were opened within the property boundaries of Parcel 24b. No visible staining was noted in the soil. Concentrations of the eight RCRA metals were compared to the Soil Remediation Goals (SRGs) shown in Table 4-1 of the Inactive Hazardous Sites Branch⁴ guidance document. Concentrations falling below the SRG generally would allow unrestricted land use. Only arsenic exceeds its SRG at three locations. It is important to note that the Inactive Hazardous Sites Branch does not require remediation of metals in soil to below "naturally occurring" background conditions. The average for arsenic at all locations was 4.6 mg/kg \pm 3.0 mg/kg. While background samples were not collected at this site it is probable that the arsenic concentrations shown in the samples are representative of background conditions, since concentrations reported in soil samples collected remote from the building are within the same range as those collected from active areas of the site. None of the laboratory results show high concentrations of metals to be present that one would typically associate with wastes from metal plating facilities.

7.0 CONCLUSIONS

This assessment was performed on behalf of the NCDOT for the MacClements property Parcel 24b located at 301 North Smith Street in Charlotte, Mecklenburg County, NC. Based upon our field observations and laboratory results, none of the concentrations reported in the soil samples that were collected suggest contamination by possible metal plating operations at the site.

⁴ "Inactive Hazardous Sites Program Guidelines for Assessment and Cleanup August 2001". North Carolina Department of Environment and Natural Resources, Division of Waste Management, Superfund Section, Inactive Hazardous Sites Branch, Raleigh, N.C.

FIGURES



1 : 10,000

SITE LOCATION MAP
 NC DOT Project #9.9080100 (P-3800)
 John MacClements Property (Parcel #24b)
 301 North Smith Street
 Charlotte, North Carolina



3722 BENSON DRIVE, RALEIGH, NC 27609			
PHONE (919) 873-1060, FAX (919) 873-1074			
FILE:	topo24b.mxd	PROJECT NO.:	1580.02A2.NDOT
CREATED BY:	B. Wolfe	DATE:	February-03
CHECKED BY:		GIS Soft., Vers.	ESRI ArcView 8.1
DIRECTORY:	NCDOT/1580..	FIGURE	1

