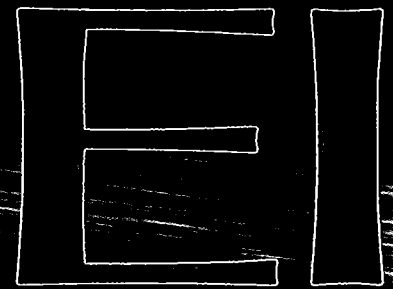


Environmental
ENVIRONMENTAL
Environmental



LIMITED PRELIMINARY SITE ASSESSMENT

**Parcel 119
Richard Styles Property
Former Sam's Oil Company
US Hwy 19E
Burnsville, NC 28714**

RECEIVED
MAY 12 2006
DOT - Geotechnical Engineering Unit

Work Order No. 2319A
Work Order No. 050501
Project No. 05050123100

Prepared For:

Gregory A. Smith
State of North Carolina
Department of Transportation
Geotechnical Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, NC 27699-1589

Prepared by:

Environmental Investigations, Inc.
2101 Gateway Center Boulevard, Suite 200
Morrisville, NC 27560
PH (919) 657-7500 FAX (919) 657-7551

May 2006



LIMITED PRELIMINARY SITE ASSESSMENT (PSA)

Conducted on

Parcel 119
Richard Styles Property
Former Sam's Oil Company
US Hwy 19E
Burnsville, NC 28714
State Project No. R-2519A
WBS Element No. 35609.1.1
EI Project No. ENMO060029.00

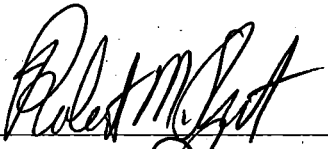
For

Mr. Gregory A. Smith
State of North Carolina
Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, NC 27699-1589


Issue Date: May 12, 2006

Robert M. Shaut
Project Geologist/Manager

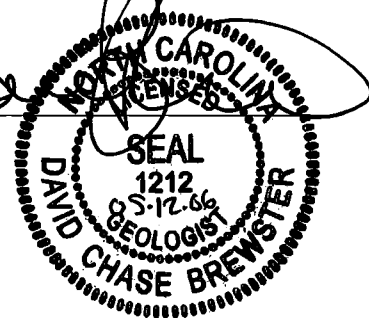
David C. Brewster, P.G.
Principal Geologist



Signature



Signature



Prepared By:

Environmental Investigations, Inc. (EI)
2101 Gateway Centre Blvd., Suite 200
Morrisville, North Carolina 27560
(919) 657-7500 FAX (919) 657-7551

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Report Organization	1
1.2	Background	1
1.3	Site History	1
1.4	Objectives	2
2.0	SCOPE OF WORK & ENVIORNMENTAL SERVICES	3
2.1	Requested Scope of Work	3
2.2	Scope of Services	3
3.0	SITE CHARACTERIZATION	5
3.1	Site Location	5
3.2	Physical Setting	5
3.2.1	Number and UST Capacities	5
3.3	Site Topography	5
3.4	Land Use & Surrounding Properties	5
4.0	SUBSURFACE INVESTIGATION	6
4.1	Subsurface Soils Investigation	6
4.2	Soil Test Boring Methodology	7
4.3	Soil Sample Collection Procedures	7
4.4	Backfill Activities	7
4.5	Subsurface Soil Lithology	7
4.6	Groundwater Investigation	8
5.0	LABORATORY ANALYTICAL METHODS, TESTING AND RESULTS	9
5.1	Subsurface Soil Analytical Methods	9
5.2	Soil Laboratory Analysis Results	9
5.3	Groundwater Analytical Methods.....	9
5.4	Groundwater Analysis Results	9
6.0	SUMMARY OF FINDINGS	10
7.0	CONCLUSIONS AND RECOMMENDATIONS	11

LIST OF TABLES

Table 1: Summary of Soil Analytical Results

LIST OF FIGURES

Figure 1: Site Location Map

Figure 2: Site Map

Figure 3: Impacted Soils Map

LIST OF APPENDICES

Appendix A: Site Photographs

Appendix B: Standard Operating Procedures

Appendix C: Soil Boring Logs

Appendix D: Laboratory Analytical Results Report

1.0 INTRODUCTION

Environmental Investigations, Inc. (EI) conducted a *Limited Preliminary Site Assessment* (PSA) within the existing and/or proposed North Carolina Department of Transportation (NCDOT) *right-of-way* (ROW) adjacent to a parcel (identified by the NCDOT as **Parcel 119**) located on US Hwy 19E, at the intersection of Clate Wheeler Road, Burnsville, North Carolina 28714. An oil company was formerly located on the adjacent parcel. The report presented herein documents the findings of the PSA that was conducted within the described ROW. For purposes of this report, the terms subject site and/or site include the existing NCDOT ROW and the proposed ROW, and/or the abutting property/parcel.

1.1 Report Organization

Field activities were conducted by Mr. Robert Michael Shaut, an Environmental Geologist with EI, on March 23, 2006. The report presented herein summarizes the scope of work conducted, discusses sampling procedures, and presents our findings, conclusions and recommendations. A table entitled "Summary of Soil Analytical Results" is presented in **Table 1**. A "Site Location Map", a "Site Map", and a "Impacted Soils Map" are presented in **Figures 1, 2, and 3**, respectively. A compilation of "Site Photographs" are presented in **Appendix A**, the "Standard Field Operating Procedures (SOP)" are presented in **Appendix B**, "Soil Boring Logs" are included in **Appendix C**, while the "Analytical Laboratory Report" is presented in **Appendix D**.

1.2 Background

Mr. Eugene Tarascio, GeoEnvironmental Project Manager with the NCDOT GeoTechnical Engineering Unit submitted to EI a "*Request for Supplemental Technical and Cost Proposal*" (RFP), dated February 24, 2006. The RFP solicited a technical and cost proposal to perform Limited PSAs on a total of 18 Parcels located within a NCDOT Highway Project, identified as WBS Element #35609.1.1, State Project #R-2519A, located in Burnsville, NC. The RFP outlined site information on each of the 18 parcels, some site photographs and NCDOT Figures (Plan Sheets) were attached to the RFP. Mr. Gregory A. Smith, LG, PE, GeoEnvironmental Supervisor with the NCDOT, GeoTechnical Engineering Unit, GeoEnvironmental Section authorized EI to perform the PSAs, as documented in a "Notice to Proceed" dated March 13, 2006.

May 12, 2006
State Project: R-2519A
WBS Element: 35609.1.1

Limited Preliminary Site Assessment
Parcel 119 – Richard Styles Property
Former Sam's Oil Company
733 East Main Street
Burnsville, NC 28714

1.3 Objectives

The objective of performing the PSA was to determine if former petroleum sales and/or usage business activities has impacted the subsurface of the existing and/or proposed ROW. The study (PSA) on the referenced parcel (**Parcel 119 – Richard Styles Property**) included herein was performed with a reasonable effort to investigate and quantify potentially petroleum-hydrocarbon residual impacted subsurface soils. However, findings documented in the report do not constitute a guarantee that all potential sources of environmental contamination have been assessed and subsequently analyzed.

This report is provided for the sole use of the NCDOT on the project for which it was prepared. All materials and information used for this project were obtained by EI, Inc. Use of this report by any third parties other than the NCDOT will be at such party's sole risk. EI Inc. disclaims liability for any use of or reliance on this report by third parties.

