Crown Central Petroleum Corporation
Refiners / marketers of petroleum products & petrochemicals
One North Charles Street • P.O. Box 1168 • Baltimore, Maryland 21203 • (410) 539-7400

April 23, 1993

RECEIVED
APR 28 1993

Ms. Kelly C. Gage
NC Dept. of Environment,
Health, & Natural Resources
P. O. Box 18807
Greensboro, NC 27419

RE: NC-16
2300 Randleman Road
Guilford County
Greensboro, Nc
Facility ID# 0-010259

Dear Ms. Gage:

Per the NOV dated April 22, 1993, and my message today, please be advised that assessment work was conducted at the site during the product line upgrade. Please note that Mr. Howard Smith of Crown did speak with Mr. Larry Coble of your office on December 8 and 27, 1989, to discuss the relatively low levels of contamination at this site. Mr. Smith indicated that the report would be forwarded to your office soon. Inadvertently, the report was not submitted.

I am enclosing two copies of the Supply Line Leak Assessment dated December 22, 1989, (completed by Bain & Palmer), which confirms Mr. Smith's discussions regarding low levels of contamination. A copy of the 20-day letter is affixed in the appendix of the report. In February, 1990, the stockpiled soil was disposed of at Four Seasons. With respect to the consultants knowledge of the site, we are requesting full closure. Please approve/respond to this report at your earliest convenience so that we can adjust our files accordingly.

If you have any questions, please do not hesitate to call me at (410) 659-4862.

Sincerely,

Matt Gilmore

Matthew E. Gilmore
Sr. Environmental Engineer

dr

Enclosure

n:\nc\general\clean.016

SUPPLY LINE LEAK ASSESSMENT
CROWN STATION NC-16
GREENSBORO, NORTH CAROLINA

Prepared for:
CROWN CENTRAL PETROLEUM CORP.

December 22, 1989

Prepared by:
Bain & Palmer, Inc.
2641-G Randleman Road
Greensboro, NC 27406
(919) 272-9713

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SUPPLY LINE LEAK ASSESSMENT

CROWN STATION NC-16

GREENSBORO, NORTH CAROLINA

1.0 INTRODUCTION

1.1 Purpose of Work Performed

This report presents the results and conclusions of the supply line leak assessment at the Crown Service Station, Crown Number NC-16, 2300 Randleman Road, Greensboro, North Carolina (Figures 1 and 2). The purpose of this investigation was to determine whether a release of petroleum product had occurred and, if possible, to determine the extent of contamination if a release had occurred.

1.2 Scope of Work

Authorization to proceed with the initial phase of the investigation was given by Mr. Howard Smith of Crown Central Petroleum Corporation (Crown) in accordance with Bain & Palmer's November, 1989 Work Plan and with verbal conversations with Mr. Smith. The scope of work performed with regard to the investigation included:

- collection of soil samples from the supply line trench excavations,
- collection of soil samples during the installation of vapor detection monitor wells,

- collection of soil samples of soil waste piles,
- preparation of a report outlining the results, conclusions, and recommendations.

1.3 Background

Crown was in the process of upgrading their NC-16, Greensboro Service Station to meet current regulatory requirements when a possible supply line leak was discovered. The existing south side supply lines were exposed to enable the installation of new fiberglass lines. The contractor (DAACO, Inc.) reported the presence of petroleum odors emanating from the trench. On November 1, 1989, Bain & Palmer, Inc. was requested by Crown to propose a work schedule and cost for investigating the possible leak. On November 7, 1989, Bain & Palmer was given authorization to proceed and mobilized immediately to the site. Upon arriving on the site, it was discovered that the supply line trench had been filled and the new concrete pad was being poured. Three four inch pieces of PVC pipe were placed on top of the trench fill to allow the concrete to be poured and still allow for later soil sampling after the concrete had cured.

While the Bain & Palmer personnel were on site Crown requested them to take additional soil samples as the new vapor detection monitor wells were being installed around the USTs. On November 8, 1989, the general contractor exposed the north side supply line and again petroleum odors were detected emanating from the trench. Bain & Palmer was given authorization to take additional soil samples from this trench as well.

2.0 WORK PERFORMED

2.1 Supply Line Trench

Four soil samples were collected for laboratory analysis from hand auger locations HA-1, HA-4, HA-5, and HA-6 (Figure 3). No samples were collected from HA-2 and HA-3 because of auger refusal. We were unable to offset the drilling rig because these two sampling locations had already been predetermined when the concrete pad was poured. The soil samples were collected by advancing a decontaminated hand auger to depths of 3 to 5 feet. The soil was scanned with a PID (Photo Ionization Detector) and textually described. The samples were collected in laboratory cleaned jars for later laboratory analysis. The soil samples were sealed in amber jars with teflon lined lids, stored at 4°C and kept under chain-of-custody.

2.2 Vapor Detection Wells

A 6 1/4" hollow stem auger was used to install four borings to a depth of 15 feet. Undisturbed soil samples were collected at five foot intervals with a split spoon sampler from VMW 2, 3, and 4. No soil analysis data is available for VMW (vapor monitor well) 1 because it had already been installed before Bain & Palmer personnel arrived on the site. The locations of the soil borings and subsequent vapor wells are shown in Figure 3. Each sample was scanned with a PID and textually described. A portion of each split spoon sample was collected for later laboratory analysis. The samples were sealed in laboratory

cleaned, amber jars with teflon lids. The samples were stored at 4°C and kept under chain-of-custody until reaching the laboratory.

2.3 Waste Soil Piles

Soil removed from the supply line trenches was stockpiled in two piles on site for testing and later disposal. The location of the piles can be seen in Figure 3. Each soil pile was sampled with a hand auger. Each of these hand auger borings was continuously sampled from the edge of the pile to an inner depth of five feet. The two soil samples from each pile were combined into one sample and sent to the laboratory for analysis. Each sample was sealed in amber laboratory cleaned jars with teflon lids. They were stored at 4°C and kept under chain-of-custody until reaching the laboratory.

3.0 RESULTS

3.1 Soil Description

A general soil profile description of the site can be constructed from the boring logs (Appendix A) and from the hand auger borings. The site is underlain by 2-3 feet of fill consisting of clay, silt, and debris which grades into a mottled green and white, dense to very dense, silt with fine sand. The dark green and white mottled character of the residuum is typical of saprolite, which is the residuum formed as a result of the inplace weathering of the parent bedrock. The features seen in the saprolite indicate the parent bedrock is most

likely a slightly metamorphosed igneous rock; probably a diorite. No bedrock was encountered in the soil borings.

3.2 Soil Analysis

3.2.1 Supply Line Trench

As each soil sample was collected it was scanned with a PID. The PID measures organic vapors in parts per million (ppm). The hand auger samples were all collected in residuum. Sample HA-1 had a distinct petroleum odor at a shallow depth but no odors were smelled or detected by the PID at depth. Strong gasoline odors and high PID readings were present in borings HA-4, HA-5, and HA-6.

The deepest sample collected from each location was sent for laboratory analysis. To determine the concentrations of Total Petroleum Hydrocarbons (TPH) in the soil, the soil samples were analyzed by EPA Methods 3550 and 5030. The results of the PID screening and laboratory analysis are presented in Table 1. The results indicate a hydrocarbon similar to kerosene is present in the soil at a depth of 4-5 feet at boring HA-1 and HA-4 at a concentration of 5 and 8 mg/kg (PPM) respectively. No petroleum hydrocarbons were detected by laboratory analysis at any other hand auger location. The laboratory results and chain-of-custody are located in Appendix B.

3.2.2 Vapor Detection Wells

As each soil sample was collected, it was scanned with a PID. Samples were collected from the bottom of each boring and one sample of the UST backfill material was also sampled. Boring B-1 was installed through residuum and very little hydrocarbon odor was detected or smelled. Borings B-2 and B-3 passed through 10-12 feet of coarse sandy fill before entering residuum. The fill material had a distinct gasoline odor and registered on the PID. To determine the presence of Total Petroleum Hydrocarbons (TPH) in the residuum and fill, the samples were analyzed by EPA Method 3550 and 3050. The PID probe was lowered into installed vapor wells 1 and 4, and PID reading of 500 ppm was registered and a distinct odor of gasoline was detected in both wells. The PID readings and laboratory analysis are present in Table 2. The results indicate the presence of a hydrocarbon vapor in most of the soil samples and vapor wells, however, no hydrocarbons were detected by laboratory analysis.

3.2.3 Waste Piles

To characterize the type and degree of contamination in the two waste soil piles, SP-1 and SP-2, the soil samples were analyzed for EPTOX lead, PCBs, and by EPA Methods 8240 and 8270. These analyses were needed to help determine the best and most economical method of disposal. The results of the chemical analyses are presented in Table 3 with the complete laboratory results and chain-of-custody in Appendix B. Soil pile SP-1 has a lead concentration of .006 mg/kg and a total volatile and semi-volatile organic compound concentration of 65.33 mg/kg. No organic compounds or lead were detected in soil samples collected from soil pile SP-2.

4.0 CONCLUSIONS

Review of the available data lead to the following conclusions:

1. Leaks at the supply line connections and piping joints did occur. However, neither the quantity of fuel lost nor the length of time the leaks existed can be determined.

