



# AQUATERRA

Aquaterra, Inc. • 309 Concord Street, Suite 204D • Greensboro, NC 27406 • 919-273-5003 • FAX 919-271-8138

June 7, 1990

Piedmont Electric Motor Repair Company  
468 North Federal Street  
Asheboro, North Carolina

Attention: Mr. Tracy Saunder

Reference: Underground Storage Tank Closure Assessment  
Piedmont Electric Motor Repair Company Site  
Asheboro, North Carolina  
Aquaterra Job No. 106T

Dear Mr. Saunder,

Aquaterra, Inc. (Aquaterra) has completed an underground storage tank (UST) closure assessment at the above referenced site, as shown in Figure 1. The assessment was conducted in an effort to satisfy the UST closure assessment requirements set forth in 40 CFR Part 280 Subpart G.

The purpose of this report is to summarize the field investigation and laboratory analysis and to provide our conclusions and recommendations.

If you have any questions, please do not hesitate to contact us.

Sincerely,

AQUATERRA, INC.

*Susan Kite*

Susan Kite, P.G.  
Project Geologist/Project Manager

*C. Earl Jones*

C. Earl Jones  
Project Manager

SK/CEJ/slp

GR67-90

**UNDERGROUND STORAGE TANK  
CLOSURE ASSESSMENT  
PIEDMONT ELECTRIC MOTOR REPAIR COMPANY  
ASHEBORO, NORTH CAROLINA  
June 7, 1990.**

**Prepared For**

**Piedmont Electric Motor Repair Company  
Asheboro, North Carolina**

**Prepared By**

**Aquaterra, Inc.  
Greensboro, North Carolina**



**UNDERGROUND STORAGE TANK CLOSURE ASSESSMENT  
PIEDMONT ELECTRIC MOTOR REPAIR COMPANY  
ASHEBORO, NORTH CAROLINA  
AQUATERRA JOB NO. 106T**

**1.0 Introduction**

Aquaterra, Inc. (Aquaterra) has conducted an underground storage tank (UST) closure assessment at the Piedmont Electric Motor Repair Company site located as shown in Figure 1. It is Aquaterra's understanding that one 4,000 gallon UST formerly containing gasoline is to be abandoned in place by filling the UST with a concrete slurry. The UST was installed in the early 1970's. Closure assessment activities at the site were to include advancing a series of hand auger borings around the perimeter of the UST. The soils from the borings would be scanned for the presence of total volatized compounds (VOC's) utilizing an Organic Vapor Analyzer (OVA) to determine the possible presence of significant organic contamination in those soils. If the OVA did not indicate the presence of significant organic contamination, soil samples would be collected and analyzed for total petroleum hydrocarbons (TPH) by laboratory gas chromatograph (GC), Extraction Methods 3550 and 5030 to assess whether in-place closure is a feasible method.

**2.0 Field Investigation**

**2.1 Hand Auger Borings**

On May 23, 1990, Aquaterra mobilized an environmental technician to the Piedmont Electric Motor Repair Company site located as shown in Figure 1, to advance a series of hand auger borings around a 4,000 gallon UST formerly containing gasoline. Hand auger borings were advanced utilizing a decontaminated hand auger. Decontamination procedures are shown in Attachment A. Soil samples were screened with the OVA for emissions of total VOC's. The OVA readings were obtained by placing the soils in a clean glass container and sealing the container. The gases in the soil were allowed to equilibrate with the gases in the container for approximately ten minutes, then the OVA probe was inserted into the headspace of the container and a reading of total VOC's was obtained. OVA readings were all less than 0.1 part per million (ppm) which was the ambient air reading. Hand auger boring locations are shown in Figure 2. Based on the spacing of the borings, the tank is approximately 18 feet long which would infer the tank is possibly 3,000 gallons in volume.

**2.2 Soil Sampling**

Two soil samples were collected for laboratory analysis from beneath the tank at a depth of approximately 2 feet below the tank bottom or a total depth of approximately 8 feet from the ground surface. Soil samples were labeled as S-1 and S-2 and were located as shown in Figure 3. OVA readings were collected from the soil samples according to the methods previously described and are summarized in Table 1.

Upon collection, all soil samples were placed in laboratory provided glassware, sealed, then labeled with a tag identifying job name, job number, sample number, date, time, method of collection, analysis to be conducted, sampler's name and remarks. All samples were then placed in a cooler with ice and chilled to approximately 4°C, before being transported to the laboratory utilizing EPA approved chain-of-custody procedures to ensure sample integrity.



### 3.0 Laboratory Analysis

All samples were relinquished to laboratory personnel with date, time and signature recorded, to be analyzed for TPH by GC utilizing SW-846 Methods 5030 and 3550. The laboratory analytical results are summarized in Table 1 and documented in Attachment B.

