

August 26, 1993

Ms. Kelly Gage  
Guilford County Emergency Services  
PO Box 18807  
Greensboro, NC 27419

Dear Ms. Gage,

*Elm St Sunoco*  
↓  
*KCC*

Griffith Enterprises, Inc. is pleased to submit the final Tank Closure Assessment Report for ~~Bozovich Sunoco and [redacted]~~ in Greensboro. This report has been filed with the Winston-Salem Regional Office of NC DEM.

If there are any questions, or any additional information is needed, please contact me immediately.

Sincerely,

*M. Alan Griffith*  
M. Alan Griffith  
Project Manager

Enclosure

Griffith Enterprises, Inc.  
163 Stratford Court, Suite 250  
Winston-Salem, N.C. 27103  
(919) 761-1137  
Fax (919) 725-9159



TANK EXCAVATION ASSESSMENT  
SUMMIT AVENUE SUNOCO  
1103 SUMMIT AVENUE  
GREENSBORO, GUILFORD COUNTY

AUGUST 24, 1993

PREPARED FOR:

SUN OIL COMPANY, INC.

PREPARED BY:

GRIFFITH ENTERPRISES, INC.  
WINSTON-SALEM, NORTH CAROLINA



August 24, 1993

Tank Excavation Assessment Report  
Summit Avenue Sunoco  
1103 Summit Avenue  
Greensboro, Guilford County

Mr. Bill Mulligan  
Sun Oil Company, Inc.  
1801 Market Street Penn Center  
Philadelphia, PA 19103

Dear Mr. Mulligan,

Griffith Enterprises, Inc. is pleased to submit the final Tank Excavation Assessment Report for the above referenced project.

Included in this report is a narrative text describing the closure activities, sampling information, analytical results, and site maps per 15A NCAC 2N.

Griffith Enterprises, Inc. appreciates the opportunity to be of service to Sun Oil Company, Inc. If there are any questions, or any additional information is needed, please contact us immediately.

Sincerely,

A handwritten signature in cursive script that reads 'Bill Cook'.

Bill Cook  
Project Manager

A handwritten signature in cursive script that reads 'M. Alan Griffith'.

M. Alan Griffith  
Project Manager

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## I. INTRODUCTION

This is the Tank Excavation Assessment Report for the closure of one (1) underground storage tank (UST) at Summit Avenue Sunoco in Greensboro, North Carolina. This site, and the UST, are owned by Mid-State Oil Company and is operated as a retail facility.

The site is located along Summit Avenue in Greensboro. The property consists of a retail fueling facility and is primarily covered by asphalt. The property is relatively flat, as is the regional topography.

The adjacent property owners consist primarily of retail and commercial occupants. Other UST facilities are located within 1500 feet of the site. All properties in the area are served by public water supply.

A Preliminary Site Assessment has been performed at this site by Groundwater Technology, under contract with Sun Oil Company, Inc., due to a pending property transfer.

## II. EXCAVATION PROCESS

The removal of the UST was conducted by Jerry Kelly, Inc., of Elizabeth City, North Carolina, on April 27, 1993. The excavation was conducted using a rubber tire backhoe.

After removing the topsoil layer on top of the UST, the contractor then began removing the native soil backfill from around the UST. The backfill material that was removed was stockpiled along the west side of the excavation. After sufficient quantities of the backfill material were removed, the fill pipe, vent line, and drain line were disconnected from the UST, and was lifted from the excavation by placing a chain through the lifting eye in the top of the tank.

After the UST was removed, the remaining backfill material was moved within the excavation to allow soil samples to be taken in the native soil beneath the UST. Upon completion of the sampling, the excavation was backfilled with the soil from the stockpile and clean sand.

## III. TANK CONDITION

One (1) 550 gallon single-wall steel UST, used to store Fuel oil, was removed from the excavation along the rear of the building. The orientation of the UST is shown in Figure 2.

The UST had numerous 1/4" holes along the bottom. Once the condition was assessed, the UST was loaded onto a flatbed truck and taken to Jerry Kelly, Inc. property, in Elizabeth City, for disposal.

No groundwater was encountered in the UST excavation to a depth of approximately 9 feet below ground surface. Throughout the entire removal process, no releases were noted from the UST.