PROJECT NUMBER
1580.0242.NDOT

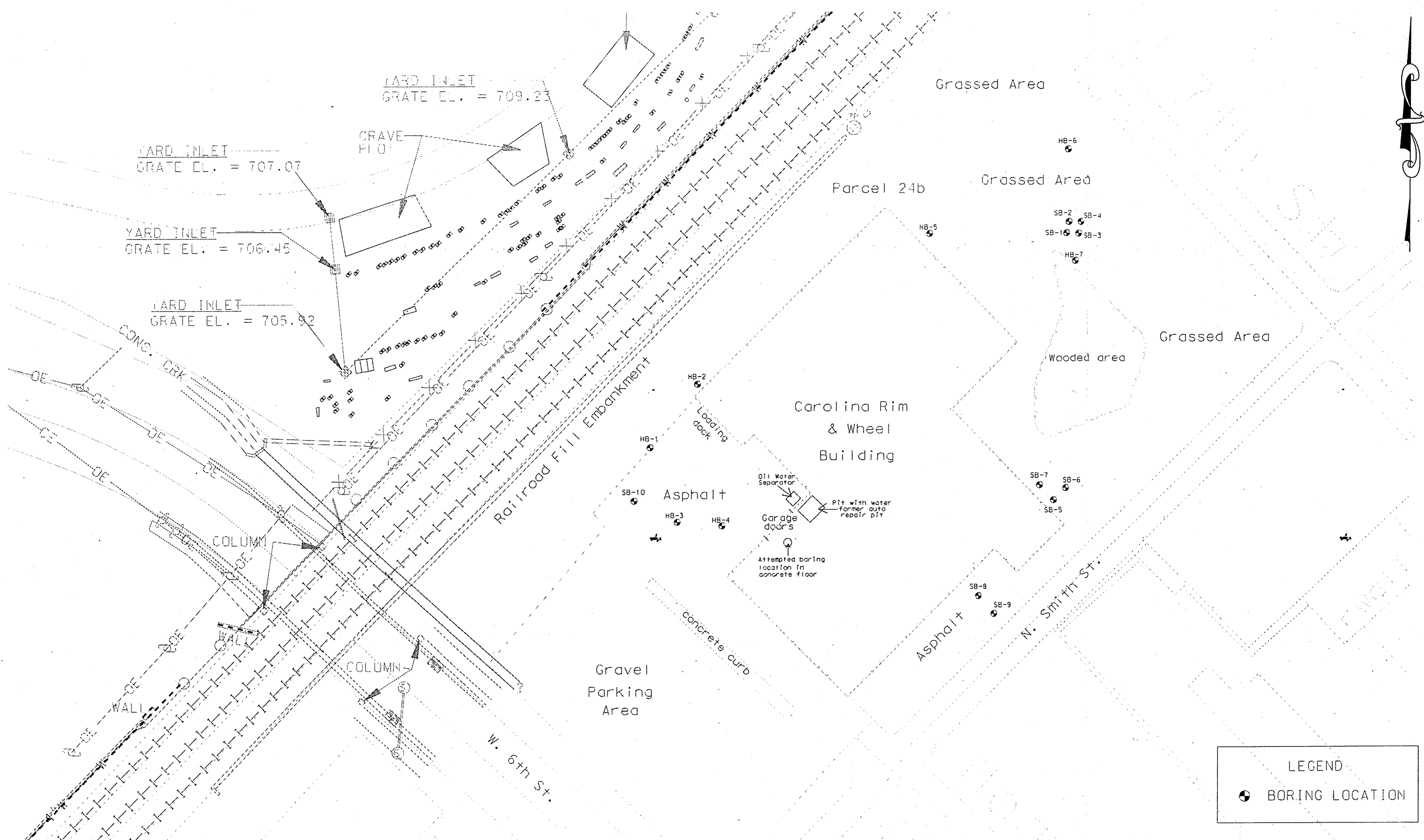
DRAFTER
BMW

CHECKED BY
BMR

PROJECT MANAGER
GB

DATE
4/7/03

FILE
fig-3njk.dgn



LEGEND

● BORING LOCATION

Solutions
Industrial & Environmental Services

3722 BENSON DRIVE
RALEIGH, NORTH CAROLINA 27609
TEL.: (919) 873-1060 FAX.: (919) 873-1074

Scale: 1" = 50'

SOIL BORING LOCATIONS
John MacClements Property (Parcel 24b)
301 North Smith Street
Charlotte, North Carolina
NCDOT State Project No. 9.9080100 (P-3800)

FIGURE:
2

TABLES

TABLE 1
 SUMMARY OF SOIL ANALYTICAL RESULTS
 John MacClements Property (Parcel #24b).
 301 North Smith St. - Charlotte, NC
 NC DOT PROJECT #9.9080100 (P-3800)
 April 7, 2003

Sample ID	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
HB-1	7.9	91	0.61	25	96	2.1	<0.15	0.091
HB-2	9.0	140	0.98	24	190	1.9	0.92	0.250
HB-3	2.1	150	<0.11	12.0	7.5	1.1	<0.23	<0.0055
HB-4	1.7	130	0.25	72.0	5.7	1.3	<0.23	<0.0059
HB-5	1.8	6.3	<0.10	6.6	5.3	1.3	<0.21	<0.0051
HB-6	3.9	43	0.13	66	29	2.1	<0.18	0.02
HB-7	5.5	130	0.41	32	190	2.4	<0.23	0.12
Soil Remediation Goals ¹	4.4	N/A	7.4	24000	400	78	78	4.6

Notes:

¹ Soil Remediation Goals (SRGs) are from Table 4-1 of the "Inactive Hazardous Sites Program Guidelines for Assessment and Cleanup, August 2001", pgs. 4-6 to 4-13.
 Bold values exceed SRGs. Background concentrations have not been established.
 All values are shown in mg/kg (parts per million).
 N/A = No Soil remediation goal established.