### 4.0 Results and Recommendations

Based upon our field investigation as well as the laboratory analytical results, Aquaterra finds reason to conclude the following:

- o The in-situ soils beneath the UST formerly containing gasoline exhibited TPH levels below the laboratory method detection limit of 2.0 mg/Kg. According to the North Carolina Department of Environment, Health and Natural Resources, Division of Environmental Management (DEM) guidelines, the soil clean-up level for TPH is 10 mg/Kg. Based upon these findings, we do not find reason to recommend any further assessment.
- o Aquaterra recommends the UST be properly abandoned in place by filling the UST with a concrete slurry or other inert solid.
- o The results of the tank closure assessment should be forwarded to the DEM, Winston-Salem Regional Office.



Table 1

OVA and Soil Analytical Results  
Piedmont Electric Motor Repair Company  
Asheboro, North Carolina  
Aquaterra Job No. 106T

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<u>Sample No.</u>	<u>Depth</u>	<u>Date</u>	<u>OVA (ppm)</u>	<u>TPH (mg/Kg)</u>
S-1	7.8'	5-23-90	<0.1	<2.0
S-2	8.0'	5-23-90	<0.1	<2.0

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Analytical Laboratory: Industrial & Environmental Analysts, Inc.  
Cary, North Carolina

TPH = Total Petroleum Hydrocarbons  
ppm = parts per million



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 RALEIGH, GREENSBORO, CHARLOTTE  
 NORTH CAROLINA

**Project Location Map**  
 SCALE: 1 as shown  
 DRAWING: 106T

**PROJECT:**  
 Piedmont Electric Motor  
 Repair Company  
 Asheboro, North Carolina



North Fayetteville Street

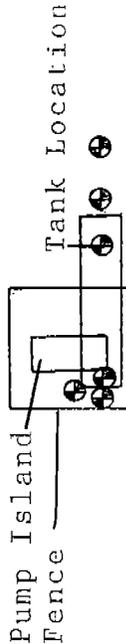
Asheboro Nissan  
Used Car Lot

LEGEND

⊕ Hand Auger Boring Location

East Miller Street

Piedmont Electric  
Motor Repair Co.



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 NORTH CAROLINA

TITLE: Hand Auger Boring Location Map		
JOB: 106T	DRAWING: 2	SCALE: NTS

PROJECT:  
 Piedmont Electric Motor  
 Repair Company  
~~North Fayetteville Street~~  
 Asheboro, North Carolina

Asheboro, NC



Asheboro Nissan  
Used Car Lot

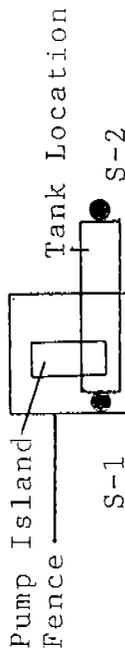
LEGEND

● Soil Sample Location

North Fayetteville Street

East Miller Street

Piedmont Electric  
Motor Repair Co.



PROJECT:

Piedmont Electric Motor  
Repair Company  
Charlotte, North Carolina

TITLE:

Soil Sample Location Map

JOB:  
106T

DRAWING:

FIGURE:

3

SCALE:

NTS



AQUATERRA, INC.  
RALEIGH, GREENSBORO, CHARLOTTE,  
NORTH CAROLINA

Asheboro,

## EQUIPMENT DECONTAMINATION PROCEDURES

Where augers or drilling rigs are used to advance the boreholes to a sampling location, the augers will be steam cleaned between sampling stations to minimize the potential for cross-contamination.

All sample spoons, split spoons and other sampling equipment will be decontaminated by the following procedures:

1. Soap (Alconox or equivalent) and tap water wash;
2. Tap water rinse;
3. Distilled, deionized water rinse;
4. Isopropyl alcohol rinse;
5. Double distilled water rinse, air dried and individually wrapped in aluminum foil with shiny side out.

All Teflon bailers will be decontaminated by the following procedure:

1. Soap (Alconox or equivalent) and tap water wash;
2. Tap water rinse;
3. 10% nitric acid wash;
4. Distilled water rinse;
5. Isopropyl alcohol wash;
6. Double distilled water rinse;
7. Air dried and wrapped in aluminum foil with shiny side out.

All glassware is decontaminated by the following procedure:

1. Soap (Alconox or equivalent) and distilled water rinse;
2. Triple distilled water rinse;
3. Oven dried at 105°C



Industrial & Environmental Analysts, Inc.

P.O. Box 12846  
Research Triangle Park, North Carolina 27709  
(919) 677-0090  
FAX (919) 677-0427

June 4, 1990

JUN 07 1990

Susan Kite  
Aquaterra, Inc.  
309 Concord Street, Suite 204D  
Greensboro, NC 27406

Reference IEA Report No.: 835176  
Project ID: 106T

Dear Ms. Kite,

Transmitted herewith are the results of analyses on two samples submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell  
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-176-1	Date Received:	5-24-90
Client Sample No:	S-1	Date Extracted:	5-30-90
Client Project No:	106 T	Date Analyzed:	6-1-90

Extraction (SW 846 - 3550) / GC-FID analysis (for diesel, kerosene)

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-176-2	Date Received:	5-24-90
Client Sample No:	S-2	Date Extracted:	5-30-90
Client Project No:	106 T	Date Analyzed:	6-1-90

Extraction (SW 846 - 3550) / GC-FID analysis (for diesel, kerosene)

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