2. In the vicinity of the pump island, the petroleum product appears to have been contained in the supply line trench backfill. A large quantity of this soil has already been removed and stockpiled on site.

3. It appears that an unknown quantity of product may have also migrated down the supply line trenches and entered the UST backfill.

5.0 RECOMMENDATIONS

The soil contaminated as a result of the line leaks needs to be treated or removed. A wide variety of technologies are currently available for the remediation of soils. The following sections discuss advantages and disadvantages of each. Our recommendations for remediating the stockpiled soils and those contaminated soils which may still remain on site are given below.

5.1 Passive Aeration or Land Farming

This method requires the contaminated soils to be spread in a thin layer (3-6 inches) over a large area which has been approved by the State. If the site chosen for spreading the soil is off the original property, then a Non-Discharge Permit with the State of North Carolina is required. This permit could take up to 6 months to receive and will require periodic soil tests and possible groundwater monitoring. Though this method has proven relatively successful for treating gasoline contaminated soils we do not recommend this method because of space limitation and permitting logistics.

5.2 Enhanced Bioremediation

Enhanced bioremediation is a process in which the natural biodegradation of the petroleum compounds by bacteria are stimulated through the addition of oxygen, nutrients, and in some cases, specially engineered bacteria. Data and actual field testing of this method in Piedmont North Carolina are unavailable. Though the method may prove effective in remediating the site, the cost of field testing and small volume of soil to be treated makes this method impractical.

5.3 Disposed in Landfills

Excavation and direct disposal of the petroleum contaminated soil in municipal landfills is rarely allowed by the landfill operators in North Carolina. Disposal at a secure landfill is a quick and effective method of remediation; however, the liability associated with the soil

will remain with the owner and the cost is usually very high (about $100/ton). When the cost of freight is added, the final cost would be exorbitantly high.

5.4 Excavation and Thermal Treatment

Excavation and thermal treatment of the contaminated soil is a relatively straight forward method of removing the contaminated soil from the site and destroying the petroleum hydrocarbons thermally, thereby removing the associated liability. However, if the volume of soil is large and the contamination is deep (>17 feet) this method can become cost ineffective.

Thermal treatment is a relatively new, very effective method of treating the excavated soil. This type of remediation can be performed on the site or the soil can be transported to a permanent facility for treatment. The soil is passed through a rotary kiln and exposed to temperatures as high as 600-700°F. The high temperature destroys and/or drives off the petroleum hydrocarbons and at the same time does not alter the texture of the soil. The final result is a clean soil with little or no contamination. For this particular site, Bain & Palmer is of the opinion that excavation and thermal treatment is the best and most cost effective method for treating the contaminated soils from this site, and it is our recommendation that the waste soil piles be remediated by this method.

The company we would choose will issue a Certificate of Proper Disposal, which removes all further liability from the owner. The estimated cost of transport and disposal is $60.00 per ton. Several companies involved in soil treatment in this area are listed in Appendix C.

5.5 Soil Venting

Soil venting is perhaps one of the most widely used in situ soil remediation technologies in use in this area. This process is especially productive in remediating soil in the vadose zone (above the water table) which has been contaminated by highly volatile compounds such as solvents and gasoline. This method would be an effective way of treating in situ material.

6.0 REMARKS

The release of petroleum hydrocarbon, whether intentionally or accidently, constitutes an oil spill in the State of North Carolina. The Oil Pollution and Hazardous Substance Control Act of 1978 requires the State be notified of a release and that the responsible party undertake the necessary clean-up to restore the land to its original state. A copy of the Act is included in Appendix D for your review. The current EPA Underground Storage Tank Rules 40 CFR §280.61 through §280.65 requires owners and operators of UST systems to notify the implementing agency of a release and then conduct abatement measures and if necessary a site clean-up.

Supply Leak Assessment Report
Crown Store NC-16
Greensboro, North Carolina

We understand that Crown has notified the appropriate governmental agencies and has been required by the North Carolina Division of Environmental Management to report the status of the release and dictate what measures they have undertaken to remediate the release. As part of our report we have responded to the measures set out in 40 CFR §280.61-.65. This report is in Appendix E.

We recommend that a copy of this report and a letter stating your intentions be sent to: Division of Environmental Management Groundwater Section, 8025 North Point Blvd., Suite 100, Winston Salem, NC 27106, Attention: Mr. Larry Lucas.

The opinions presented herein have been developed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions included in this report.

This report is dated December 22, 1989 and is signed by an individual who is duly authorized to do so.

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

Sincerely yours,

BAIN & PALMER, INC.

John E. Palmer

John E. Palmer, PG

for George L. Bain
John E. Stewart, PG

JEP/cfj

TABLE 1

ANALYTICAL AND PID RESULTS FOR SOIL SAMPLES
COLLECTED WITH A HAND AUGER

LOCATION	DEPTH (FT.)	PID READING	LAB. ANALYSIS
HA-1a	1-2	325	N/A
HA-1b	5-5.5	0	5[1]
HA-2	NS	-	-
HA-3	NS	-	-
HA-4a	2-3	1000	N/A
HA-4b	4-5	1000	8'
HA-5a	2-3	250	<2
HA-6a	2-3	1000	N/A
HA-6b	3-4	950	<2

All results are presented in parts per million
[1] - Petroleum compound with a distillation range similar to kerosene
N/A - No Laboratory Analysis performed
NS - Not Sampled

TABLE 2

ANALYTICAL AND PID RESULTS FOR SOIL SAMPLES
COLLECTED DURING INSTALLATIONS OF VAPOR-DETECTION
MONITOR WELLS

LOCATION	DEPTH (FT.)	PID READING	LAB. ANALYSIS
B-1a	5-6.5	25	N/A
B-1b	9-10.5	10	N/A
B-1c	15-16.5	25	<2
B-2a	5-6.5	325	N/A
B-2b	9-10.5	200	N/A
B-2c	15-16.5	0	<2
B-3a	5-6.5	25	N/A
B-36	9-10.5	225	<2
B-3c	15-16.5	175	<2
VMW-1		500	N/A
VMW-4		500	N/A

All results are presented in parts per million
N/A - No Laboratory Analysis performed

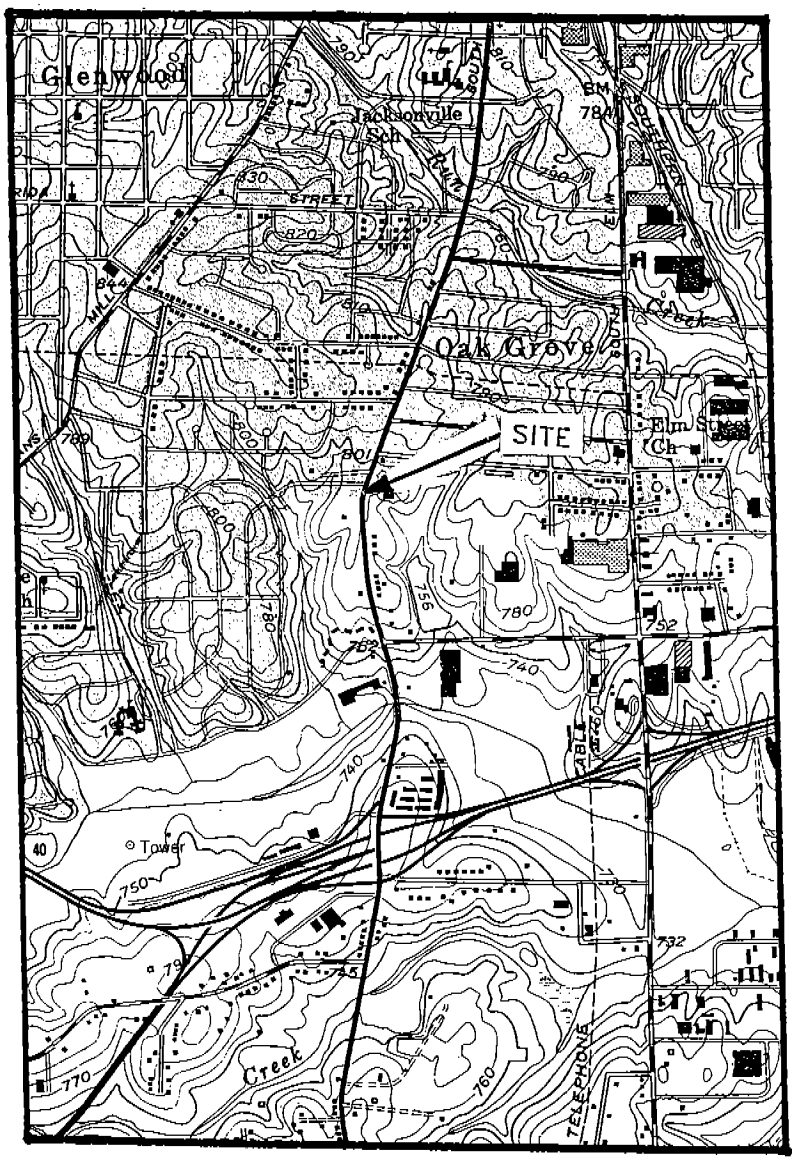
TABLE 3
RESULTS OF WASTE SOIL PILES

COMPOUND	LABORATORY RESULTS (ppm)	
	SP-1	SP-2
Lead by EPTOX	.006	ND
Xylenes (total)	1.7	ND
Anthracene	6.4	ND
Benzo (b) Fluoranthene	6.0	ND
Benzo (k) Fluoranthene	6.6	ND
Benzo (g,h,i) perylene	0.93	ND
Benzo (a) pyrene	4.2	ND
Chrysene	6.4	ND
Fluoranthene	11.0	ND
Flourene	0.44	ND
Indeno (1, 2, 3-cd pyrene)	1.8	ND
2-Methylnaphthalene	3.0	ND
Naphthalene	0.56	ND
Phenanthrene	7.2	ND
Pyrene	9.1	ND
Total VOCs	65.33	0