#### IV. SAMPLE COLLECTION PROCESS

During the removal of the UST, the backfill and native soils from the excavation were collected and screened in accordance with NC DEM guidelines. Each sample was collected using a clean, stainless steel sampling spoon and split evenly to perform photoionization screening with an HNU hydrocarbon sensor, while the other half was preserved for possible analytical testing.

The soil samples retrieved from the backhoe bucket were visually inspected by a field technician. The samples to be scanned with the HNU hydrocarbon sensor were placed in glass jars to approximately one-half full and covered with aluminum foil for sealing purposes. The jars were then placed out of direct sunlight for approximately twenty (20) minutes to allow the soil vapors time to reach equilibrium. After sufficient time had elapsed, the probe of the HNU sensor was inserted into the head space of each jar and the vapor concentration was measured and recorded. The results of this scanning are contained in Table 1.

Upon completion of the field scanning, soil samples were taken from two (2) feet below the UST, in native soil, per NC DEM protocol. The samples were placed into separate glass jars, with Teflon-lined screw-on lids, using a clean sampling spoon. These jars were then placed on ice in an insulated cooler and shipped to REIC Laboratory, in Beaver, West Virginia, on April 28, 1993.

The soil samples were tested using EPA methods 5030 and 3550. The results of the laboratory analysis are shown in Table 2, while the exact sampling locations are shown in Figure 3.

#### V. CONCLUSIONS

The results of the soil screening and analytical testing show that hydrocarbon constituents were found to be present in the residual soils of the excavation at concentrations below NC DEM action levels.

Page 3

The results in Table 1 show that the HNU hydrocarbon sensor measured a slight hydrocarbon presence in the samples taken from floor of the UST excavation.

The results in Table 2 show that there was soil impact within the limits of the UST excavation. The soil samples taken in the excavation indicate hydrocarbon levels below the target levels calculated through the Site Sensitivity Evaluation (SSE) for this site.

#### VI. LIMITATIONS

This report has been prepared for Sun Oil Company, Inc. to assist in the assessment of this site. This report has been prepared in accordance with standard NC DEM criteria, and no warranties, either expressed, or implied, are made.

Observations presented in this report were based upon information and data obtained from the excavations made in the locations shown in Figure 3. Variations which exist may not become evident until a later date. If variations are noted, our company should be contacted to re-examine the site and revise documentation as necessary.

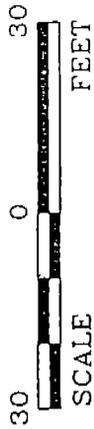
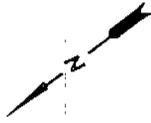
**FIGURES**



USGS MAP		GREENSBORO QUADRANGLE	
SUMMIT AVENUE SUNOCO		SCALE	DRAWN: WRB CHECKED: WWC
1103 SUMMIT AVE. GREENSBORO, NC		1"=2000'	DATE: 8/25/93
		JOB NUMBER GESOSUMM	FIGURE NUMBER 1

**LEGEND**

- ▭ CATCH BASIN
- ◆ MONITORING WELL
- VERTICAL DEFINITION MONITORING WELL



SOURCE: JAMES L. HAINES & ASSOC. - 6/24/93 SURVEY

GROUNDWATER TECHNOLOGY  
1000 PERMIER PARK DR  
SUITE 1  
MORRISVILLE, NC 27560  
(919) 467-2227

REV. NO.: DRAWING DATE: 7/19/93  
JACAD FILE: 5445-SIT

**SITE MAP**

CLIENT:	SUN COMPANY, INC.	PM:	
LOCATION:	1103 SUMMIT AVE. GREENSBORO, NC	PE/RC:	
DESIGNED:	PROJECT NO.:	FIGURE:	<b>3</b>
TLW	FKP	053245445	