APPENDIX A
LABORATORY ANALYTICAL REPORTS

4



Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

April 10, 2003

Mr. Walt Beckwith
Solutions-IES
3722 Benson Drive
Raleigh, NC 27609

RE: Lab Project Number: 9243076
Client Project ID: NCDOT 9.9080100-Carolina Rim

Dear Mr. Beckwith:

Enclosed are the analytical results for sample(s) received by the laboratory on April 7, 2003. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Bonnie Kamla
Bonnie.Kamla@pacelabs.com
Project Manager

Enclosures

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS

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VA Drinking Water 213
FL NELAP E87627



Pace Analytical Services, Inc.
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 Huntersville, NC 28078
 Phone: 704.875.9092
 Fax: 704.875.9091

Lab Project Number: 9243076
 Client Project ID: NCDOT 9.9080100-Carolina Rim

Solid results are reported on a dry weight basis

Lab Sample No: 922898556 Project Sample Number: 9243076-001 Date Collected: 04/07/03 15:30
 Client Sample ID: HM-1 Matrix: Soil Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	BY	CAS No.	Qual	ReqLmt
Metals									
Metals, Trace ICP	Prep/Method: EPA 3050 / EPA 6010								
Arsenic	7.9	mg/kg	0.36	0.7	04/09/03 17:28	DJR	7440-38-2		
Barium	91.	mg/kg	0.36	0.7	04/09/03 17:28	DJR	7440-39-3		
Cadmium	0.61	mg/kg	0.073	0.7	04/09/03 17:28	DJR	7440-43-9		
Chromium	25.	mg/kg	0.15	0.7	04/09/03 17:28	DJR	7440-47-3		
Lead	96.	mg/kg	0.36	0.7	04/09/03 17:28	DJR	7439-92-1		
Selenium	2.1	mg/kg	0.36	0.7	04/09/03 17:28	DJR	7782-49-2		
Silver	ND	mg/kg	0.15	0.7	04/09/03 17:28	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil	Method: EPA 7471								
Mercury	0.091	mg/kg	0.0059	1.2	04/10/03	LEG	7439-97-6		
Wet Chemistry									
Percent Moisture	Method: % Moisture								
Percent Moisture	18.4	%		1.0	04/08/03	CDE			

Date: 04/10/03

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 Fax: 704.875.9091

Lab Project Number: 9243076
 Client Project ID: NCDOT 9.9080100-Carolina Rim

Lab Sample No: 922898564 Project Sample Number: 9243076-002 Date Collected: 04/07/03 15:45
 Client Sample ID: HB-2 Matrix: Soil Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	Req/Lmt
Metals									
Metals, Trace ICP									
	Prep/Method: EPA 3050 / EPA 6010								
Arsenic	9.0	mg/kg	0.50	1.0	04/09/03 17:32	DJR	7440-38-2		
Barium	140	mg/kg	0.50	1.0	04/09/03 17:32	DJR	7440-39-3		
Cadmium	0.98	mg/kg	0.10	1.0	04/09/03 17:32	DJR	7440-43-9		
Chromium	24.	mg/kg	0.20	1.0	04/09/03 17:32	DJR	7440-47-3		
Lead	190	mg/kg	0.50	1.0	04/09/03 17:32	DJR	7439-92-1		
Selenium	1.9	mg/kg	0.50	1.0	04/09/03 17:32	DJR	7782-49-2		
Silver	0.92	mg/kg	0.20	1.0	04/09/03 17:32	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil									
	Method: EPA 7471								
Mercury	0.25	mg/kg	0.0061	1.2	04/10/03	LBG	7439-97-6		
Wet Chemistry									
Percent Moisture									
	Method: % Moisture								
Percent Moisture	18.2	%		1.0	04/08/03	CDE			

Date: 04/10/03

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Lab Project Number: 9243076
 Client Project ID: NCDOT 9.9080100-Carolina Rim

Lab Sample No: 922898572 Project Sample Number: 9243076-003 Date Collected: 04/07/03 16:05
 Client Sample ID: HB-3 Matrix: Soil Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
Metals									
Metals, Trace ICP Prep/Method: EPA 3050 / EPA 6010									
Arsenic	2.1	mg/kg	0.57	1.1	04/09/03 17:37	DJR	7440-38-2		
Barium	150	mg/kg	0.57	1.1	04/09/03 17:37	DJR	7440-39-3		
Cadmium	ND	mg/kg	0.11	1.1	04/09/03 17:37	DJR	7440-43-9		
Chromium	12.	mg/kg	0.23	1.1	04/09/03 17:37	DJR	7440-47-3		
Lead	7.5	mg/kg	0.57	1.1	04/09/03 17:37	DJR	7439-92-1		
Selenium	1.1	mg/kg	0.57	1.1	04/09/03 17:37	DJR	7782-49-2		
Silver	ND	mg/kg	0.23	1.1	04/09/03 17:37	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil Method: EPA 7471									
Mercury	ND	mg/kg	0.0055	1.1	04/10/03	LBG	7439-97-6		
Wet Chemistry									
Percent Moisture Method: % Moisture									
Percent Moisture	11.9	%		1.0	04/08/03	CDE			