2.0 SCOPE OF WORK & ENVIRONMENTAL SERVICES

2.1 Requested Scope of Work

Documented in the RFP, dated February 24, 2006, the NCDOT requested the following scope of work:

- Determine if contaminated soils are present around any USTs identified that are within the existing right-of-way and/or the proposed right-of-way;
- in addition, collect soil samples every 15.24 meters (50.0 feet) to a maximum depth of 2.44 meters (8.0 feet) along the proposed drainage (if there is no proposed drainage, collect samples at same interval along the edge of proposed or existing right-of-way within the "area of investigation");
- delineate and estimate the quantity of impacted soils and indicate the approximate area of soil contamination on a site map for each site;
- if groundwater is encountered and the project manager suspects the possibility of groundwater contamination, obtain a sample for analysis by converting one (1) of the borings to a temporary monitoring well;
- for each groundwater sample collected, also obtain a 24-hour groundwater depth;
- if a groundwater sample is collected for proposed drainage, perform aquifer testing to determine the recharge rate and use this to provide an estimated quantity of contaminated water that will have to be disposed of when de-watering occurs to install the proposed drainage;
- prepare a report including field activities, findings, and recommendations for the site and submit in quadruplet to the NCDOT office.

2.2 Scope of Services

To accomplish the scope-of-services, a field reconnaissance was performed to identify general site conditions, and Direct Push Technology (DPT) was utilized to collect soil samples on the subject parcel.

May 12, 2006
State Project: R-2519A
WBS Element: 35609.1.1

Limited Preliminary Site Assessment
Parcel 119 – Richard Styles Property
Former Sam's Oil Company
733 East Main Street
Burnsville, NC 28714

To perform the requested Limited PSA, EI personnel supervised, oversaw and performed site reconnaissance activities and collected appropriate samples to complete the project objectives. To complete the study on the subject parcel, EI performed the following scope of services:

- Performed the field study described herein within a NCDOT prescribed area of study that encompassed approximately 106 square meters (1,141 square feet). The area of study was identified in the referenced NCDOT Plan Sheet.
- Supervision, and oversight of the advancement of three (3) soil test borings utilizing DPT methods to the investigative depth of 2.44 meters (8.0 feet) below the land surface (bls) within the existing and/or the proposed NCDOT right-of-way.
- Collection and submittal of three (3) soil samples for laboratory analytical testing.
- Installation of one (1) temporary monitoring well (piezometer).
- Collection and submittal of one (1) groundwater sample for laboratory analyses.
- Photo documentation of pertinent site features.
- Preparation of the *Limited PSA Report*, presented herein that presents our findings and conclusions along with our recommendations.

3.0 SITE CHARACTERIZATION

3.1 Site Location

A former business known as the "Sam's Oil Company" was formerly located on the subject property. The specific address for the property is 733 East Main Street in Burnsville, North Carolina 28714 (**Figure 1**). The subject property is currently located immediately adjacent to the DOT ROW (**Photograph 1**) as identified in DOT's R-2519A Plan Sheet 22. Copies of digital site photographs are presented in **Appendix A**.

3.2 Physical Setting

The subject site parcel formerly was occupied by three (3) above ground storage tanks (ASTs) associated with Sam's Oil Company located on Main Street. The ASTs were located at the southeast corner of the parcel. The ASTs were formerly located approximately 30 meters (98.0 feet) south of the centerline of US Highway 19E. During the DOT corridor investigations, recent construction activities were observed on the parcel. A ditch was observed along the western portion of the parcel parallel to Claten Wheeler Road, while the remaining portions of the parcel consisted of grass, and/or dirt. See **Figure 2** for pertinent site features.

3.2.1 Number and Capacities of USTs

During the site visit, indications of USTs were not observed on the site parcel

3.3 Site Topography

Site observations and review of the Burnsville, NC United States Geological Survey (USGS) Topographic Quadrangle Map (July 1, 1984), revealed that the subject site is located at an elevation of approximately 826 meters (2,710 feet) above mean sea level (msl) (**Figure 1**). Topographically, the site slopes gently to the north/northeast. Surface water runoff appears to flow directly north in the direction of Little Crabtree Creek located approximately 30 meters (100) feet from the site.

3.4 Land Use & Surrounding Properties

The subject property is located inside the city limits of Burnsville, NC. Land use in the immediate vicinity of the site is characterized by commercial properties. The site is bounded on the north by US Hwy 19E, to the west by Clate Wheeler Road, by an undeveloped parcel to the south, and a commercial property to the east.

4.0 SUBSURFACE INVESTIGATION

4.1 Subsurface Soils Investigation

Troxler Geologic Services, based in Raleigh, North Carolina, was selected and subcontracted to provide DPT services. On March 23, 2006, EI directed and supervised the advancement of three (3) soil test borings (GP-1 through GP-3), all of which were advanced in the vicinity of the proposed drainage piping located along the western and northwestern portion of the subject property.

In general, the borings were advanced in order to evaluate the absence/presence of potential subsurface soil (vadose zone) impact and/or subsurface groundwater (petroleum smearing) impact associated with potential petroleum releases associated with either former and/or present UST system spills and/or releases into the subsurface. The soil borings were advanced to the investigated depth of 2.44 meters (8.0) bls.

4.2 Soil Test Boring Methodology

A complete descriptive explanation of EI's *Standard Field Operating Procedures* that discusses specific sampling methodology is presented in **Appendix B**.

4.3 Soil Sample Collection Procedures

A total of three (3) soil samples were collected for laboratory analysis. Soil samples retained for laboratory analysis were transferred to a representative of Paradigm Analytical Laboratory, for laboratory analytical testing. Dates and times of sample shipment may be referenced in the analytical Chain-of Custodies (COC) presented in **Appendix D**.

4.4 Backfill Activities

At the completion of the exploratory subsurface advancement activities, the test borings were backfilled to surface grade. A complete descriptive explanation of EI's *Standard Field Operating Procedures* that discusses backfill procedures is presented in **Appendix B**.

4.5 Subsurface Soil Lithology

During boring advancement activities, soil samples were classified in the field by an EI geologist utilizing the Unified Soil Classification System (USCS). Subsurface soils encountered in the area of study were fairly consistent. The on-site geology consists of grass with surficial topsoil from the surface to approximately 0.31 meters (1.0-foot) below grade. Either a layer of soil

May 12, 2006
State Project: R-2519A
WBS Element: 35609.1.1

Limited Preliminary Site Assessment
Parcel 119 – Richard Styles Property
Former Sam's Oil Company
733 East Main Street
Burnsville, NC 28714

consisting of tan, light brown clayey SILT was encountered to the investigated depth of approximately 1.22 meters (4.0 feet) bls underlain by reddish brown to tan silty CLAY (CL-CH) very micaceous, to the investigative depth of 2.44 meters (8.0 feet) bls. Detailed descriptions are presented in Soil Boring Logs presented in **Appendix C**. The boring logs include an interpretation of subsurface conditions based on field samples.

4.6 Groundwater Investigation

Based on the absence of field indicators indicating the possibility of residual petroleum subsurface impact, the absence of groundwater during drilling operations and the absence of on-site USTs, EI did not advance a temporary monitoring well at this site.

5.0 LABORATORY TESTING AND RESULTS

5.1 Subsurface Soil Analytical Methods

A total of three (3) soil samples (“GP1-8”, “GP2-8”, and “GP3-8”) were submitted for total petroleum hydrocarbons (TPH) analyses by Method 8015B with preparation methods for the analysis of Diesel Range Organics (DRO) by GC-FID and Gasoline Range Organics (GRO) by GC-FID. The GRO method is utilized to extract volatile fuels such as gasoline, while the DRO method is utilized to extract less volatile petroleum products such as diesel fuel, No. 2 fuel oil, kerosene, and varsol.

These laboratory analytical methods were utilized as required in the *Guidelines* in order to compare results to the DWM's maximum soil contaminant concentration (MSCC) cleanup standards. The MSCC concentrations are also published in the *Guidelines*.