SUMMIT AVENUE

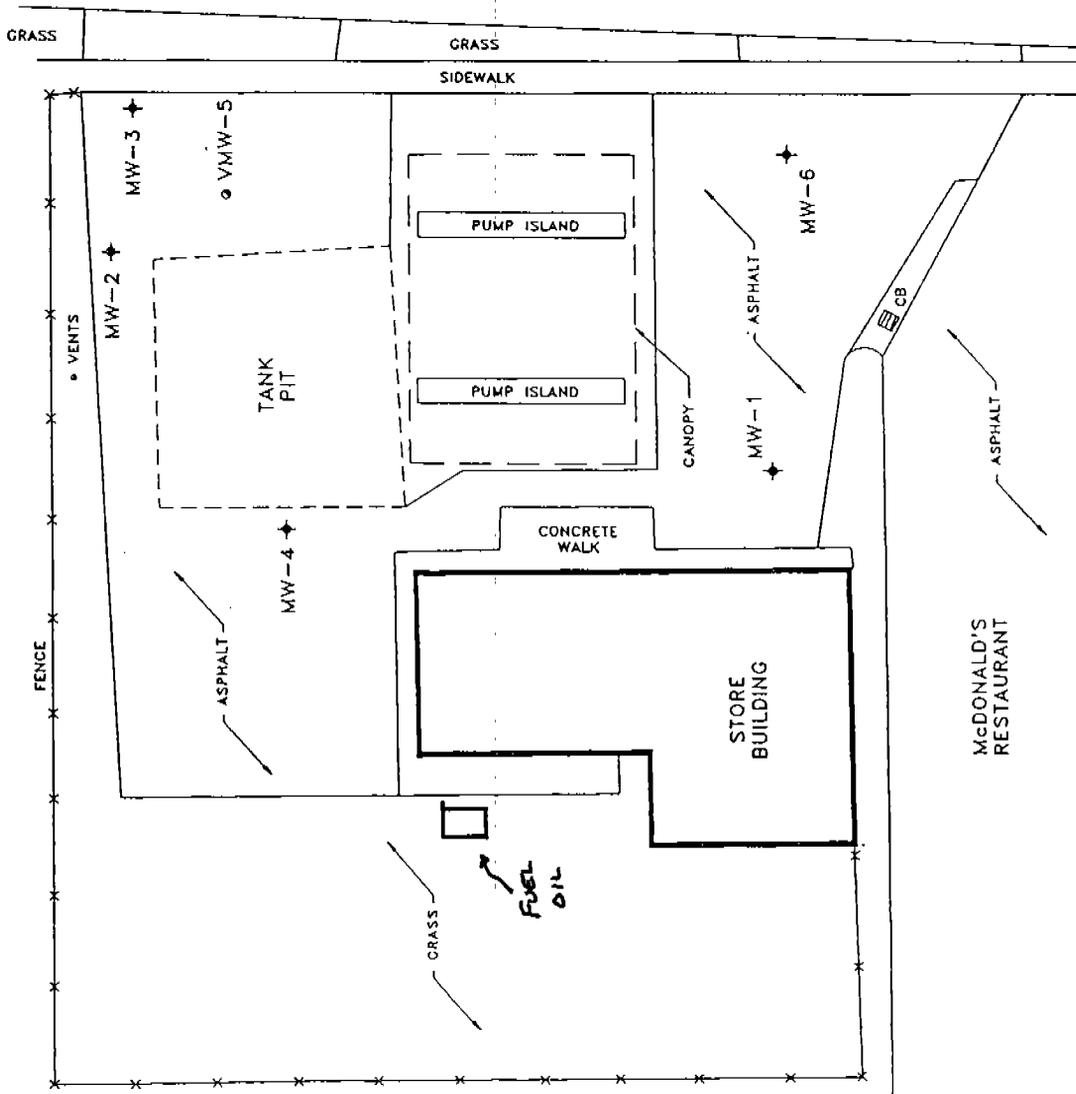
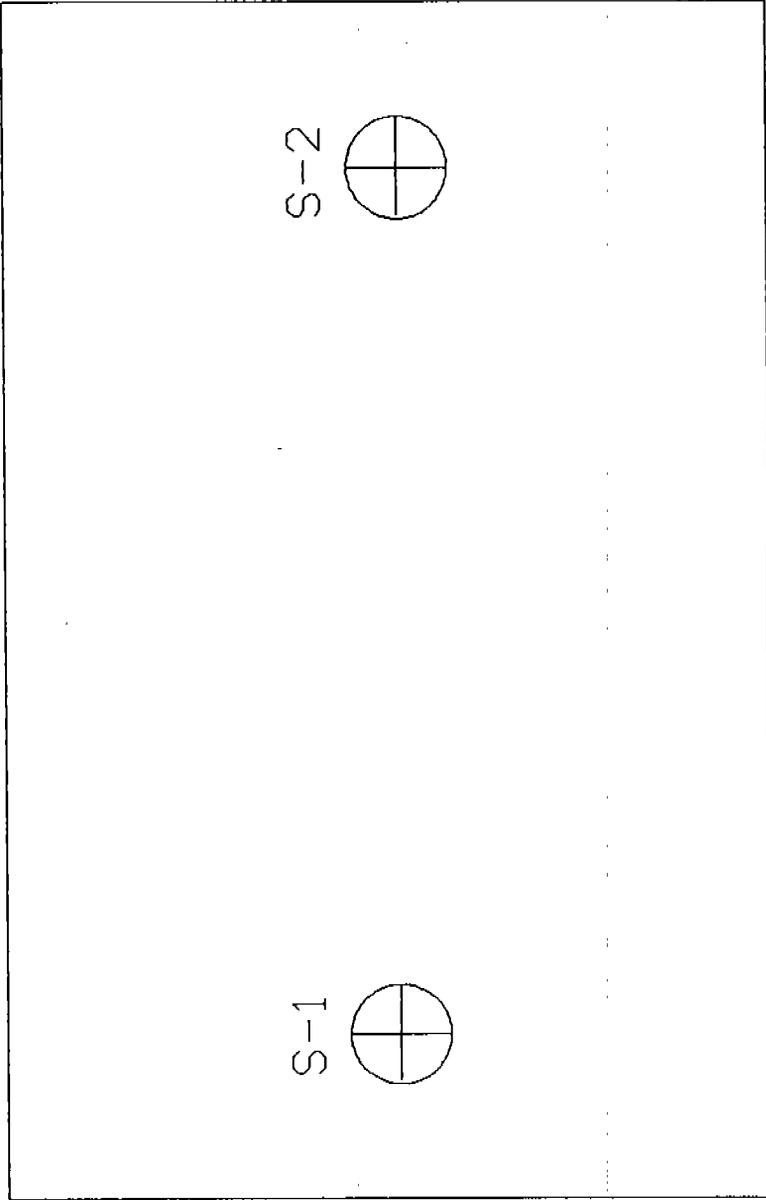