All results are presented in parts per million
ND - Not Detected

FIGURE 1

TOPOGRAPHIC MAP OF SITE AREA



SCALE = 1:24000

GREENSBORO QUADRANGLE

GUILFORD COUNTY

7.5 MINUTE SERIES

FIGURE 2

SITE LOCATION MAP

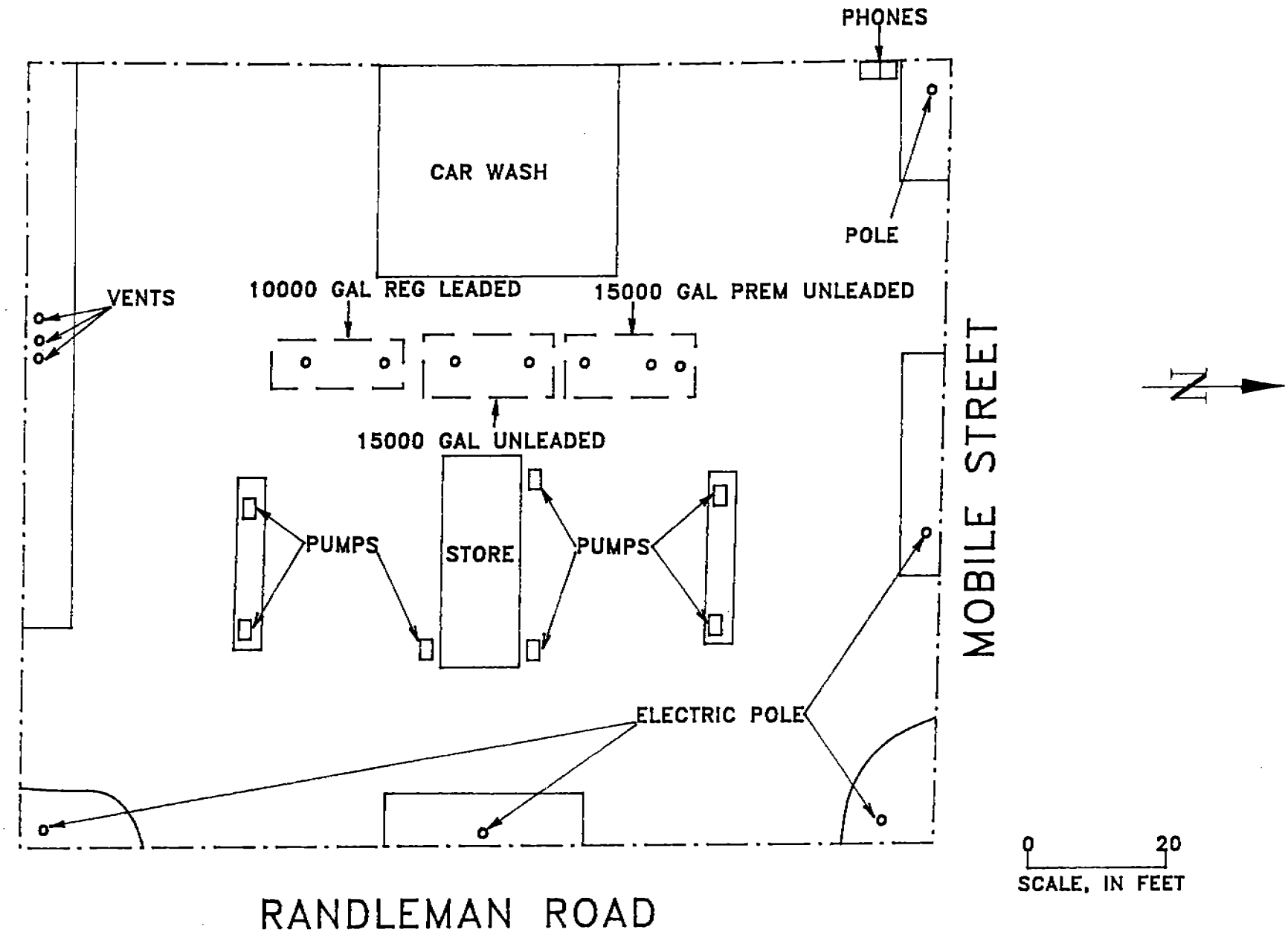
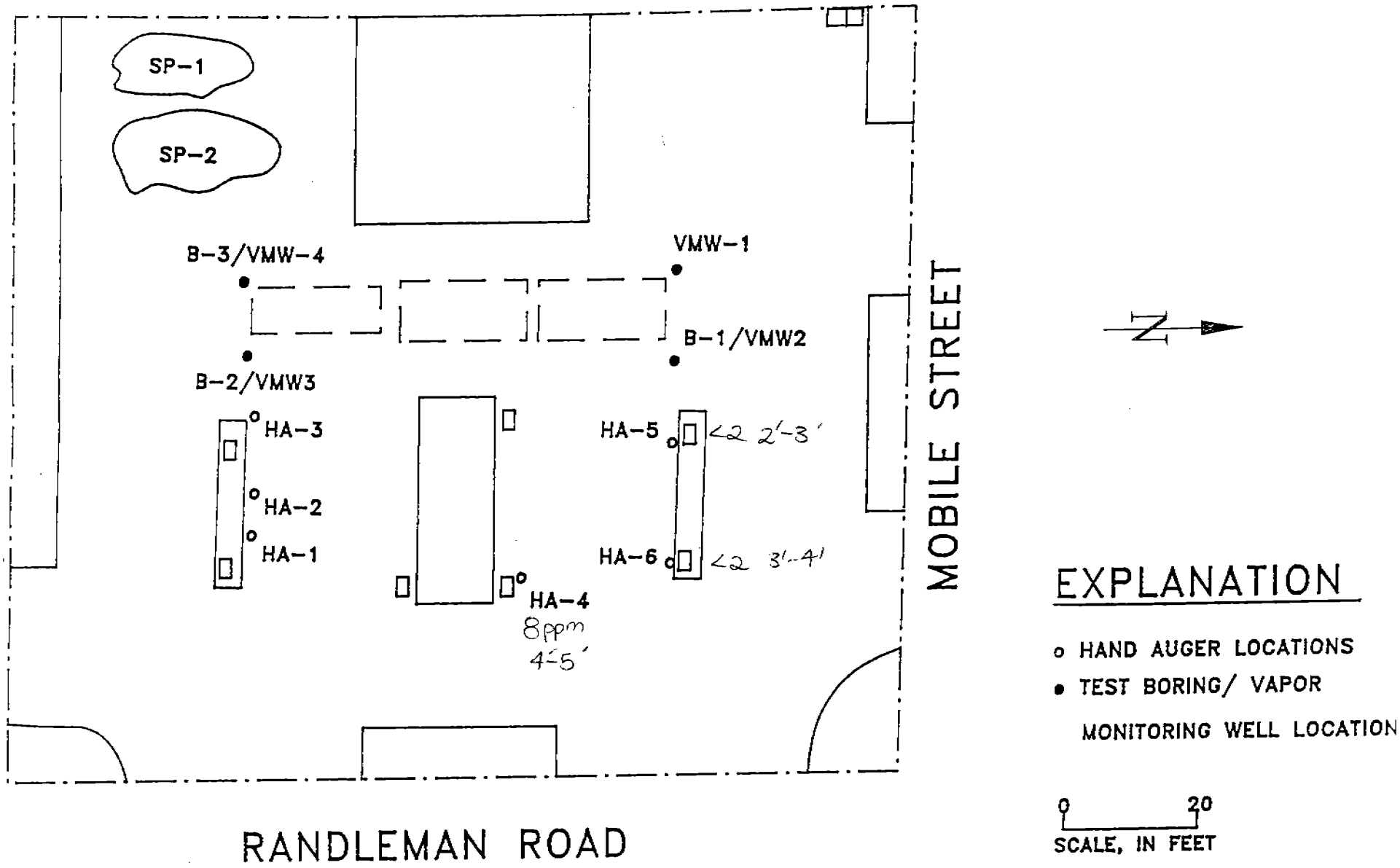