5.2 Soil Laboratory Analyses Results

Laboratory analysis of the soil samples collected showed that one (1) of the three (3) samples showed concentrations of DRO (11.1 mg/kg) above the laboratory detection limits at levels that barely exceeded the North Carolina Department of Environment and Natural Resources (NCDENR) action limits of 10.0 mg/kg. None of the remaining samples showed any concentrations of DRO above the laboratory detection limits. None of three (3) samples showed concentrations of GRO above the method laboratory detection limits.

The specific results of the analytical testing of the soil samples are tabulated and presented in **Table 1**. The complete laboratory results and Chain-of-Custody Records are presented in **Appendix D**.

6.0 SUMMARY OF FINDINGS

EI has reviewed information gathered during the Limited PSA study including the site reconnaissance activities, review of DOT plan sheets, review of the site investigation including soil collection activities, and review of a laboratory analyses report. Compiled below is a summarized list of the significant findings.

- During the site visit, indications of USTs were not observed on the site parcel
- The subject site parcel formerly was occupied by three (3) above ground storage tanks (ASTs) associated with Sam's Oil Company located on Main Street. The ASTs were located at the southeast corner of the parcel. The ASTs were formerly located approximately 30 meters (98.0 feet) south of the centerline of US Highway 19E.
- Laboratory analysis of the soil samples collected showed that one (1) of the three (3) samples showed concentrations of DRO (11.1 mg/kg) above the laboratory detection limits at levels that barely exceeded the North Carolina Department of Environment and Natural Resources (NCDENR) action limits of 10.0 mg/kg. None of the remaining samples showed any concentrations of DRO above the laboratory detection limits. None of three (3) samples showed concentrations of GRO above the method laboratory detection limits.

May 12, 2006
State Project: R-2519A
WBS Element: 35609.1.1

Limited Preliminary Site Assessment
Parcel 119 – Richard Styles Property
Former Sam's Oil Company
733 East Main Street
Burnsville, NC 28714

7.0 CONCLUSIONS AND RECOMMENDATIONS

Although a minor petroleum release was documented during this study, it does not appear, based on field and laboratory analytical data, that **any significant** petroleum spills and/or releases have impacted the area of investigation within the existing and/or proposed DOT ROW. Although, a significant impact does not appear to have occurred, EI does estimate that a total estimated volume of approximately **53 cubic meters (70 cubic yards) of impacted subsurface soils** are likely present in the vicinity of the area of investigation.

Based on the detection of DRO soil concentrations detected just above reportable levels, the property owner should be notified of this finding. It also should be noted that the detection of DRO discovered during this investigation normally should be reported to the regulatory agency (NCDENR) by the property owner. At this time, no other recommendations are warranted.

Note: This report does not constitute a guarantee that all potential sources of environmental contamination have been assessed and subsequently analyzed.



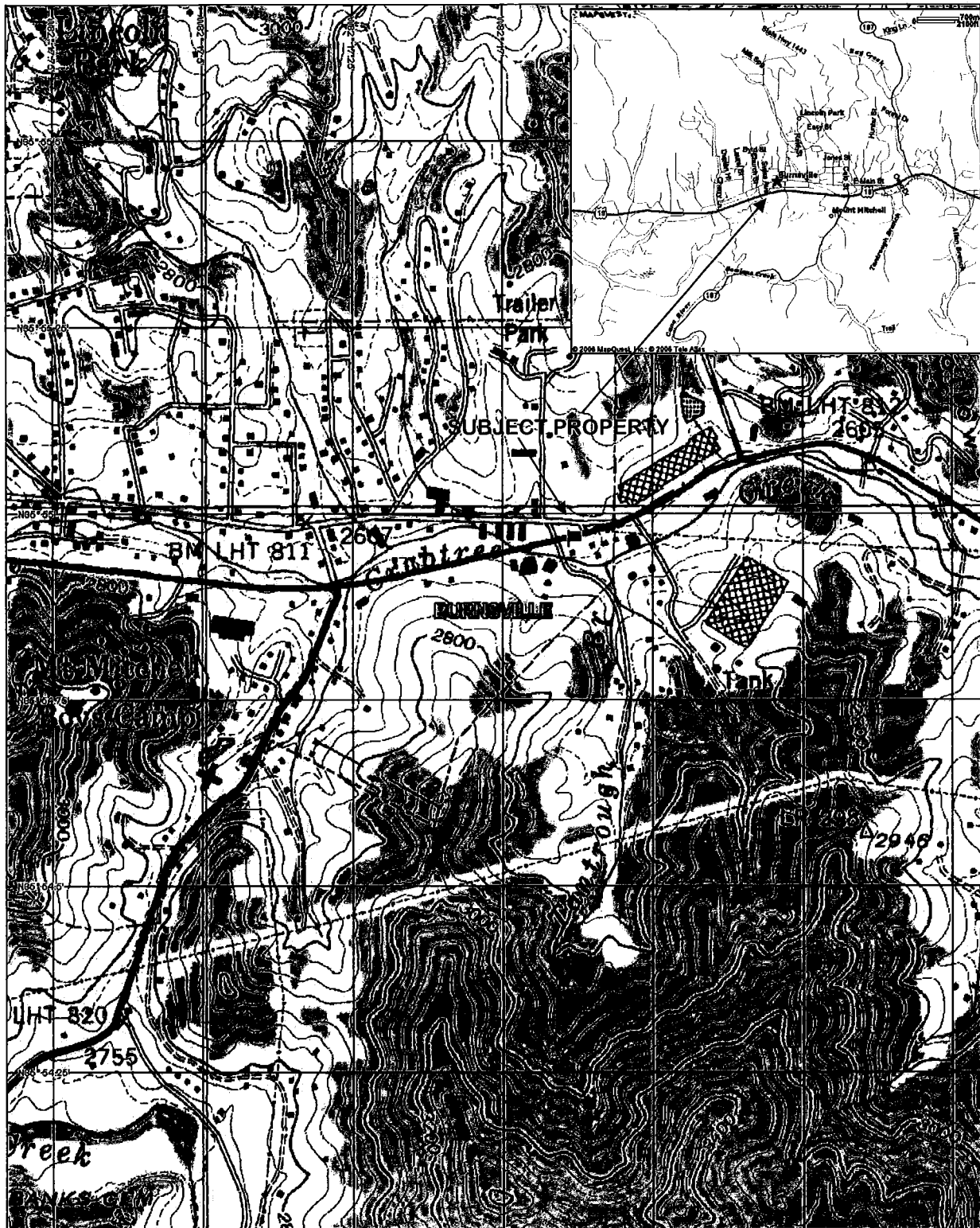
TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
 Parcel #19
 Richard Styles Property
 US Hwy 19 E,
 Burnsville, NC 28714
 State Project No. R-2519A
 WBS Element No. 35609.1.1