FIGURE 2

N ↗



SAMPLING MAP

SUMMIT AVENUE SUNOCO

1103 SUMMIT AVE. GREENSBORO, NC

SCALE

1" = 1'

DRAWN: WRB  
CHECKED: WWC  
DATE:

8/25/93

JOB NUMBER  
GESOSUMM

FIGURE NUMBER  
3

TABLES

TABLE 1  
SOIL SCANNING RESULTS (ppm)  
SUMMIT AVENUE SUNOCO

SAMPLE #	DEPTH (in.)	RESULTS
S-1	108	9.6
S-2	108	8.8

TABLE 2  
SOIL ANALYTICAL RESULTS (ppm)  
SUMMIT AVENUE SUNOCO

SAMPLE #	DATE	DEPTH (in.)	EPA METHOD	CONSTITUENT	RESULTS
S-1	4/27	102	5030		63.3
			3550	Diesel	180
S-2	4/27	102	5030		55.1
			3550	Diesel	730

MQL - Minimum Quantifying Level  
 ND - None Detected at MQL  
 EPA 5030 - MQL is 5 ppm  
 EPA 3550 - MQL is 10 ppm

APPENDICES

Table 1  
**Site Sensitivity Evaluation (SSE)**  
 Site Characteristics Evaluation (Step 1)

Characteristic	Condition	Rating	
Grain Size*	Gravel	150	50
	Sand	100	
	Silt	50	
	Clay	0	
Are relict structures, sedimentary structures, and/or textures present in the zone of contamination and underlying "soils"?	Present and intersecting the water table.	10	0
	Present but <u>not</u> intersecting the water table.	5	
	None present.	0	
Distance from location of deepest contaminated soil** to water table.	0 - 5 feet	20	20
	(C, D & E sites only)	20	
	5 - 10 feet	10	
	>10 - 40 feet	0	
	> 40 feet	0	
Is the top of bedrock or transmissive indurated sediments located above the water table?	Yes	20	0
	No	0	
Artificial conduits present within the zone of contamination.	Present and intersecting the water table.	10	5
	Present but <u>not</u> intersecting the water table.	5	
	Not present.	0	

**Total Site Characteristics Score: 75**

\* **Predominant** grain size based on Unified Soil Classification System or U.S. Dept. of Agriculture Soil Classification Method.