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Page: 3 of 13

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Lab Project Number: 9243076
 Client Project ID: NCDOT 9.9080100-Carolina Rim

Lab Sample No: 922898580 Project Sample Number: 9243076-004 Date Collected: 04/07/03 16:20
 Client Sample ID: HB-4 Matrix: Soil Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Metals									
Metals, Trace ICP	Prep/Method: EPA 3050 / EPA 6010								
Arsenic	1.7	mg/kg	0.58	1.2	04/09/03 17:41	DJR	7440-38-2		
Barium	130	mg/kg	0.58	1.2	04/09/03 17:41	DJR	7440-39-3		
Cadmium	0.25	mg/kg	0.12	1.2	04/09/03 17:41	DJR	7440-43-9		
Chromium	72.	mg/kg	0.23	1.2	04/09/03 17:41	DJR	7440-47-3		
Lead	5.7	mg/kg	0.58	1.2	04/09/03 17:41	DJR	7439-92-1		
Selenium	1.3	mg/kg	0.58	1.2	04/09/03 17:41	DJR	7782-49-2		
Silver	ND	mg/kg	0.23	1.2	04/09/03 17:41	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil	Method: EPA 7471								
Mercury	ND	mg/kg	0.0059	1.2	04/10/03	LBG	7439-97-6		
Wet Chemistry									
Percent Moisture	Method: % Moisture								
Percent Moisture	15.4	%		1.0	04/08/03	CDE			

Date: 04/10/03

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Lab Project Number: 9243076
 Client Project ID: NCDOT 9.9080100-Carolina Rim

Lab Sample No: 922898598 Project Sample Number: 9243076-005 Date Collected: 04/07/03 17:05
 Client Sample ID: HB-5 Matrix: Soil Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Metals									
Metals, Trace ICP	Prep/Method: EPA 3050 / EPA 6010								
Arsenic	1.8	mg/kg	0.52	1.1	04/09/03 17:46	DJR	7440-38-2		
Barium	6.3	mg/kg	0.52	1.1	04/09/03 17:46	DJR	7440-39-3		
Cadmium	ND	mg/kg	0.10	1.1	04/09/03 17:46	DJR	7440-43-9		
Chromium	6.6	mg/kg	0.21	1.1	04/09/03 17:46	DJR	7440-47-3		
Lead	5.3	mg/kg	0.52	1.1	04/09/03 17:46	DJR	7439-92-1		
Selenium	1.3	mg/kg	0.52	1.1	04/09/03 17:46	DJR	7782-49-2		
Silver	ND	mg/kg	0.21	1.1	04/09/03 17:46	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil	Method: EPA 7471								
Mercury	ND	mg/kg	0.0051	1.0	04/10/03	LBG	7439-97-6		
Wet Chemistry									
Percent Moisture	Method: % Moisture								
Percent Moisture	18.9	%		1.0	04/08/03	CDE			

Date: 04/10/03

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 Fax: 704.875.9091

Lab Project Number: 9243076
 Client Project ID: NCDOT 9.9080100-Carolina Rim

Lab Sample No: 922898606 Project Sample Number: 9243076-006 Date Collected: 04/07/03 17:10
 Client Sample ID: HB-6 Matrix: Soil Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
Metals									
Metals, Trace ICP	Prep/Method: EPA 3050 / EPA 6010								
Arsenic	3.9	mg/kg	0.44	0.9	04/09/03 17:50	DJR	7440-38-2		
Barium	43.	mg/kg	0.44	0.9	04/09/03 17:50	DJR	7440-39-3		
Cadmium	0.13	mg/kg	0.088	0.9	04/09/03 17:50	DJR	7440-43-9		
Chromium	66.	mg/kg	0.18	0.9	04/09/03 17:50	DJR	7440-47-3		
Lead	29.	mg/kg	0.44	0.9	04/09/03 17:50	DJR	7439-92-1		
Selenium	2.1	mg/kg	0.44	0.9	04/09/03 17:50	DJR	7782-49-2		
Silver	ND	mg/kg	0.18	0.9	04/09/03 17:50	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil	Method: EPA 7471								
Mercury	0.020	mg/kg	0.0054	1.1	04/10/03	LMG	7439-97-6		
Wet Chemistry									
Percent Moisture	Method: % Moisture								
Percent Moisture	7.2	%		1.0	04/08/03	CDE			