Sample Identification		631-9	632-9	633-9
Sample Depth Meters (Feet)		2.13m-2.00m (7-3)		
Field Screening Results-PID (ppm)				
Laboratory Analysis	Cleanup Standards (MSCC)	Residential MSCC (mg/kg)	Industrial Commercial MSCC (mg/kg)	Soil-to-GW MSCC (mg/kg)
	MADEP VPH			
C6-C8 Aliphatics		939	24528	<10
C9-C12 Aliphatics		9386	245280	<10
C9-C10 Aromatics		469	12264	<10
MADEP EPH	Cleanup Standards (MSCC)	Laboratory Results (mg/kg)		
C8-C18 Aliphatics		9356	245280	<10
C19-C36 Aliphatics		469	12264	<10
C11-C22 Aromatics		93650		<10
Volatile Organic Compounds Method 8260B/5036	Cleanup Standards (MSCC)	Laboratory Results (mg/kg)		
Benzene	22	200	BQL	BQL
Toluene	3200	82000	0.0052	0.0052
Ethylbenzene	1560	40000	BQL	BQL
Total Xylenes	32000	200000	BQL	BQL
2-Butanone (MEK)	9385	245280	0.00689	0.00689
Acetone	1564	40880	0.0299	0.0299
Isopropylbenzene (Cumene)	1564	40880	BQL	BQL
Iodomethane	NS	NS	0.00851	0.00851
n-Propylbenzene	156	4088	BQL	BQL
1,2,4-Trimethylbenzene	782	20440	0.00382	0.00382
1,3,5-Trimethylbenzene	782	20440	BQL	BQL
sec-Butylbenzene	156	4088	BQL	BQL
n-Butylbenzene	156	4088	BQL	BQL
Naphthalene	63	1635	0.00444	0.00444
Isopropylether (IPE)	156	4088	BQL	BQL
Methyl Tert-butyl Ether (MTBE)	156	4088	BQL	BQL
Methylene chloride	85	763	0.0194	0.0194
p-Isopropyltoluene	NS	NS	BQL	BQL
All Remaining Analytes	NA	NA	BQL	BQL
Semivolatile Organic Compounds SW846-8270C	Cleanup Standards (MSCC)	Laboratory Results (mg/kg)		
Naphthalene	63	1635	BQL	BQL
2-methyl naphthalene	63	1635	BQL	BQL
Phenanthrene	469	12264	BQL	BQL
All Remaining Analytes	NA	NA	BQL	BQL
Inorganic Analytes (mg/kg)		LABORATORY RESULTS (mg/kg)		
10		BQL	BQL	BQL
		BQL	11.1	BQL

NOTE:
 NS = No Standard
 mg/kg denotes parts per million
 MSCC = Maximum Soil Contaminant Concentrations
Bold & Italic Font = In Excess of MSCC Cleanup Standards
 * NC DENR = North Carolina Department of Environment & Natural Resources

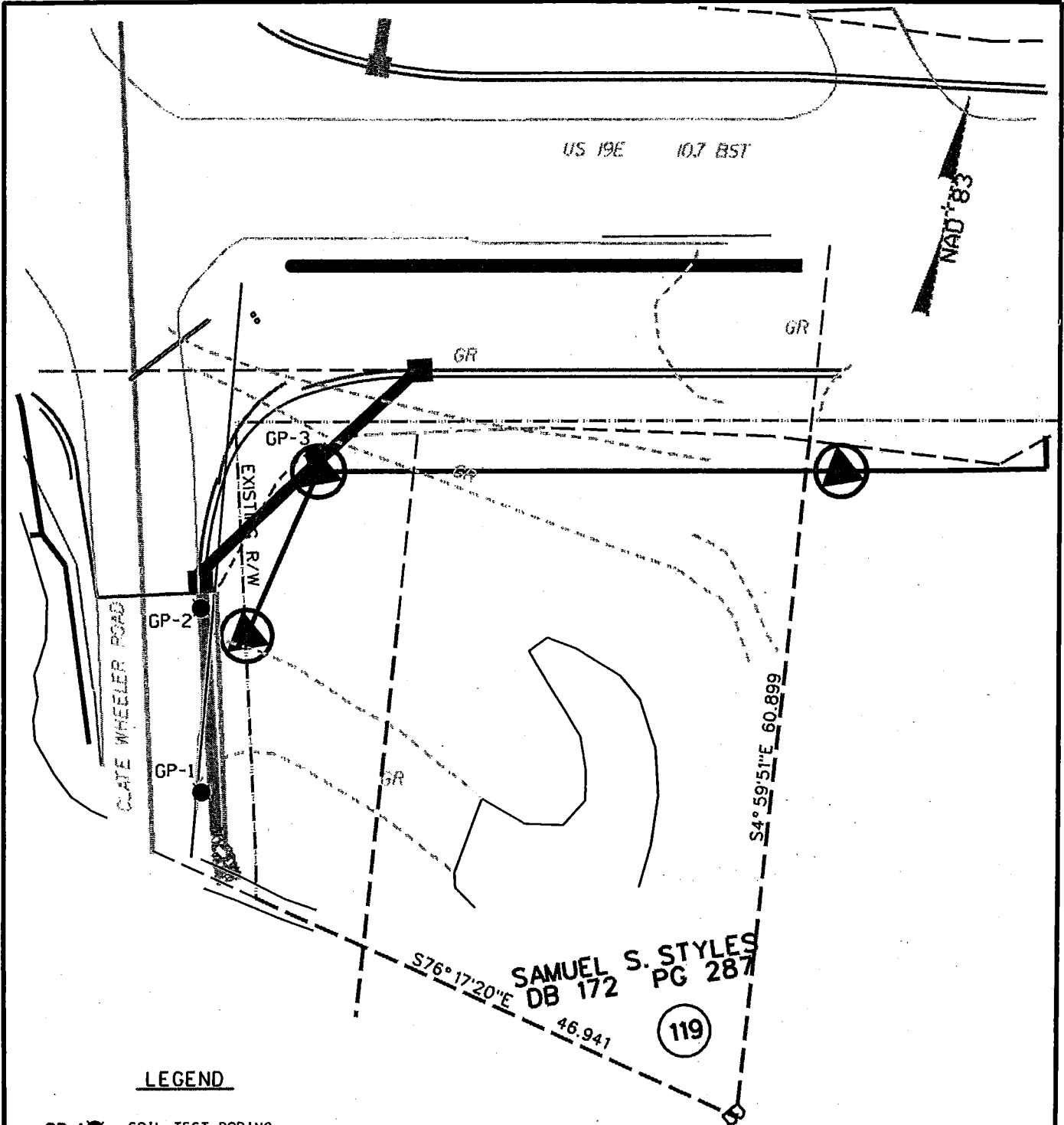
FIGURES



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 350 ft Scale: 1:12,900 Detail: 14-0 Datum: WGS84



FIGURE NUMBER:	1	SITE LOCATION MAP Richard Styles Property US Highway 19 E Parcel 119 Burnsville, North Carolina	 ENVIRONMENTAL INVESTIGATIONS, INC
QUAD:	Burnsville		
PROJECT NUMBER:	ENMO060029		
SCALE:	As Shown		



LEGEND

- GP-1 ● SOIL TEST BORING
- GP-1 ⊕ TEMPORARY MONITORING WELL
- PROPERTY BOUNDARY
- - - EXISTING R/W
- - - ⊕ PROPOSED R/W



FIGURE:	2
DRAWN BY:	NCDOT/RMS
DATE:	APR 2006
PROJ NO:	ENM0060029.00
SCALE:	1 cm = 5m

SITE MAP
PARCEL 119
 Richard Styles Property
 US HWY 19E
 Burnsville, NC 28714
 WBS Element: 35609.1.1



US 19E 10.7 BST

NAD '83

GR

GR

GP-3

EXISTING R/W

GP-2

CLAYE WHEELER ROAD

GP-1

S4°59'51"E 60.899

S76°17'20"E

SAMUEL S. STYLES
DB 172 PG 287

46.941

119

LEGEND

- GP-1 ● SOIL TEST BORING
- GP-1 ⊕ TEMPORARY MONITORING WELL
- PROPERTY BOUNDARY
- - - EXISTING R/W
- PROPOSED R/W
- ▬ AREA OF INVESTIGATION
- ▬ PROPOSED DRAINAGE PIPING
- ▨ IMPACTED SOILS (EST.)



FIGURE:	3
DRAWN BY:	NCDOT/RMS
DATE:	APR 2006
PROJ NO:	ENMD060029.00
SCALE:	1 cm = 5m

IMPACTED SOILS MAP
 PARCEL 119
 Richard Styles Property
 US HWY 19E
 Burnsville, NC 28714
 WBS Element: 35609.1.1



APPENDIX A
SITE PHOTOGRAPHS



Photo 1: Looking south at the subject property along the proposed drainage piping adjacent to Clate Wheeler Road. Note the geoprobe machinery in the photo.