\*\* (>10 ppm TPFH by Method 5030; >40 ppm TPFH by Method 3550; >250 ppm O&G by Method 9071)

Table 2

# Site Sensitivity Evaluation (SSE)

Initial Cleanup Level  
(Step 2)

Final Cleanup Level  
(Step 3)

## EPA Method 5030 for Low Boiling Point Hydrocarbons such as Gasoline, Aviation Fuels, Gasohol

Total Site Characteristics Score	Initial Cleanup Level TPFH (ppm)	Select Site Category*	Category A & B (Multiply initial cleanup level by 1)	Final Cleanup Level
>150	≤10	Select Site Category* 	1 x _____ = _____ ppm	
121-150	20		2 x _____ = _____ ppm	
91-120	40			
61-90	60			
31-60	80			
0-30	100		3 x <u>60</u> = <u>180</u> ppm	

## EPA Method 3550 for High Boiling Point Hydrocarbons such as Kerosene, Diesel, Varsol, Mineral Spirits, Naphtha

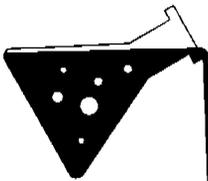
Total Site Characteristics Score	Initial Cleanup Level TPFH (ppm)	Select Site Category*	Category A & B (Multiply initial cleanup level by 1)	Final Cleanup Level
>150	≤40	Select Site Category* 	1 x _____ = _____ ppm	
121-150	80		2 x _____ = _____ ppm	
91-120	160			
61-90	240			
31-60	320			
0-30	400		3 x <u>240</u> = <u>720</u> ppm	

## EPA Method 9071 for Heavy Fuels - Oil & Grease (O&G) such as Fuel Oil #4, #5, #6, Motor Oil, Hydraulic Fluid

Total Site Characteristics Score	Initial Cleanup Level O&G (ppm)	Select Site Category*	Category A & B (Multiply initial cleanup level by 1)	Final Cleanup Level
>150	≤250	Select Site Category* 	1 x _____ = _____ ppm	
121-150	400		2 x _____ = _____ ppm	
91-120	550			
61-90	700			
31-60	850			
0-30	1000		3 x <u>700</u> = <u>2100</u> ppm	

\* See Site Category Descriptions, Table 3

Quality Environmental Services



**REIC** Laboratory

**Research, Environmental & Industrial Consultants, Inc.**

P. O. Box 286

Beaver, West Virginia 25813

• 1-304-255-2500

1-800-999-0105

FAX 1-304-255-2572

Job #: 0493-18046

May 18, 1993

Mr. Alan Griffith  
Griffith Enterprises, Inc.  
163 Stratford Ct  
Winston Salem NC 27103

Dear Mr. Griffith

Please find enclosed the analysis report for the samples submitted to our laboratory on April 29, 1993. The samples are identified as Sun Oil - Summit Avenue, Custody #0428935.

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

Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read 'James L. Hern', is written over the typed name.

James L. Hern, Ph. D.

Enclosure  
JLH/cas

MEMBER:

American Chemical Society

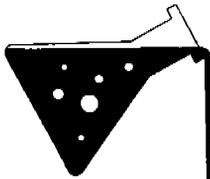
• Association of Official Analytical Chemists

• Petroleum Marketers Association

Rural Water Association

• Mining and Reclamation Association

Quality Environmental Services



**REIC** Laboratory

**Research, Environmental & Industrial Consultants, Inc.**

P. O. Box 286 • Beaver, West Virginia 25813 • 1-304-255-2500  
1-800-999-0105  
FAX 1-304-255-2572

\*\*\*\*\*ANALYSIS REPORT\*\*\*\*\*

JOB #: 0493-18046  
SERVICES FOR: Griffith Enterprises, Inc.  
DATE SAMPLED: 4-27-93  
DATE SUBMITTED: 4-29-93  
DATE ANALYZED: TPH (EPA 5030/GC-FID) - 4-30-93  
TPH (EPA 3550/GC-FID) - 5-4-93  
DATE COMPLETED: 5-13-93  
METHOD OF ANALYSIS: As Noted Below  
CUSTOMER JOB IDENTIFICATION: Sun Oil - Summit Avenue  
CUSTODY #: 0428935