Date: 04/10/03

Page: 6 of 13

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Lab Project Number: 9243076

Client Project ID: NCDOT 9.9080100-Carolina Rim

Lab Sample No: 922898614
Client Sample ID: HB-7

Project Sample Number: 9243076-007
Matrix: Soil

Date Collected: 04/07/03 17:35
Date Received: 04/07/03 18:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Metals									
Metals, Trace ICP	Prep/Method: EPA 3050 / EPA 6010								
Arsenic	5.5	mg/kg	0.56	1.1	04/09/03 17:54	DJR	7440-38-2		
Barium	130	mg/kg	0.56	1.1	04/09/03 17:54	DJR	7440-39-3		
Cadmium	0.41	mg/kg	0.11	1.1	04/09/03 17:54	DJR	7440-43-9		
Chromium	32.	mg/kg	0.23	1.1	04/09/03 17:54	DJR	7440-47-3		
Lead	190	mg/kg	0.56	1.1	04/09/03 17:54	DJR	7439-92-1		
Selenium	2.4	mg/kg	0.56	1.1	04/09/03 17:54	DJR	7782-49-2		
Silver	ND	mg/kg	0.23	1.1	04/09/03 17:54	DJR	7440-22-4		
Date Digested	04/09/03				04/09/03				
Mercury, CVAAS, in Soil									
Mercury	Method: EPA 7471								
	0.12	mg/kg	0.0059	1.2	04/10/03	LBG	7439-97-6		
Wet Chemistry									
Percent Moisture	Method: % Moisture								
Percent Moisture	14.9	%		1.0	04/08/03	CDE			

Date: 04/10/03

Page: 7 of 13

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
VA Drinking Water 213
FL NELAP E87627



Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9243076
Client Project ID: NCDOT 9.9080100-Carolina Rim

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND Not detected at or above adjusted reporting limit
NC Not Calculable
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL Adjusted Method Detection Limit

Date: 04/10/03

Page: 8 of 13

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QUALITY CONTROL DATA

Lab Project Number: 9243076

Client Project ID: NCDOT 9.9080100-Carolina Rim

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922899042 922899059

Parameter	Units	922883152	Spike	MS	MSD	MS	MSD	RPD	Footnotes
		Result	Conc.	Result	Result	% Rec	% Rec		
Lead	mg/kg	65.55	30.86	139.5	151.4	240	268	8	1,1
Selenium	mg/kg	3.107	30.86	30.86	28.99	90	81	6	
Silver	mg/kg	0.1786	30.86	34.56	35.92	111	111	4	

SAMPLE DUPLICATE: 922899067

Parameter	Units	922883160	DUP	RPD	Footnotes
		Result	Result		
Arsenic	mg/kg	4.900	4.700	4	
Barium	mg/kg	59.00	60.00	1	
Cadmium	mg/kg	ND	0.1200	0	
Chromium	mg/kg	56.00	56.00	1	
Lead	mg/kg	9.000	9.400	4	
Selenium	mg/kg	2.100	1.600	29	2
Silver	mg/kg	ND	ND	NC	

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Lab Project Number: 9243076

Client Project ID: NCDOT 9.9080100-Carolina Rim

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

- LCS(D) Laboratory Control Sample (Duplicate)
- MS(D) Matrix Spike (Duplicate)
- DUP Sample Duplicate
- ND Not detected at or above adjusted reporting limit
- NC Not Calculable
- J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- MDL Adjusted Method Detection Limit
- RPD Relative Percent Difference
- [1] The spike recovery was outside acceptance limits for the MS and /or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- [2] The calculated RPD was outside QC acceptance limits.
- [3] The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

Date: 04/10/03

Page: 13 of 13

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