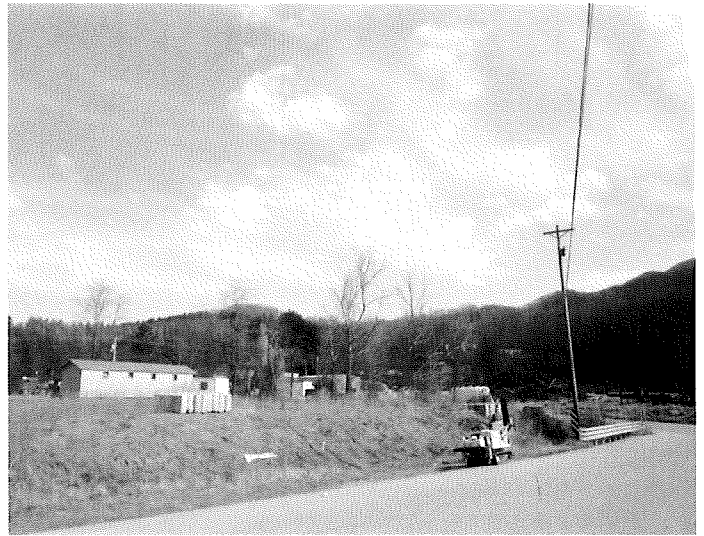


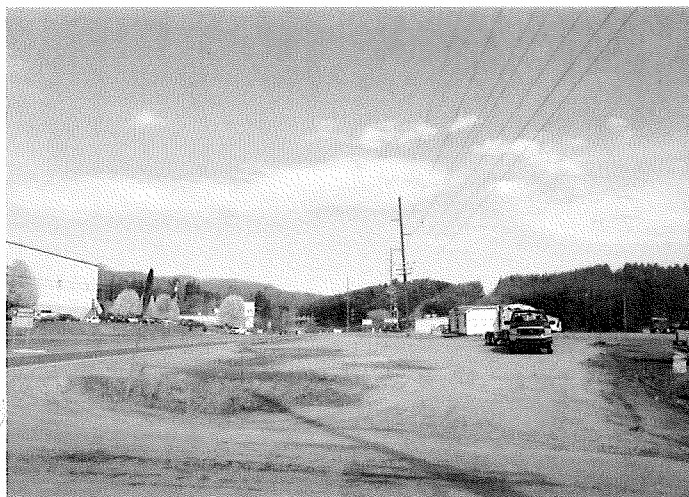
Photo 2: Looking southeast at proposed drainage piping area. Note geoprobe (GP-1) location.



Photo 3: Looking east. Proposed drainage piping location may be viewed in the center of the photo.



Photograph 4: Looking southwest at (GP-1) boring location along the proposed drainage piping location.



Photograph 5: Another view looking east.



Photograph 6: Looking northwest at the general GP-3 boring location.

APPENDIX B

STANDARD OPERATING PROCEDURES

**STANDARD OPERATING PROCEDURES
Subsurface Assessment Methodology And Sampling Protocol**

**Parcel 119
Richard Styles Property
Former Sam's Oil Company
US Hwy 19E
Burnsville, NC 28714**

WBS Element # 35609.1.1
State Project # R-2519A
EI Project No. ENMO060029.00

Prepared For:

Gregory A. Smith
State of North Carolina
Department of Transportation
Geotechnical Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, NC 27699-1589

Prepared by:

Environmental Investigations, Inc.
2101 Gateway Centre Boulevard, Suite 200
Morrisville, NC 27560
PH (919) 544-7500 FAX (919) 544-2199

May 2006

STANDARD OPERATING PROCEDURES

(Subsurface Assessment Methodology And Sampling Protocol)

INTRODUCTION

Environmental Investigations, Inc. (EI) has prepared this STANDARD OPERATING PROCEDURES - Subsurface Assessment Methodology and Sampling Protocol Plan (SPP) for a commercial property owned by Samuel S. Styles property located along US Hwy 19E, Burnsville, Yancey County, North Carolina.

The document presented herein describes the methodology and protocol that was utilized during the *Limited Preliminary Site Assessment* conducted at the above referenced project "site".

SAMPLING DESIGN

Prior to conducting a subsurface assessment, a sampling strategy was developed by EI based on the objectives of the investigation. After designing our soil sampling strategy, the appropriate equipment and techniques were selected to conduct the investigation. Our sampling strategy was based upon the premise of accomplishing the following performance objectives:

- collect soil samples that are representative of conditions as they exist at the study site;
- selecting the appropriate sampling device(s);
- taking measures to avoid introducing contamination as a result of poor sampling and/or poor handling techniques;
- reducing the potential of cross contamination between samples;
- defining sampling site selections and collection procedures for the appropriate individual media;
- defining the quality control assurance procedures;
- analytical requirements and limitations; and
- Data interpretation and assessment.

The sampling plan for this study was developed using the non-probabilistic (directed sampling designs) in nature. The location and frequency was based on this approach, to allow for the flexibility of the field coordinator (Geologist) to determine the number of samples collected for analysis. This approach allowed for the study objectives, properties of the matrix, resource constraints and access to sampling points to be adequately performed. Provision for access, use of sampling equipment, was also pre-determined.

The following section of the SPP discusses the sampling equipment available and collection methods which have been utilized to be technically appropriate.

SITE ORIENTATION

Prior to conducting any soil sampling procedures, the EI Project Geologist/Manager reviewed and presented the Site and Safety Health Plan to all participants involved with the project which was developed based on the EI Safety and Health program. All monitoring, protective equipment (latex gloves, Tyvek® suits, etc.), potential hazards associated with the site and general health and safety standards were discussed.

Site Survey

Prior to conducting specific sampling activities, EI personnel will conduct a limited site survey of the target and surrounding areas. Information discovered during the survey will be utilized to better perform the sampling activities and will provide more insight into establishment of the conclusions of this study. The site survey will consist of the following:

- General site layout (UST system layouts, overhead canopies, dispensers, etc.);
- Site access;
- Soil types and depths;
- Surface water drainage pathways;
- Existing site conditions;
- Visible staining of surface soil;
- Vegetation stress, and
- Possible offsite or non-site related sources.

FIELD INVESTIGATIVE PROCEDURES

Sampling Objectives

The general objective of sampling for this project was to collect a sample representative of subsurface and/or groundwater to reduce the potential bias caused by the sampling equipment used to obtain the sample.

The chosen sample locations were evaluated as discrete samples. A discrete sample is defined as "a discrete aliquot representative of a specific location at a given point in time."

Areas of Environmental Concern

The objectives of choosing the proper sampling methods to collect appropriate samples that are representative of the conditions as they exist at the site were as follows:

- Selecting the appropriate sampling device.
- Taking measures to avoid introducing contamination as a result of poor sampling and/or handling techniques.
- Reducing the potential of cross contamination between samples.

The areas of environmental concern consisted of an existing heating oil UST.

SOIL SAMPLING ACTIVITIES

Manual techniques and equipment, such as hand augers, are usually used for surface or shallow, subsurface soil sampling. Power operated equipment is usually associated with collecting deep samples, but this equipment can also be used for collecting shallow samples when the auger hole begins to collapse, or when the soil is so tight that manual auguring is not practical. Based on the location and type of property, EI utilized Direct Push Technology (DPT). The following section discusses the DPT methods employed during the site study.

Soil Sampling Collection Methods

Soil samples were collected utilizing Direct Push Technology (DPT) methods.