FIGURE 3

LOCATION OF TEST BORINGS, AUGER BORINGS AND SOIL PILES



A

BAIN & PALMER INC.
Environmental Consultants

Client CROWN CENTRAL PETROLEUM CO. Boring No. B-1
Project CROWN Driller DAACO
Total Depth 16.5 FT. Elevation 810 FT. Boring Type & Size 6.25 IN. HS AUGER
Date Started 11/07/89 Date Ended 11/07/89 Logged By J. STEWART
Depth to Water NA Date Measured NA Water Level Elevation NA

DEPTH (FEET)	ELEVATION FT AMSL	BLOWS PER 6 IN.	PERCENT RECOVERY	GEOLOGY	LITHOLOGIC DESCRIPTION	REMARKS
	809					Elev. estimated from topo map.
2						
	807					
4		6 10 17	50		Dense; SILT w/ some clay and fine sand; mottled dark green and tan; residuum; dry; slight petroleum odor	OVA=25ppm
	805					
6						
	803					
8						
	801	5 18 50	50		Same as above	OVA=10ppm
10						
	799					
12						
	797					
14		6 50	30		Same as above	OVA=25ppm
	795					
16						Boring terminated at 16.5 ft.
	793					
18						
	791					
20						

BAIN & PALMER INC.
Environmental Consultants

Client CROWN CENTRAL PETROLEUM CO. Boring No. B-2
Project CROWN Driller DAACO
Total Depth 16.5 FT. Elevation 810 FT. Boring Type & Size 6.25 IN. HS AUGER
Date Started 11/07/89 Date Ended 11/07/89 Logged By J. STEWART
Depth to Water NA Date Measured NA Water Level Elevation NA

DEPTH (FEET)	ELEVATION FT AMSL	BLOWS PER 6 IN.	PERCENT RECOVERY	GEOLOGY	LITHOLOGIC DESCRIPTION	REMARKS
	809					Elev. estimated from topo map.
2						
	807					
4		1 1 1	50		Loose; medium to coarse SAND; tan; fill; moist; petroleum odor	OVA=325ppm
	805					
6						
	803					
8						
	801	1 1 1	50		Same as above	OVA=200ppm
10						
	799					
12						
	797					
14		5 27 50	30		Dense; SILT w/ fine sand and some clay; white w/ dark green to black mottling; residuum; moist; no petroleum odor; partially weathered rock	OVA=0
	795					
16						Boring terminated at 16.5 ft.
	793					
18						
	791					
20						

BAIN & PALMER INC.
Environmental Consultants

Client CROWN CENTRAL PETROLEUM CO. Boring No. B-3
Project CROWN Driller DAACO
Total Depth 16.5 FT. Elevation 810 FT. Boring Type & Size 6.25 IN. HS AUGER
Date Started 11/08/89 Date Ended 11/08/89 Logged By J. STEWART
Depth to Water NA Date Measured NA Water Level Elevation NA

DEPTH (FEET)	ELEVATION FT AMSL	BLOWS PER 6 IN.	PERCENT RECOVERY	GEOLOGY	LITHOLOGIC DESCRIPTION	REMARKS
	809					Elev. estimated from topo map.
2						
	807					
4		1 1 1	60		Loose; medium to coarse SAND; tan; fill; moist; slight petroleum odor	OVA=25ppm
	805					
6						
	803					
8						
	801					
10		12 15 17	60		Dense; SILT w/ some fine sand and clay; white w/ dark green to black mottling; residuum; dry; slight petroleum odor	OVA=225ppm
	799					
12						
	797					
14		3 18 29	40		Same as above	OVA=175ppm
	795					
16						Boring terminated at 16.5 ft.
	793					
18						
	791					
20						

B

Industrial & Environmental Analysts, Inc.
P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 467-9919
FAX (919) 460-0948

December 6, 1989

John Palmer
Bain & Palmer, Inc.
2641-G Randleman Road
Greensboro, NC 27406

Reference IEA Report No.: 631058
Project I.D.: .0055.001

Dear Mr. Palmer,

Transmitted herewith are the results of analyses on three samples submitted to our laboratory on November 10, 1989.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Manager, Technical Support Group

State Certification:

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

IEA LABORATORY RESULTS

IEA Project #: 631-058
Client Name: Bain & Palmer, Inc.

Sample #	Client ID	Parameter	Results		Date Analyzed
1	HA-4B	Petroleum Hydrocarbons by GC	8	mg/kg*	11/22/89
2	HA-5A	Petroleum Hydrocarbons by GC	<2	mg/kg	11/22/89
3	HA-6B	Petroleum Hydrocarbons by GC	<2	mg/kg	11/22/89

*The sample contains a petroleum hydrocarbon blend with a distillation range similiar to kerosene.

BAIN & PALMER, INC.
Environmental Consultants

CHAIN OF CUSTODY RECORD

Project Name Crown
Project Number .0055.001

SAMPLE IDENTIFICATION — ANALYSES REQUESTED

Sample No.	Lab ID No.	Description	Matrix	Date & Time Collected	Container	Preservative	TPH-GC						
HA4b		4-5'	Soil	11/9 11:05	500ml	Ice	✓						
HA5a		2-3'	Soil	11/9 2:00	500ml	Ice	✓						
HA6b		3-4'	Soil	11/9 12:20	500ml	Ice	✓						

Matrix:
S – soil
W – water
O – oil
DS – drum solids
DL – drum liquids
X – other _____

Special Instructions: IEA #631-58

Items/Reason	Relinquished By	Received By	Date	Time
all/shipping	John Stewart	Elizabeth A. Gray	11/10	12:00n

Items/Reason	Relinquished By	Received By	Date	Time

Industrial & Environmental Analysts, Inc.
P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 467-9919
FAX (919) 460-0948

December 7, 1989

DEC 1989
RECEIVED

John Palmer
Bain & Palmer
2641 E Randleman Rd.
Greensboro, NC 27406

Reference IEA Report No.: 631057 & 631057(0)
Project I.D.: 0055.001

Dear Mr. Palmer,

Transmitted herewith are the results of analyses on seven samples submitted to our laboratory on November 9, 1989.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Manager, Technical Support Group

State Certification:

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

IEA LABORATORY RESULTS

IEA Project #: 631-057
Client Name: Bain & Palmer

Sample #	Client ID	Parameter	Results		Date Analyzed
5	SP-1	Lead - EP TOX	0.006	mg/L	11/20/89
6	SP-2	Lead - EP TOX	<0.005	mg/L	11/20/89
1	B-1c	Petroleum Hydrocarbons by GC	<2	mg/kg	11/21/89
2	B-3b	Petroleum Hydrocarbons by GC	<2	mg/kg	11/21/89
3	B-3c	Petroleum Hydrocarbons by GC	<2	mg/kg	11/21/89
4	HA-1B	Petroleum Hydrocarbons by GC	5	mg/kg*	11/21/89

Comments:

*The sample contains a petroleum hydrocarbon blend with a distillation range similiar to kerosene.

IEA LABORATORY RESULTS

IEA Project #: 631-057(0)
Client Name: Bain & Palmer

Sample #	Client ID	Parameter	Results	Date Analyzed
1	B-2c	Petroleum Hydrocarbons by GC	<2 mg/kg	11/22/89

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 631-057-5
Sample Identification: SP-1
Date Analyzed: 11/22/89 By: Young

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Acetone	5000	BQL
2	Benzene	250	BQL
3	Bromodichloromethane	250	BQL
4	Bromoform	250	BQL
5	Bromomethane	500	BQL
6	2-Butanone	5000	BQL
7	Carbon disulfide	250	BQL
8	Carbon tetrachloride	250	BQL
9	Chlorobenzene	250	BQL
10	Dibromochloromethane	250	BQL
11	Chloroethane	500	BQL
12	2-Chloroethylvinyl ether	500	BQL
13	Chloroform	250	BQL
14	Chloromethane	500	BQL
15	1,1-Dichloroethane	250	BQL
16	1,2-Dichloroethane	250	BQL
17	1,1-Dichloroethene	250	BQL
18	1,2-Dichloroethene (cis + trans)	250	BQL
19	1,2-Dichloropropane	250	BQL
20	cis-1,3-Dichloropropene	250	BQL
21	trans-1,3-Dichloropropene	250	BQL
22	Ethylbenzene	250	BQL
23	2-Hexanone	2500	BQL
24	Methylene chloride	250	BQL
25	4-Methyl-2-pentanone	2500	BQL
26	Styrene	250	BQL
27	1,1,2,2-Tetrachloroethane	250	BQL
28	Tetrachloroethene	250	BQL
29	Toluene	250	BQL
30	1,1,1-Trichloroethane	250	BQL
31	1,1,2-Trichloroethane	250	BQL
32	Trichloroethene	250	BQL
33	Vinyl acetate	2500	BQL
34	Vinyl chloride	500	BQL
35	Xylenes (total)	250	1700

Comments:

BQL = Below Quantitation Limit
Quantitation limit elevated due to sample dilution prior to analysis.
Sample diluted due to presence of non-target compounds.