\*\*\*\*\*

Page 2  
Griffith Enterprises, Inc.  
Job #: 0493-18046

REIC SAMPLE #	18046-1		
GRIFFITH SAMPLE #	1-A	METHOD	MQL
	-----mg/kg-----		
TPH	63.3	EPA 5030/GC-FID	5.0
TPH (diesel)	180	EPA 3550/GC-FID	10

REIC SAMPLE #	18046-2		
GRIFFITH SAMPLE #	2-A	METHOD	MQL
	-----mg/kg-----		
TPH	55.1	EPA 5030/GC-FID	5.0
TPH (diesel)	730	EPA 3550/GC-FID	10

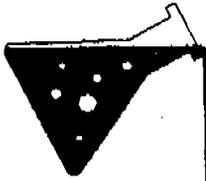
MQL - Minimum Quantifying Level  
TPH - Total Petroleum Hydrocarbons

DATE 5-13-93 APPROVED Ray Erickson  
Ray Erickson

# REIC Laboratory

Drawer G, Cool Ridge, WV 25825

Custody No 0428935



## CHAIN OF CUSTODY RECORD

Date: 4/28/93

Customer Name GRIFFITH ENTERPRISES INC  
 Address 163 STRATFORD CT #250  
WINSTON-SALEM, NC 27103  
 Person to Contact ALAN GRIFFITH Telephone (919) 761-1137  
 Billing Address SAME

### Sample Collection Information

Sampling Site SUN OIL - SUMMIT AVE  
 Project # — Sampler BRAD BYERS  
 Date of Sample Shipment 4/28/93 How Shipped UPS

SAMPLE LOG AND ANALYSES REQUEST		Turnaround Requirements		Analysis Requested				Remarks
		Regular	Rush	TPH	GC	SP	MS	
Sample ID	Containers # and Type	Date	Time	Matrix	Grab / Comp.			
1-A	1 JAR	4/27	1325	SOIL	GRAB	✓		FUEL OIL
2-A	1 JAR	4/27	1330	SOIL	GRAB	✓		FUEL OIL
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)			
<i>Brad Byers</i>	730 4/28	<i>W. Welch</i>	<i>W. Welch</i>	4/28 1100				
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Condition on Arrival:				
		<i>Lo Miller</i>	04/29/93	② 10:00AM				

Comments \_\_\_\_\_

Possible Interfering Compounds \_\_\_\_\_

Requested by *W. Welch*

Return Completed Form To:  
 The appropriate DEM Regional Office according to the county of the facility's location (SEE REVERSE SIDE OF OWNER'S COPY (PINK) FOR REGIONAL OFFICE ADDRESS).

State Use Only  
 I. D. Number \_\_\_\_\_  
 Date Received \_\_\_\_\_

**INSTRUCTIONS**

Complete and return this (30) days prior to closure or change-in-service.

**I. OWNERSHIP OF TANK(S)**

**II. LOCATION OF TANK(S)**

Owner Name: MID-STATE OIL CO  
Individual, Public Agency, or Other Entity  
 Address: 1820 S. MAIN STREET  
DAVIDSON  
LEXINGTON State: NC Zip Code: 27293  
 Phone No. (Area Code): 704 249-0363

Facility Name or Company SUMMIT AVE SUNOCO  
 Facility ID # (if available) \_\_\_\_\_  
 Street Address or State Road: 1103 SUMMIT AVE  
 County: GUILFORD City: GREENSBORO Zip Code: 27405  
 Tele. No. (Area Code) 919 274-5858

**III. CONTACT PERSON**

WILLIAM SHIPTON Job Title: REPAIR & MAINTENANCE SUPERVISOR Telephone Number: (704) 249-0363

**IV. TANK REMOVAL CLOSURE IN PLACE, CHANGE-IN-SERVICE**

1. Contact Local Fire Marshal.
2. Plan the entire closure event.
3. Conduct Site Soil Assessments.
4. If Removing Tanks or Closing in Place refer to API Publications, 2015 "Cleaning Petroleum Storage Tanks" & 1604 "Removal & Disposal of Used Underground Petroleum Storage Tanks".
5. Provide a sketch locating piping, tanks and soil sampling locations.
6. Fill out form GWUST-2 "Site Investigation Report for Permanent Closure" and return within 30 days following the site investigation.
7. Keep records for 3 years.