Direct Push Technology Methodology

DPT refers to tools and sensors that are inserted into the subsurface without the use of drilling to remove soil and make a path for the tool. To perform the DPT activities, the contractor utilized a GeoProbe® 6600 machine. The GeoProbe® 6600 is a hydraulically-powered probing machine designed, which uses static force and a percussion hammer to advance small diameter sampling tools into the subsurface to collect soil cores, groundwater samples, and or soil gas samples. A GeoProbe relies on a relatively small amount of static (vehicle) weight combined with percussion as the energy for advancement of a tool string.

The advantages of utilizing DPT drilling methods are described as follows:

- avoids the use of drilling fluids and lubricants during drilling;
- the equipment is highly mobile;
- disturbance of geochemical conditions during installation is minimized; and
- The drilling process does not produce drill cuttings.

DPT Soil Sample Collection Methods

Soil samples utilizing DPT methods were collected from the advanced DPT soil borings continuously in 4.0-foot increments using acetate liners contained in a nickel plated macro sampling tubes. Each soil-filled liner was split for field screening and soil sample collection purposes. Soil samples were collected from the liners with disposable vinyl gloves and utilized for soil vapor screening testing and/or laboratory retention. This sampling method allows for continuous soil sampling from the ground surface to the desired depth. Soil samples selected for analyses are referenced in the text section.

Soil Sample Collection Protocol

The following soil sampling collection procedures were utilized during this study:

- Ensured that all equipment, samplers and tools that will come in contact with the sample media was thoroughly decontaminated.
- Informed driller of sample interval (s) for borehole and oversaw the sampling process.
- Prepared and labeled all sample containers. Samples collected for the analytes of volatiles (if applicable) were sampled first.
- Labeled the containers including the location, depth, analyte, date and time of sampling.
- Delegated the driller to prepare the sample liner by cutting the liner in half.
- Placed liners on a clean sheet of plastic.
- Cut the soil core with a clean decontaminated knife to allow of visual soil classification.
- Sniffed the soil core with a PID/FID and recorded instrument readings volatile organics (VOCs) in a logbook (discussed further below).
- Logged the soil core in a logbook, including borehole identification (ID), sample number, date, time and any pertinent data.

-
- Logged soil classification including: recording percent recovery, color, description of major constituent, soil texture/structure, grading/sorting/plasticity, relative density or hardness consistency, clay, sand, silt, gravel content, grain size, moisture content, odor, staining and the Unified Soil Classification System (USCS) identifier and symbol;
 - Physically collected the selected soil samples and placed these samples into laboratory prepared containers.
 - Ensured the soil sample did not contain twigs, stones, and other debris from the soil.
 - Packed soil samples for shipment, prepared chain-of-custody records and shipping documentation

Soil Vapor Screening

An important tool in performing this study is performing the soil vapor screening or sniffing activities. Field screening is generally performed for a variety of reasons. The technique conducted during this study was used to screen soil samples for measurable levels of volatile organics. The results obtained from this procedure are not quantitative; however the results from several soil samples are relative and allowed the Field Geologist/Project Manager to select samples that are the most contaminated with the contaminated media. Generally, the presence of little or no organic vapor is possibly indicative of non-contaminated soils. Soil samples collected for purposes of soil headspace screening were tested by the following procedures:

- the field instrument was calibrated, prior to use;
- soil samples were collected directly from the DPT soil liners and placed into sealable plastic bags;
- soil samples within the bags were allowed to equilibrate for approximately five minutes;
- the headspace of each bagged sample was screened with the instrument probe for the presence of volatile organic compound (VOCs) with a Mini-RAE Photo-ionization Detector (PID);
- recording the instrument readings (VOCs) in a field logbook; and
- Verified that the FID/PID was reading background levels prior to exposing the probe into another sample.

Collection of Grab Soil Samples

Soil samples may provide two (2) types of soil contamination representation including grab and composite. Samples may be generally collected in random locations from a grid pattern or selected areas believed to be contaminated as evidenced by field indicators (staining, odors and/or measurable volatile organic readings).

For this study, grab samples selected from areas showing field indicators or confirmation soil samples chosen to confirm the absence of volatile organic readings were chosen. The technical definition for a grab sample is as follows: A grab sample is a discrete aliquot representative of a specific location at a given point in time. The sample is collected at one time and at one particular sampling point and depth. Refer to the text or Chain-of-Custody in this study for soil sample selection, date, time and depths of each sample chosen for laboratory analyses.

Sample Handling Procedures

The sample handling procedures were conducted as follows:

- 1) Disposable surgical latex gloves were used to avoid cross contamination of samples. Gloves were discarded in a designated "waste bag after each sample was collected.
- 2) Each confirmation sample upon collection was immediately stored in a cooler containing ice. During the sample collection process, care was taken to insure the samples were not collected in direct sunlight. In addition, during the collection process, no parts of the body without gloves touched any part of the sample.
- 3) Once placed into the cooler, each sample was protected with bubble wrap® and foam was inserted in the base, sides and top of the cooler.

Soil Boring Abandonment Procedures

Due to the fact that holes in the subsurface may act as a conduit for contamination migration, proper sealing of holes is essential for ensuring that a site assessment does not contribute to the spread of contaminants. The objective of hole-sealing is to prevent preferential migration of contaminants through the bore hole. To seal the boreholes advanced during this study, the contractor utilized a method known as surface pouring. Surface pouring entails sealing the boreholes with dry products (e.g., bentonite granules, chips and/or pellets). Once the DPT drive rods have been withdrawn, dry products are physically poured into the bottom of the

borehole and filled vertically up the column to at least two (2) feet from the base of the borehole. Once the dry products have seated into the borehole, the product is hydrated to expand the clay material. After the hydration process has been performed, the remaining portions of the boreholes are backfilled with the soil cores. Due to the nature of DPT, no soil cuttings were generated during soil boring exploration assessment work.

GROUNDWATER INVESTIGATION

The purpose of a monitoring well is to provide an access point for measuring groundwater levels and to collect groundwater samples representing actual in-situ groundwater conditions at that point of access. For the purpose of this investigation, based on the scope of work, EI chose to install temporary groundwater monitoring wells (Type I).

WELL DEVELOPMENT AND GROUNDWATER SAMPLE COLLECTION

Water Development

The groundwater monitor well was purged with a Peristaltic™ pump. Well development allows fresh water from the formation to enter the well and the groundwater samples will more accurately represent actual groundwater conditions. The well was purged of approximately three (3) to five (5) well volumes of water or until dry prior to sampling.

Groundwater Sampling Procedures

After well development activities were performed, groundwater samples were collected from the well(s) with the referenced pump. During the collection process, samples were poured directly from the bailer into the laboratory supplied containers which were placed into an ice chest filled with ice. Under no circumstances were any intermediate sample containers used, i.e. jar, beaker, etc., and then transferred to the sample container. In addition, water samples were not field filtered.

Prior to collecting the water sample, the containers were labeled accordingly. This procedure was performed prior to sampling because sample containers have a tendency to "sweat" when filled with groundwater; this makes it difficult to affix a label to the container after sampling.

The sample label also was covered with a clear piece of tape, which was wrapped around the sample container. This procedure prevented the label from detaching from the container during sample storage and shipment.

Each sample container was labeled indicating the sample location (i.e. GP-1, or MW-1, etc.), date and time of collection, sample location, collector, project site, and analysis identification. Other pertinent information was recorded in the field book.

After the groundwater sample(s) was collected, the containers were immediately placed in a sample cooler containing ice. Upon completion, the samples were transported to Paradigm Analytical Laboratories, located in Wilmington, NC using chain-of-custody documentation.