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 631-057-5
Sample Identification: SP-1
Date Extracted: 11/21/89
Date Analyzed: 12/06/89 By: O'Toole

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Acenaphthene	400	BQL
2	Acenaphthylene	400	BQL
3	Anthracene	400	6,400
4	Benzoic acid	2000	BQL
5	Benzo(a)anthracene	400	BQL
6	Benzo(b)fluoranthene	400	6,000
7	Benzo(k)fluoranthene	400	6,600
8	Benzo(g,h,i)perylene	400	930
9	Benzo(a)pyrene	400	4,200
10	Benzyl alcohol	800	BQL
11	bis(2-Chloroethoxy)methane	400	BQL
12	bis(2-Chloroethyl)ether	400	BQL
13	bis(2-Chloroisopropyl)ether	400	BQL
14	bis(2-Ethylhexyl)phthalate	400	BQL
15	4-Bromophenyl phenyl ether	400	BQL
16	Benzyl butyl phthalate	400	BQL
17	4-Chloroaniline	800	BQL
18	2-Chloronaphthalene	400	BQL
19	4-Chloro-3-methylphenol	800	BQL
20	2-Chlorophenol	400	BQL
21	4-Chlorophenyl phenyl ether	400	BQL
22	Chrysene	400	6,400
23	Dibenzo(a,h)anthracene	400	BQL
24	Dibenzofuran	400	BQL
25	Di-n-butylphthalate	400	BQL
26	1,3-Dichlorobenzene	400	BQL
27	1,4-Dichlorobenzene	400	BQL
28	1,2-Dichlorobenzene	400	BQL
29	3,3'-Dichlorobenzidine	800	BQL
30	2,4-Dichlorophenol	400	BQL
31	Diethyl phthalate	400	BQL
32	2,4-Dimethylphenol	400	BQL
33	Dimethyl phthalate	400	BQL
34	4,6-Dinitro-2-methylphenol	2000	BQL
35	2,4-Dinitrophenol	2000	BQL
36	2,4-Dinitrotoluene	400	BQL
37	2,6-Dinitrotoluene	400	BQL
38	Di-n-octylphthalate	400	BQL
39	Fluoranthene	400	11,000

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 631-057-5
Sample Identification: SP-1
Date Extracted: 11/21/89
Date Analyzed: 12/06/89 By: O'Toole

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
40	Fluorene	400	440
41	Hexachlorobenzene	400	BQL
42	Hexachlorobutadiene	400	BQL
43	Hexachlorocyclopentadiene	400	BQL
44	Hexachloroethane	400	BQL
45	Indeno(1,2,3-cd)pyrene	400	1,800
46	Isophorone	400	BQL
47	2-Methylnaphthalene	400	3,000
48	2-Methylphenol (o-cresol)	400	BQL
49	4-Methylphenol (p-cresol)	400	BQL
50	Naphthalene	400	560
51	2-Nitroaniline	2000	BQL
52	3-Nitroaniline	2000	BQL
53	4-Nitroaniline	2000	BQL
54	Nitrobenzene	400	BQL
55	2-Nitrophenol	400	BQL
56	4-Nitrophenol	2000	BQL
57	N-Nitroso-di-n-propylamine	400	BQL
58	N-Nitrosodiphenylamine	400	BQL
59	Pentachlorophenol	2000	BQL
60	Phenanthrene	400	7,200
61	Phenol	400	BQL
62	Pyrene	400	9,100
63	1,2,4-Trichlorobenzene	400	BQL
64	2,4,5-Trichlorophenol	400	BQL
65	2,4,6-Trichlorophenol	400	BQL

Comments:

BQL = Below Quantitation Limit
Quantitation limit elevated due to extract dilution prior to analysis.
Extract diluted due to high concentration of base/neutral target compounds present.

PESTICIDES / PCBs
SW-846 METHOD 8080

IEA Sample Number: 631-057-5
Sample Identification: SP-1
Date Analyzed: 11/30/89 By: Austin/Hinshaw

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	alpha-BHC	40	BQL
2	beta-BHC	40	BQL
3	delta-BHC	40	BQL
4	gamma-BHC (Lindane)	40	BQL
5	Heptachlor	40	BQL
6	Aldrin	40	BQL
7	Heptachlor epoxide	40	BQL
8	Endosulfan I	40	BQL
9	Dieldrin	80	BQL
10	4,4'-DDE	80	BQL
11	Endrin	80	BQL
12	Endosulfan II	80	BQL
13	4,4'-DDD	80	BQL
14	Endosulfan sulfate	80	BQL
15	4,4'-DDT	80	BQL
16	Methoxychlor	400	BQL
17	Toxaphene	800	BQL
18	Aroclor 1016	400	BQL
19	Aroclor 1221	400	BQL
20	Aroclor 1232	400	BQL
21	Aroclor 1242	400	BQL
22	Aroclor 1248	400	BQL
23	Aroclor 1254	800	BQL
24	Aroclor 1260	800	BQL
25	Chlordane (technical)	400	BQL
26	Endrin aldehyde	80	BQL

Additional Compounds:

27	Endrin ketone	80	BQL
28	alpha-Chlordane	400	BQL
29	gamma-Chlordane	400	BQL

Comments:

BQL = Below Quantitation Limit
Quantitation limit elevated due to sample dilution prior to analysis.
Sample diluted due to the presence of non-target compounds.

GC/MS PURGEABLES
SW-846 METHOD 8240

IEA Sample Number: 631-057-6
Sample Identification: SP-2
Date Analyzed: 11/22/89 By: Casto

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Acetone	100	BQL
2	Benzene	5	BQL
3	Bromodichloromethane	5	BQL
4	Bromoform	5	BQL
5	Bromomethane	10	BQL
6	2-Butanone	100	BQL
7	Carbon disulfide	5	BQL
8	Carbon tetrachloride	5	BQL
9	Chlorobenzene	5	BQL
10	Dibromochloromethane	5	BQL
11	Chloroethane	10	BQL
12	2-Chloroethylvinyl ether	10	BQL
13	Chloroform	5	BQL
14	Chloromethane	10	BQL
15	1,1-Dichloroethane	5	BQL
16	1,2-Dichloroethane	5	BQL
17	1,1-Dichloroethene	5	BQL
18	1,2-Dichloroethene (cis + trans)	5	BQL
19	1,2-Dichloropropane	5	BQL
20	cis-1,3-Dichloropropene	5	BQL
21	trans-1,3-Dichloropropene	5	BQL
22	Ethylbenzene	5	BQL
23	2-Hexanone	50	BQL
24	Methylene chloride	5	BQL
25	4-Methyl-2-pentanone	50	BQL
26	Styrene	5	BQL
27	1,1,2,2-Tetrachloroethane	5	BQL
28	Tetrachloroethene	5	BQL
29	Toluene	5	BQL
30	1,1,1-Trichloroethane	5	BQL
31	1,1,2-Trichloroethane	5	BQL
32	Trichloroethene	5	BQL
33	Vinyl acetate	50	BQL
34	Vinyl chloride	10	BQL
35	Xylenes (total)	5	BQL

Comments:

BQL = Below Quantitation Limit

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 631-057-6
Sample Identification: SP-2
Date Extracted: 11/21/89
Date Analyzed: 12/02/89 By: Bero

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	Acenaphthene	200	BQL
2	Acenaphthylene	200	BQL
3	Anthracene	200	BQL
4	Benzoic acid	1000	BQL
5	Benzo(a)anthracene	200	BQL
6	Benzo(b)fluoranthene	200	BQL
7	Benzo(k)fluoranthene	200	BQL
8	Benzo(g,h,i)perylene	200	BQL
9	Benzo(a)pyrene	200	BQL
10	Benzyl alcohol	400	BQL
11	bis(2-Chloroethoxy)methane	200	BQL
12	bis(2-Chloroethyl)ether	200	BQL
13	bis(2-Chloroisopropyl)ether	200	BQL
14	bis(2-Ethylhexyl)phthalate	200	BQL
15	4-Bromophenyl phenyl ether	200	BQL
16	Benzyl butyl phthalate	200	BQL
17	4-Chloroaniline	400	BQL
18	2-Chloronaphthalene	200	BQL
19	4-Chloro-3-methylphenol	400	BQL
20	2-Chlorophenol	200	BQL
21	4-Chlorophenyl phenyl ether	200	BQL
22	Chrysene	200	BQL
23	Dibenzo(a,h)anthracene	200	BQL
24	Dibenzofuran	200	BQL
25	Di-n-butylphthalate	200	BQL
26	1,3-Dichlorobenzene	200	BQL
27	1,4-Dichlorobenzene	200	BQL
28	1,2-Dichlorobenzene	200	BQL
29	3,3'-Dichlorobenzidine	400	BQL
30	2,4-Dichlorophenol	200	BQL
31	Diethyl phthalate	200	BQL
32	2,4-Dimethylphenol	200	BQL
33	Dimethyl phthalate	200	BQL
34	4,6-Dinitro-2-methylphenol	1000	BQL
35	2,4-Dinitrophenol	1000	BQL
36	2,4-Dinitrotoluene	200	BQL
37	2,6-Dinitrotoluene	200	BQL
38	Di-n-octylphthalate	200	BQL
39	Fluoranthene	200	BQL

BASE/NEUTRAL/ACID EXTRACTABLES
SW-846 METHOD 8270

IEA Sample Number: 631-057-6
Sample Identification: SP-2
Date Extracted: 11/21/89
Date Analyzed: 12/02/89 By: Bero