**V. WORK TO BE PERFORMED BY:**

Contractor Name: JERRY KELLY INC  
111 HUNTERS TRAIL WEST  
 Address: ELIZABETH CITY State: NC Zip Code: 27909  
 Contractor: JERRY KELLY Phone: 919 335-1228

**VI. TANK(S) SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE**

TANK ID#	TANK CAPACITY	LAST CONTENTS	PROPOSED ACTIVITY		
			CLOSURE		CHANGE-IN-SERVICE
			Removal	Abandonment in Place	New Contents Stored
	<u>1000</u>	<u>WASTE OIL</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

**VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE**

Print name and official title: WILLIAM SHIPTON - REPAIR & MAINTENANCE SUPERVISOR Scheduled Removal Date: ASAP  
 Signature: *William Shipton* Date Submitted: 3/16/93

Scheduled work date changes, notify your appropriate DEM Regional Office 48 hours prior to originally scheduled date.

**(GW/UST-2) Site Investigation Report For Permanent Closure or Change-in-Service of U.S.T.**

FOR TANKS IN NC	Return Completed Form To: The appropriate DEM Regional Office according to the county of the facility's location. [SEE MAP ON REVERSE SIDE OF OWNER'S COPY (PINK) FOR REGIONAL OFFICE ADDRESS].	State Use Only I.D. Number _____ Date Received _____
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**INSTRUCTIONS**

Complete and return within (30) days following completion of site investigation.

**I. Ownership of Tank(s)**

MID-STATE OIL Co.  
Owner Name (Corporation, Individual, Public Agency, or Other Entry)  
1820 S. MAIN ST.  
Street Address  
DAVIDSON  
City  
LEXINGTON NC 27293  
City State Zip Code  
(704) 249-0363  
Area Code Telephone Number

**II. Location of Tank(s)**

SUMMIT AVE. SUNOCO  
Facility Name or Company  
Facility ID # (if available)  
1103 SUMMIT AVE  
Street Address or State Road  
(GUILFORD) GREENSBORO 27405  
County City Zip Code  
(919) 274-5858  
Area Code Telephone Number

**III. Contact Person**

WILLIAM SHIPTON REPAIR MAINT. SUPERVISOR (704) 249-0363  
Name Job Title Telephone No. (Area Code)  
Closure Contractor JERRY KELLY, INC ELIZABETH CITY, NC (800) 258-4107  
(Name) (Address) Telephone No. (Area Code)  
Lab REIC LABORATORY BEAVER, WV (800) 499-0105  
(Name) (Address) Telephone No. (Area Code)

**IV. U.S.T. Information**

**V. Excavation Condition**

**VI. Additional Information Required**

Tank No.	Size in Gallons	Tank Dimensions	Last Contents	Water In Excavation		Free Product		Notable Odor or Visible Soil Contamination	
				Yes	No	Yes	No	Yes	No
1	550	46" x 74"	FUEL OIL		X		X	X	

See reverse side of pink copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

**VII. Check List**

Check the activities completed.

- Contact local fire marshal
  - Notify DEM Regional Office before abandonment
  - Drain & flush piping into tank.
  - Remove all product and residuals from tank
  - Excavate down to tank.
  - Clean and inspect tank.
  - Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.
  - Cap or plug all lines except the vent and fill lines.
  - Purge tank of all product & flammable vapors.
  - Cut one or more large holes in the tanks.
  - Backfill the area.
- Date Tank(s) Permanently closed: 4/27/93  
Date of Change-in-Service: \_\_\_\_\_

- ABANDONMENT IN PLACE**
- Fill tank until material overflows tank opening;
  - Plug or cap all openings;
  - Disconnect and cap or remove vent line
  - Solid inert material used - specify: \_\_\_\_\_

- REMOVAL**
- Create vent hole
  - Label tank
  - Dispose of tank in approved manner
- Final tank destination: JERRY KELLY, INC  
ELIZABETH CITY, NC

**VIII. Certification (Read and Sign)**

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
---	-----------	-------------