Soil Boring Abandonment Procedures

Due to the fact that holes in the subsurface may act as a conduit for contamination migration, proper sealing of holes is essential for ensuring that a site assessment does not contribute to the spread of contaminants. The objective of hole-sealing is to prevent preferential migration of contaminants through the bore hole. To seal the boreholes advanced during this study, the contractor utilized a method known as surface pouring. Surface pouring entails sealing the boreholes with dry products (e.g., bentonite granules, chips and/or pellets). Once the DPT drive rods have been withdrawn, dry products are physically poured into the bottom of the borehole and filled vertically up the column to at least two (2) feet from the base of the borehole. Once the dry products have seated into the borehole, the product is hydrated to expand the clay material. After the hydration process has been performed, the remaining portions of the boreholes are backfilled with the soil cores. Due to the nature of DPT, no soil cuttings were generated during soil boring exploration assessment work.

LABORATORY ANALYTICAL METHODS

Soil Analytical Methods

Based upon verbal information provided by NCDOT personnel (Eugene Tarascio), EI selected to analyze the chosen soil samples for total petroleum hydrocarbons (TPH) analyses by Method 8015B with preparation methods for the analysis of Diesel Range Organics (DRO) by GC-FID and Gasoline Range Organics (GRO) by GC-FID. The GRO method is utilized to extract volatile fuels such as gasoline, while the DRO method is utilized to extract less volatile petroleum products such as diesel fuel, fuel oil #2, kerosene, and varsol.

One (1) soil sample from the site was analyzed for volatile organics by SW-846 Method 8260 (5035 Prep), for semi-volatiles (SVOCs) by SW-846 Method 8270, and for aliphatics and aromatics by Massachusetts Department of Environmental Protection's (MADEP) method for volatile petroleum hydrocarbons (VPH) and MADEP's method for extractable

petroleum hydrocarbons (EPH), respectively.

These laboratory analytical methods were utilized as required in the *Guidelines* in order to compare results to the DWM's maximum soil contaminant concentration (MSCC) cleanup standards. The MSCC concentrations are also published in the *Guidelines*.

SAMPLE PACKAGING AND SHIPPING

This section discusses the sample packaging and shipping protocol that shall be used to transport collected samples to the laboratories for analytical testing. Samples collected, prepared, preserved and stored must then be readied for packaging and shipping. It is important that the presented protocol be followed to ensure that the samples reach their destination in sound condition. In addition, the samples must be under strict COC from the time they are sampled until the analysis is complete.

Samples collected for this project were classified as environmental materials samples and were not considered hazardous. In addition, the samples collected for this study were not classified as "dangerous goods".

Environmental samples collected for this field study were packed prior to shipment using the following procedures:

1. Secure drain plug on cooler with tape.
2. Place cushioned layer on bottom of cooler (vermiculite or "bubble-wrap" plastic).
3. Line cooler with large heavy duty plastic bag.
4. Place all sample containers in large plastic bag within the cooler. Be sure the lids on all bottles are tight (will not leak).
5. Cushion containers to prevent breakage.
6. Put ice that has been "double bagged" in heavy duty polyethylene bags and placed on top of and/or between the samples within the large plastic bag. Fill all remaining space between the containers with cushion materials.
7. Securely fasten the top of the large plastic bag with tape or tie.
8. Place the Chain-of-Custody Record into a plastic bag, and tape the bag to the inner side of the cooler lid.
9. Close the cooler and securely tape (preferably with fiber tape) the top of the cooler shut. Custody seals should be affixed to the top and sides of the cooler within the securing tape so that the cooler cannot be opened without breaking the seal.
10. Shipping containers (ice cooler) must be marked "THIS END UP", and arrow labels which indicate the proper upward position of the container should be affixed to the container. A label containing the name and address of the shipper should be placed on the containers exterior. Labels

STANDARD OPERATING PROCEDURES
Subsurface Assessment Methodology And Sampling Protocol

Parcel 119 – Richard Styles Property
US Hwy 19E, Burnsville, NC 28714
NCDOT R-2519A – Preliminary Site Assessment (March 2006)

used in the shipment of hazardous materials (e.g., Cargo Only Air Craft, Flammable Solids, etc.) are not permitted to be on the outside of containers used to transport environmental samples.

Shipping Note:

"When samples are to be shipped by common carrier or sent through the United States mail, it must comply with the Department of Transportation Hazardous Materials Regulations (49 CFR 172). The person offering such material for transportation is responsible for ensuring such compliance. For the preservation requirements of 40 CFR, Part 136, Table II, the Office of Hazardous Materials, Materials Transportation Bureau, Department of Transportation has determined that the Hazardous Materials Regulations do not apply to the following materials: Hydrochloric Acid (HCL) in water solutions at concentrations of 0.04% by weight or less (pH about 1.96 or greater); Nitric acid (HN03) in water solutions at concentrations of 0.-15% by weight or less (pH about 1.62 or greater); Sulfuric acid (H2SO4) in water solutions at concentrations of 0.35% by weight or less (pH about 1.15 or greater); and Sodium Hydroxide (Na OH) in water solutions at concentrations of 0.08% by weight or less (pH about 12.30 or less). This footnote is wholly reproduced from 40 CFR 136.3, which is definitive".

Sample Transportation

The cooler(s) containing the collected soil samples was shipped overnight via Federal Express, with COC documentation, to Prism Laboratories, Inc. in Charlotte, NC. The following protocol was used for sample handling and transportation:

- 1) The lids on all bottles were tightened to reduce the potential for leakage.
- 2) The sample identification label on each individual laboratory container was covered with a clear piece of plastic tape. Each container was then placed within an appropriately sized polyethylene bag and sealed.
- 3) The containers were placed into a bubble-wrap® lined rectangular ice chest (cooler).
- 4) Ice was placed on top and surrounding bubble-wrap® sample containers. Some of the remaining spaces between the containers were filled with bubble-wrap® and/or ice.
- 5) The cooler drain plug was secured with clear tape.
- 6) The COC's was double plastic bagged and was taped to the inner side of the cooler lid.
- 7) The cooler was closed and securely taped.
- 8) A label with adhesive tape containing the name and address of the shipper and the address of the laboratory was placed on top of the cooler.

DECONTAMINATION PROCEDURES

Decontamination is the process of washing, rinsing and removing contaminants from exposed surfaces of equipment. Decontamination helps prevent the spread of contamination off-site, and avoids cross-contamination to other samples. The decontamination procedures were performed as follows:

- 1) Disposable surgical latex gloves were used in lieu of decontamination procedures to collect soil samples.

The soil samples retained for laboratory analyses were placed in the appropriate clean laboratory prepared containers, labeled and subsequently delivered with chain-of-custody documentation (COC) for analysis. Dates and times of sampling may be referenced on the COC's. Specific laboratory analysis methods are referenced in the text of this Study.

QUALITY ASSURANCE PROTOCOL

Field and Laboratory Control Samples

The purpose of this section is to describe the standard control sampling program that supported the data quality objectives for this site. These control samples will included field control Quality Assurance (QA) samples used to assess sources of error. To minimize or consider the impact these errors have on the resulting data, a combination of unique field QA/QC protocols and control samples were developed to meet the QA overall objectives.

Field Control Samples

The elements of the sampling and field QA/QC strategy included the following:

- (1) El developed a well thought out sampling strategy for the site. The plan adequately and sufficiently outlined the different types of environmental media and protocol to sample the media.
- (2) Sampling methodologies to obtain true representative samples.
- (3) Used decontamination procedures in order to reduce cross-contamination potential between sampling points.
- (4) Used the proper sample containers, and preservation requirements.
- (5) Used the proper storage, and shipping of samples protocol.

Techniques to verify the inclusion of the QA/QC program included scheduled field control samples consisting of field blanks (trip and temperature). The field control samples were handled similarly as the environmental samples.

Quality Control Samples

A trip and temperature blank were collected during this study.