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
40	Fluorene	200	BQL
41	Hexachlorobenzene	200	BQL
42	Hexachlorobutadiene	200	BQL
43	Hexachlorocyclopentadiene	200	BQL
44	Hexachloroethane	200	BQL
45	Indeno(1,2,3-cd)pyrene	200	BQL
46	Isophorone	200	BQL
47	2-Methylnaphthalene	200	BQL
48	2-Methylphenol (o-cresol)	200	BQL
49	4-Methylphenol (p-cresol)	200	BQL
50	Naphthalene	200	BQL
51	2-Nitroaniline	1000	BQL
52	3-Nitroaniline	1000	BQL
53	4-Nitroaniline	1000	BQL
54	Nitrobenzene	200	BQL
55	2-Nitrophenol	200	BQL
56	4-Nitrophenol	1000	BQL
57	N-Nitroso-di-n-propylamine	200	BQL
58	N-Nitrosodiphenylamine	200	BQL
59	Pentachlorophenol	1000	BQL
60	Phenanthrene	200	BQL
61	Phenol	200	BQL
62	Pyrene	200	BQL
63	1,2,4-Trichlorobenzene	200	BQL
64	2,4,5-Trichlorophenol	200	BQL
65	2,4,6-Trichlorophenol	200	BQL

Comments:

BQL = Below Quantitation Limit

PESTICIDES / PCBs
SW-846 METHOD 8080

IEA Sample Number: 631-057-6
Sample Identification: SP-2
Date Analyzed: 11/30/89 By: Austin/Hinshaw

Number	Compound	Quantitation Limit (ug/kg)	Results Concentration (ug/kg)
1	alpha-BHC	8.0	BQL
2	beta-BHC	8.0	BQL
3	delta-BHC	8.0	BQL
4	gamma-BHC (Lindane)	8.0	BQL
5	Heptachlor	8.0	BQL
6	Aldrin	8.0	BQL
7	Heptachlor epoxide	8.0	BQL
8	Endosulfan I	8.0	BQL
9	Dieldrin	16	BQL
10	4,4'-DDE	16	BQL
11	Endrin	16	BQL
12	Endosulfan II	16	BQL
13	4,4'-DDD	16	BQL
14	Endosulfan sulfate	16	BQL
15	4,4'-DDT	16	BQL
16	Methoxychlor	80	BQL
17	Toxaphene	160	BQL
18	Aroclor 1016	80	BQL
19	Aroclor 1221	80	BQL
20	Aroclor 1232	80	BQL
21	Aroclor 1242	80	BQL
22	Aroclor 1248	80	BQL
23	Aroclor 1254	160	BQL
24	Aroclor 1260	160	BQL
25	Chlordane (technical)	80	BQL
26	Endrin aldehyde	16	BQL

Additional Compounds:

27	Endrin ketone	16	BQL
28	alpha-Chlordane	80	BQL
29	gamma-Chlordane	80	BQL

Comments:

BQL = Below Quantitation Limit

BAIN & PALMER, INC.
Environmental Consultants

CHAIN OF CUSTODY RECORD

Project Name Crown
Project Number 0055.001

SAMPLE IDENTIFICATION / ANALYSES REQUESTED

Sample No.	Lab ID No.	Description	Matrix	Date & Time Collected	Container	Preservative	TPH GC	8240	8270	w/PCBs	EPTOX Lead			
B-1c		15-16.5'	Soil	11/8 2pm	500ml	ice	✓							
B-2c		15-16.5'	Soil	11/7 5pm	500ml	ice	✓							
B-3b		8-9.5'	Soil	11/8 10:45am	500ml	ice	✓							
B-3c		15-16.5'	Soil	11/8 2:35	500ml	ice	✓							
HA-1B		5-5.5'	Soil	11/8 4:30	500ml	ice	✓							
SP-1		South Pumpkin	Soil	11/8 11:15	500ml	ice		✓	✓	✓	✓			
SP-2		North Pumpkin	Soil	11/8 11:45	500ml	ice		✓	✓	✓	✓			

Matrix:
S – soil
W – water
O – oil
DS – drum solids
DL – drum liquids
X – other

Special Instructions: Run PCBs w/ 8270
IEA #631-57 + -57(D)

Items/Reason	Relinquished By	Received By	Date	Time
all / shipping	John Stewart	James Hays	11/9	12N

Items/Reason	Relinquished By	Received By	Date	Time

C

APPENDIX C

Names and Addresses for Contractors Capable of Disposing of Soil

1. Noble Oil Services
   5617 Clyde Rhyne Drive
   Sanford, North Carolina 27330
   1-800-544-0184

2. 4-Seasons Industrial Services
   P. O. Box 16590
   Greensboro, North Carolina 27416-0590
   (919) 274-5798

3. TPS Technologies, Inc.
   2070 South Orange Blossom Trail
   Apopka, Florida 32703
   (407) 886-8300

D

ARTICLE 21A.

Oil Pollution Control.

Part 1. General Provisions.

§ 143-215.75. Title. — This Article shall be known and may be cited as the "Oil Pollution and Hazardous Substances Control Act of 1978." (1973, c. 534, s. 1.)

§143-215.76. Purpose. — It is the purpose of this Article to promote the health, safety, and welfare of the citizens of this State by protecting the land and the waters over which this State has jurisdiction from pollution by oil, oil products, oil by-products, and other hazardous substances. It is not the intention of this Article to exercise jurisdiction over any matter as to which the United States government has exclusive jurisdiction, nor in any wise contrary to any governing provision of federal law, and no provision of this Article shall be so construed. The General Assembly further declares that it is the intent of this Article to support and complement applicable provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. section 1251, et seq., as amended, and the National Contingency Plan for removal of oil adopted pursuant thereto. (1973, c. 534, s. 1.)

§ 143-215.77. Definitions. — As used in this Article, unless the context otherwise requires:

(1) "Barrel" shall mean 42 U.S. gallons at 60 degrees Fahrenheit.

(2) "Environmental Management Commission" shall mean the North Carolina Environmental Management Commission.

(3) "Secretary" shall mean the North Carolina Secretary of Natural Resources and Community Development.

(4) "Discharge" shall mean, but shall not be limited to, any emission, spillage, leakage, pumping, pouring, emptying or dumping of oil or other hazardous substances into waters, or upon land in such promimity to waters that oil or other hazardous substances is reasonably likely to reach the waters, but shall not include discharges in amounts determined by the Environmental Management Commission to be not harmful to the public health or welfare (including but not limited to fish, shellfish, wildlife and public and private property, shorelines, and beaches); provided, however, that this Article shall not be construed to prohibit the oiling of driveways, roads or streets for reduction of dust or routine maintenance; provided further, that the use of oil or other hazardous substances, oil-based products, or chemicals on the land or waters by any State, county, or municipal government agency in any program of mosquito or other pest control, or their use by any person in accepted agricultural, horticultural, or forestry practices, or in connection with aquatic weed control or structural pest and rodent control, in a manner approved by the State, county, or local agency charged with authority over such uses, shall not constitute a discharge; provided, further, that the use of a pesticide regulated by the North Carolina Pesticide Board in a manner consistent with the labelling required by the North Carolina Pesticide Law shall not constitute a 'discharge' for purposes of this Article.

(5) "Having control over oil or other hazardous substances" shall mean, but shall not be limited to, any person using, transferring, storing, or transporting oil or other hazardous substances immediately prior to a discharge of such oil or other hazardous substances onto the land or into the waters of the State, and specifically shall include carriers and bailees of such oil or other hazardous substances.

(6) "Hazardous Substance" shall mean any substance, other than oil, designated by regulation of the Commission upon a finding that the discharge of the substance in any minimum prescribed quantity into or upon the waters of the State presents an imminent and substantial danger to public health or welfare; or to fish, shellfish, wildlife, or vegetation. Provided, that only those substances and corollary harmful quantities which have been designated by the Administrator of the United States Environmental Protection Agency pursuant to 33 U.S.C. 1321 (b)(2)(A) shall be designated by the Commission as hazardous substances. Additions to or deletions from the list of hazardous substances by the Administrator of the Environmental Protection Agency shall be deemed to be automatically added to or deleted from this definition unless the Commission objects within 120 days of publication of the action in the Federal Register. If the Commission objects to a particular addition or deletion, the substance so designated will neither be added to nor deleted from the definition pending a public hearing pursuant to Article 2 of Chapter 150A of the General Statutes.

(7) "Land" shall mean only land from which it is reasonable likely that oil or hazardous substances will flow into the waters of this State.

(8) "Department" shall mean the Department of Natural Resources and Community Development.

(9) "Oil" shall mean oil of any kind and in any form, including, but specifically not limited to, Petroleum, crude oil, diesel oil, fuel oil, gasoline, lubrication oil, oil refuse, oil mixed with other waste, oil sludge, petroleum related products or by-products, and all other liquid hydrocarbons, regardless of specific gravity, whether singly or in combination with other substances.

(10) "Bailee" shall mean any person who accepts oil or other hazardous substances to hold in trust for another for a special purpose and for a limited period of time.

(11) "Carrier" shall mean any person who engages in the transportation of oil or other hazardous substances for compensation.