Laboratory QA/QC Procedures

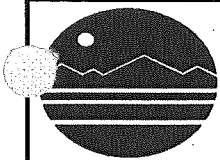
Laboratory QA/QC procedures are implemented in order to prevent, detect, and correct potential errors during the analytical process. The reliability and credibility of analytical laboratories are corroborated by the development and performance of their respective QA/QC programs. For this project, the NCDOT contracted laboratory provided and performed their program as they see fit. Standard practices used by the selected laboratory included the following quality control sample information in their generated reports:

- (a) laboratory method blanks;
- (b) temperature blanks.

INVESTIGATION DERIVED WASTE MANAGEMENT PROTOCOL

The investigation derived waste (IDW) generated during the sampling activities were placed on site. These wastes include any derivative investigative soils leftover from the sampling and backfilling protocol, decontamination water (cleaning of field equipment), bailers, bailer haul-line and PPE equipment, if applicable. The management of IDW for this project complies with applicable or relevant and appropriate requirements (ARAs). The site specific ARAs were followed in consensus with the EPA Standard Operating Procedures (SOP) and Quality Assurance Manual, Region 4 and the *Guidelines For Assessment And Corrective Action*, drafted by the North Carolina Underground Storage Tank Section, effective July 1, 2001.

APPENDIX C
SOIL BORING LOGS



E.I.

ENVIRONMENTAL INVESTIGATIONS, INC.

2101 Gateway Centre Boulevard, Suite 200
Morrisville, North Carolina
919-657-7500

SOIL BORING LOG

Boring No. GP-1
Date Drilled: 04/19/06

Client:	<u>NCDOT</u>	Logged By:	<u>RMS</u>
Project Name:	<u>Parcel #123 - Glen Raven Mills Property</u>	Drilling Company:	<u>SEI, Inc.</u>
Project/Site Location:	<u>Burnsville, NC</u>	Drill Device:	<u>GeoProbe 6600</u>
Project Number:	<u>ENMO060029.00</u>	Drill Method:	<u>DPT</u>

Total Boring Depth: 2.74m Weather Conditions: Warm - Lt rain Surface Elevation: _____
 Boring Diameter: 10.16cm Boring Location: Proposed Drainage Piping

Depth (Feet)	Depth (meters)	Time	Sample Analyzed	Recovery	Soil Profile	Lithological Description	Sample PID (ppm)
2.00	0.61			100%	Topsoil	Grass with topsoil - brick fragments.	0.0
					(CL)	Reddish bn. Silty CLAY (CL), micaceous, moist to wet at 2.14 m (7.0') bls.	
4.00	1.22		100%			0.0	
				6.00		1.83	16:49
8.00	2.44						
		Probe Refusal. Boring terminated at 2.74 meters (9.0') bls. x denotes soil sample at 2.13m - 2.44m (7'-8') bls interval collected for laboratory retention.					



EI

ENVIRONMENTAL INVESTIGATIONS, INC.

2101 Gateway Centre Boulevard, Suite 200
Morrisville, North Carolina
919-657-7500

SOIL BORING LOG

Boring No. GP-2
Date Drilled: 04/19/06

Client:	<u>NCDOT</u>	Logged By:	<u>RMS</u>
Project Name:	<u>Parcel #123 - Glen Raven Mills Property</u>	Drilling Company:	<u>SEI, Inc.</u>
Project/Site Location:	<u>Burnsville, NC</u>	Drill Device:	<u>GeoProbe 6600</u>
Project Number:	<u>ENMO060029.00</u>	Drill Method:	<u>DPT</u>

Total Boring Depth: 3.05m Weather Conditions: Warm - Lt rain Surface Elevation: _____
 Boring Diameter: 10.16cm Boring Location: Proposed Drainage Piping

Depth (Feet)	Depth (meters)	Time	Sample Analyzed	Recovery	Soil Profile	Lithological Description	Sample PID (ppm)
					Topsoil	Grass with topsoil.	
2.00	0.61			100%	(CL)	Reddish bn. Silty CLAY (CL), micaceous, moist to wet at 2.14 m (7.0') bls.	0.0
4.00	1.22						0.0
6.00	1.83	16:49	x	100%			0.0
8.00	2.44						0.0
10.00	3.05			100%			0.0
						Boring terminated at 3.05 meters (10.0') bls. x denotes soil sample at 1.52m - 1.83m (5'-6') bls interval collected for laboratory retention.	

APPENDIX D

LABORATORY RESULTS



Mr. Bob Shaut
Environmental Investigations
2101 Gateway Centre Boulevard
Suite 200
Morrisville NC 27560
Report Number: G106-574
Client Project: NCDOT Yancey PAR 119

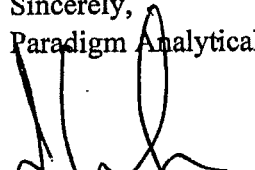
Dear Mr. Shaut:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
Paradigm Analytical Laboratories, Inc.



Laboratory Director
J. Patrick Weaver

3/31/06

Date



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: GP1-8
Client Project ID: NCDOT Yancey PAR 119
Lab Sample ID: G106-574-1
Lab Project ID: G106-574
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 3/23/06 14:40
Date Received: 3/25/06
Matrix: Soil
Solids 68.24

Analyte	Result MG/KG	RL MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	8.31	5035	1	03/31/06
Diesel Range Organics	BQL	8.50	3541	1	03/29/06

Reviewed By: 
TPH_LIMS_V40.XLS
2 of 6



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: GP2-8
Client Project ID: NCDOT Yancey PAR 119
Lab Sample ID: G106-574-2
Lab Project ID: G106-574
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 3/23/06 14:55
Date Received: 3/25/06
Matrix: Soil
Solids 86.49

Analyte	Result MG/KG	RL MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.84	5035	1	03/31/06
Diesel Range Organics	11.1	7.10	3541	1	03/29/06



Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: GP3-8
Client Project ID: NCDOT Yancey PAR 119
Lab Sample ID: G106-574-3
Lab Project ID: G106-574
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 3/23/06 15:20
Date Received: 3/25/06
Matrix: Soil
Solids 65.25

Analyte	Result MG/KG	RL MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	8.61	5035	1	03/31/06
Diesel Range Organics	BQL	9.13	3541	1	03/29/06



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.



CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

- Locations Nationwide
- Alaska
 - Hawaii
 - Louisiana
 - Maryland
 - New Jersey
 - North Carolina
 - West Virginia
- www.us.sgs.com

056674

1 CLIENT: FI, INC PHONE NO: (919) 657-7500
 CONTACT: BOB STAVI SITE/PWSID#: _____
 PROJECT: NC001-YANCEY QUOTE # _____
 REPORTS TO: BOB STAVI FAX NO: () _____
 INVOICE TO: NC001 QUOTE # _____
R-2519A, WBS # 35609 P.O. NUMBER 1

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE G- GRAB C- COMB	Preservation Used Analysis Required	REMARKS
	GP1-8	3-23-06	1440	SOIL	3	G	③	
	GP2-8		1455		1	T		
	GP3-8		1520		1	T		

3

4

SGS Reference: PAR 119 G106-574 PAGE 1 OF 1

SGS Reference: _____

Shipping Carrier: _____
 Shipping Ticket No: _____
 Special Deliverable Requirements: _____
 Requested Turnaround Time and Special Instructions: _____

Samples Received Cold? (Circle) YES NO
 Temperature (C): 0 1 3
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

5

Collected/Relinquished By: [Signature] Date: 3/23/06 Time: 5:24 PM Received By: [Signature]

Relinquished By: (2) _____ Date: _____ Time: _____ Received By: _____

Relinquished By: (3) _____ Date: _____ Time: _____ Received By: _____

Relinquished By: (4) _____ Date: _____ Time: _____ Received By: [Signature] 3/25/06 9:45

SGS

200 W. Podber Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
 5500 Business Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

1258 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

White - Retained by Lab
 Yellow - Return with Report
 Pink - Retain Sampler