(12) "Oil terminal facility" shall mean any facility of any kind and related appurtenances located in, on or under the surface of any land, or water, including submerged lands, which is used or capable of being used for the purpose of transferring, transporting, storing, processing, or refining oil; but shall not include any facility having a storage capacity of less than 500 barrels, nor any retail gasoline dispensing operation serving the motoring public. A vessel shall be considered an oil terminal facility only in the event that it is utilized to transfer oil from another vessel to an oil terminal facility; or to transfer oil between one oil terminal facility and another oil terminal facility; or is used to store oil.

(13) "Operator" shall mean any person owning or operating an oil terminal facility or pipeline, whether by lease, contract, or any other form of agreement.

(14) "Person" shall mean any and all natural persons, firms, partnerships, associations public or private institutions, municipalities or political subdivisions, governmental agencies, or private or public corporations organized or existing under the laws of this State or any other state or country.

(15) "Pipeline" shall mean any conduit, pipe or system or pipes, and any appurtenances related thereto and used in conjuction therewith, used, or capable of being used, for transporting or transferring oil to, from, or between oil terminal facilities.

(16) "Restoration" or "restore" shall mean any activity or project undertaken in the public interest or to protect public interest or to protect public property or to promote the public health, safety or welfare for the purpose of restoring any lands or waters affected by an oil or other hazardous substances discharge as nearly as is possible or desirable to the condition which existed prior to the discharge.

(17) "Transfer" shall mean the transportation, on-loading or off-loading of oil or other hazardous substances between or among two or more oil terminal facilities; between or among oil terminal facilities and vessels; and between or among two or more vessels.

(18) "Vessel" shall include every description of watercraft or other contrivance used, or capable of being used, as a means of transportation on water, whether self-propelled or otherwise, and shall include, but shall not be limited to, barges and tugs; provided that the term "vessel" as used herein shall not apply to any pleasure, sport or commercial fishing vessel which has a fuel capacity of less than 500 gallons and is not used to transport petroleum, petroleum products, or general cargo.

(19) "Waters" shall mean any stream, river, creek, brook, run, canal, swamp, lake, sound, tidal estuary, bay, reservoir, waterway or any other body or accumulation of water, surface or underground, public or private, natural or artificial, which is contained within, flows through, or borders upon this State, or any portion thereof, including those portions of the Atlantic Ocean over which this State has jurisdiction. (1973, c. 534, s. 1; 1973, c. 1262, s. 23; 1977, c. 771, s.4.)

§ 143-215.78. Oil pollution control program. — The Department shall establish an oil pollution control program for the administration of this Article. The Department may employ and prescribe the duties of employees assigned to this activity. (1973, c. 534, s. 1; c. 1262, s. 23.)

§ 143-215.79. Inspections and investigations; entry upon property. — The Environmental Management Commission, through its authorized representatives, is empowered to conduct such inspections and investigations as shall be reasonably necessary to determine compliance with the provisions of this Article; to determine the person or persons responsible for violation of this Article; to determine the nature and location of any oil or other hazardous substances discharge to the land or waters of this State; and to enforce the provisions of this Article. The authorized representatives of the Environmental Management Commission are empowered upon presentation of their credentials to enter upon any private or public property, including boarding any vessel, for the purpose of inspection or investigation or in order to conduct any project or activity to contain, collect, disperse or remove oil or other hazardous substances discharges or to perform any restoration necessitated by an oil or other hazardous substances discharge. Neither the State nor its agencies, employees or agents shall be liable in trespass or damages arising out of the conduct of any inspection, investigation, or oil or other hazardous substances removal or restoration project or activity other than liability for damage to property or injury to persons arising out of the negligent or willful conduct of an employee or agent of the State during the course of an inspection investigation, project or activity. (1973, c. 534, s. 1; c. 1262, s. 23.)

§ 143-215.80. Confidential information. — Any information relating to a secret process, device or method of manufacturing or production discovered or obtained in the course of an inspection, investigation, project or activity conducted pursuant to this Article shall not be revealed except as may be required by law or lawful order or process. (1973, c. 534, s. 1.)

§ 143-215.81. Authority supplemental. — The authority and powers granted under this Article shall be in addition to, and not in derogation of, any authority or powers vested in the Environmental Management Commission under any other provision of law, except to the extent that such other powers or authority may conflict directly with the powers and authority granted under this Article; and the Environmental Management Commission is empowered to adopt such rules and regulations as are necessary to administer and carry out the purposes of this Article. (1973, c. 534, s. 1; c. 1262, s. 23.)

§ 143-215.82. Local ordinances. — Nothing in the Article shall be construed to deny any county, municipality, sanitary district, metropolitan sewerage district or other authorized local governmental entity, by ordinance, regulation or law, from exercising police powers with reference to the prevention and control of oil or other hazardous substances discharges to sewers or disposal systems. (1973, c. 534, s. 1.)

Part 2. Oil Discharge Controls.

§ 143-215.83. Discharges. — (a) Unlawful Discharges. — It shall be unlawful, except as otherwise provided in this Part, for any person to discharge, or cause to be discharged, oil or other hazardous substances into or upon any waters, tidal flats, beaches, or lands within this State, or into any sewer, surface water drain or other waters that drain into the waters of this State, regardless of the fault of the person having control over the oil or other hazardous substances, or regardless of whether the discharge was the result of intentional or negligent conduct, accident or other cause.

(b) Excepted Discharges. — This section shall not apply to discharges of oil or other hazardous substances in the following circumstances:

(1) When the discharge was authorized by an existing regulation of the Environmental Management Commission.

(2) When any person subject to liability under this Article proves that a discharge was caused by any of the following:

a. An act of God.
b. An act of war or sabotage.
c. Negligence on the part of the United States government or the State of North Carolina or its political subdivisions.
d. An or omission of a third party, whether any such act or omission was or was not negligent.
e. Any act or omission by or at the direction of a law-enforcement officer or fireman.

(c) Permits. — Any person who desires or proposes to discharge oil or other hazardous substances onto the land or into the waters of this State shall first make application for and secure the permit requried by G.S. 143-215.1. Application shall be made pursuant to the rules and regulations adopted by the Environmental Management Commission. Any permit granted pursuant to this subsection may contain such terms and conditions as the Environmental Management Commission shall deem necessary and appropriate to conserve and protect the land or waters of this State and the public interest therein. (1973, c. 534, s. 1; c. 1262, s. 23.)

§ 143-215.84. Removal of prohibited discharges. — (a) Person Discharging. — Any person having control over oil or other hazardous substances discharged in violation of this Article shall immediately undertake to collect and remove the discharge and to restore the area affected by the discharge as nearly as may be to the condition existing prior to the discharge. If it is not feasible to collect and remove the discharge, the person responsible shall take all practicable actions to contain, treat and disperse the discharge; but no chemicals or other dispersants or treatment materials which will be detrimental to the environment or natural resources shall be used for such purposes unless they shall have been previously approved by the Environmental Management Commission.

(b) Removal by Department. — Notwithstanding the requirements of subsection (a) of this section, the Department is authorized and empowered to utilize any staff, equipment and materials under its control or supplied by other cooperating State or local agencies and to contract with any agent or contractor that it deems appropriate to take such acti as are necessary to collect, investigate, perform surveillance over, remove, contain, tre or disperse oil or other hazardous substances discharged onto the land or into the waters of the State and to perform any necessary restoration. The Secretary shall keep a record

of all expenses incurred in carrying out any project or activity authorized under this section, including actual expenses incurred for services performed by the State's personnel and for use of the State's equipment and material. The authority granted by this subsection shall be limited to projects and activities that are designed to protect the public interest or public property and shall be compatible with the National Contingency Plan established pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. section 1251 et seq.

(c) The Secretary of the Department of Transportation is authorized and empowered, after consultation with the Secretary of Natural Resources and Community Development, to purchase and equip a sufficient number of trucks designed to carry out the provisions of subsection (b). These trucks shall be maintained by the Department of Transportation and shall be strategically located at various locations throughout the State so as to furnish a ready response when word of an oil or other hazardous substances discharge has been received. The Secretary of the Department of Natural Resources and Community Development or his designee will, after consultation, decide where the trucks are to be located.

(d) The Secretary of the Department of Transportation and the Secretary of the Department of Natural Resources and Community Development or their designees shall prepare rules and regulations and develop procedures for the placement of these trucks and shall determine the manner and way in which they are to be used. The Secretary of the Department of Natural Resources and Community Development shall reimburse the Department of Transportation for expenses incurred by the Department of Transportation during cleanups as provided in G.S. 143-215.88. (1973, c. 534, s. 1; c. 1262, s. 23; 1975, c. 885; 1977, c. 771, s. 4.)

§ 143-215.85. Required notice. — Every person owning or having control over oil or other hazardous substances discharged in any circumstances other than pursuant to existing regulation of the Environmental Management Commission or the U.S. Environmental Protection Agency or pursuant to a permit required by G.S. 143-215.1 or the Federal Water Pollution Control Act, upon notice that such discharge has occurred, shall immediately notify the Department, or any of its agents or employees, of the nature, location and time of the discharge and of the measures which are being taken or are proposed to be taken to contain and remove the discharge. The agent or employee of the Department receiving the notification shall immediately notify the Secretary of Natural Resources and Community Development or such member or members of the permanent staff of the Department as the Secretary may designate. If the discharged substance of which the Department is notified is a pesticide regulated by the North Carolina Pesticide Board, the Department shall immediately inform the Secretary of the Pesticide Board. Removal operations under this Article of substances identified as pesticides defined in G.S. 143-60 shall be coordinated in accordance with the Pesticide Emergency Plan adopted by the North Carolina Pesticide Board; provided that, in instances where entry of such hazardous substances into waters of the State is imminent, the Department may take such actions as are necessary to physically contain or divert such substance so as to prevent entry into the surface waters. (1973, c. 534, s. 1; c. 1262, s. 23; 1977, c. 771, s. 4; c. 858, s. 1.)

§ 143-215.86. Other State agencies and State-designated local agencies. — (a) Cooperative Effort. — The Board of Transportation, the North Carolina Wildlife Resources Commission, and any other agency of this State and any local agency designated by the State shall cooperate with and lend assistance to the Environmental Management Commission by assigning to the Environmental Management Commission upon its request personnel, equipment and material to be utilized in any project of activity related to the containment, collection, dispersal or removal of oil or other hazardous substances discharged upon the land or into the waters of this State.

(b) Planning. — Subsequent to May 16, 1973, and prior to September 1, 1973, designated representatives of the Environmental Management Commission, the Board of Transportation, and the Wildlife Resources Commission and any other agency or agencies of the State which the Environmental Management Commission shall deem necessary and appropriate, shall confer and establish plans and procedures for the assignment and utilization of personnel, equipment and material to be used in carrying out the purposes of this Part. Every State agency involved is authorized to adopt such rules and regulations as shall be necessary to effectuate the purposes of this section.

(c) Accounts. — Every State agency or other State-designated local agency participating in the containment, collection, dispersal or removal of an oil or other hazardous substances discharge or in restoration necessitated by such discharge, shall keep a record of all expenses incurred in carrying out any such project or activity including the actual services performed by the agency's personnel and the use of the agency's equipment and material. A copy of all records shall be delivered to the Environmental Management Commission upon completion of the project or activity. (1973, c. 507, s. 5; c. 534, s. 1; c. 1262, s. 23.)

§ 143-215.87. Oil or Other Hazardous Substances Pollution Protection Fund. — There is hereby established under the control and direction of the Department an Oil or Other Hazardous Substances Pollution Protection Fund which shall be a nonlapsing, revolving fund consisting of any moneys appropriated for such purpose by the General Assembly or that shall be available to it from any other source. The moneys shall be used to defray the expenses of any project or program for the containment, collection, dispersal or removal of oil or other hazardous substances discharged to the land or waters of this State or for restoration necessitated by the discharge. In addition to any moneys that shall be appropriated or otherwise made available to it, the fund shall be maintained by fees, charges, penalties or other moneys paid to or recovered by or on behalf of the Department under the provisions of this Part. Any moneys paid to or recovered by or on behalf of the Department as fees, charges, penalties or other payments as damages authorized by this Part shall be paid to the Oil or Other Hazardous Substances Pollution Protection Fund in an amount equal to the sums expended from the fund for the project or activity. Within the meaning of this section, the word "penalties" means civil penalties and does not include criminal fines or penalties. (1973, c. 534, s. 1; c. 1262, s. 23.)

§ 143-215.88. Payment to State agencies or State-designated local agencies. — Upon completion of any oil or other hazardous substances removal or restoration project or activity conducted pursuant to the provisions of this Part, each agency of the State or any State-designated local agency that has participated by furnishing personnel, equipment or material shall deliver to the Department a record of the expenses incurred by the agency. The amount of incurred expenses shall be disbursed by the Secretary to each such agency from the Oil or Other Hazardous Substances Pollution Protection Fund. Upon completion of any oil or other hazardous substances removal or restoration project or activity, the Secretary shall prepare a statement of all expenses and costs of the project or activity expended by the State and shall make demand for payment upon the person having control over the oil or other hazardous substances discharged to the land or waters of the State unless the Environmental Management Commission shall determine that the discharge occurred due to any of the reasons stated in G.S. 143-215.83(b). Any person having control of oil or other hazardous substances discharged to the land or waters of the State in violation of the provisions of this Part and any other person causing or contributing to the discharge of oil or other hazardous substances shall be directly liable to the State for the necessary expenses of oil cleanup projects and activities arising from such discharge and the State shall have a cause of action to recover from any or all such persons. If the person having control over the oil or other hazardous substances discharged shall fail or refuse to pay the sum expended by the State, the Secretary shall refer the matter to the Attorney General of North Carolina, who shall institute an action in the name of the State in the Superior Court of Wake County, or in his discretion, in the superior court of the county in which the discharge occurred, to recover such cost and expenses. (1973, c. 534, s. 1; c. 1262, s. 23; 1977, c 858, s. 2.)

§ 143-215.89. Multiple liability for necessary expenses. — Any person liable for costs of cleanup of oil or other hazardous substances under this Part shall have a cause of action to recover such costs in part or in whole from any other person causing or contributing to the discharge of oil or other hazardous substances into the waters of the State, including any amount recoverable by the State as necessary expenses. The total recovery by the State for damage to public resources pursuant to G.S. 143-215.91 and for the cost of oil or other hazardous substances cleanup, arising from any discharge, shall not exceed the applicable limits prescribed by federal law with respect to the United States government on account of any such discharge. (1973, c. 534, s. 1.)

§ 143.215.90. Liability for damage to public resources. — (a) Any person who discharges oil or other hazardous substances in violation of this Article or violates any order, rule or regulation of the Environmental Management Commission adopted pursuant to this Article, or fails to perform any duty imposed by this Article, or violates an order or other determination of the Environmental Management Commission made pursuant to the provisions of this Article, including the provisions of a discharge permit issued pursuant to G.S. 143-215.1, and in the course thereof causes the death of, or injury to fish, animals, vegetation or other resources of the State or otherwise causes a reduction in the quality of the waters of the State below the standards set by the Environmental Management Commission, shall be liable to pay the State damages. Such damages shall be an amount equal to the cost of all reasonable and necessary investigations made or caused to be made by the Environmental Management Commission in connection with such violation and the sum of money necessary to restock such waters, replenish such resources, or otherwise restore the rivers, streams, bays, tidal flats, beaches, estuaries or coastal waters and public lands adjoining the seacoast to their condition prior to the injury as such condition is determined by the Environmental Management Commission in conference with the Wildlife Resources Commission, and any other State agencies having an interest affected by such violation (or by the designees of any such boards, commissions, and agencies.

(b) Upon receipt of the estimate of damages caused, the Department shall give written notice by registered or certified mail to the person responsible for the death, killing, or injury to fish, animals, vegetation, or other resources of the State, or any reduction in quality of the waters of the State, describing the damages and their causes with reasonable specificity, and shall request payment from such person. Damages shall become due and payable upon receipt of such notice. Upon written application to the Department within 30 days of receipt of notice, the person assessed damages may request an administrative hearing pursuant to G.S. 143-215.4. On such hearing, the estimate of the replacement cost of fish or animals or vegetation destroyed, and the estimate of costs or replacing or restoring other resources of the State, and the estimate of the cost of restoring the quality of waters of the State shall be prima facie evidence of the actual replacement cost of fish, animals, vegetation or other resources of the State, and of the actual cost of restoring the quality of the waters of the State; provided, that such evidence is rebuttable. In arriving at such estimate, any reasonably accurate method may be used and it shall not be necessary for any agent of the Department or Wildlife Resources Commission to collect, handle, or weigh numerous specimens of dead or injured fish, animals vegetation or other resources of the State, or to calculate the costs of restoring the quality of the waters using any technology other than that which is existing and practicable as found to be such by the Secretary. Provided, that the Department may effect such mitigation of the amount of damages as the commission may deem proper and reasonable. Appeal from final determination of the commission or its agents pursuant to such a hearing shall be pursuant to G.S. 143-215.5. If the damages are not paid to the Department within 30 days of receipt of notice, or if the amount of damages provided in an order issued subsequent to an application to the Department is not paid within 30 days of the issuance thereof, the Attorney General, upon request of the Department, shall bring an action to recover such damages in the name of the State, in the Superior Court of Wake County, or in

his discretion, in the superior court of any other county in which the damages occurred. Upon such action being brought, the scope of the court's review shall be as provided in G.S. 150A-51. Any money recovered by the Attorney General or by payment of damages by the person charged therewith by the Department shall be transferred by the Environmental Management Commission to appropriate funds administered by the State agencies affected by the violation for use in such activities as food fish or shellfish management programs, wildlife and waterfowl management programs, water quality improvements and such other uses as may best mitigate the damage incurred as a result of the violation. No action shall be authorized under the provisions of this section against any person operating in compliance with the conditions of a waste discharge permit issued pursuant to G.S. 143-215.1 and the provisions of this Part.

(c) For the purpose of carrying out its duties under this Article, the Environmental Management Commission shall have the power to direct the investigation of any death, killing, or injury to fish, animals, vegetation or other resources of the State, or any reduction in quality of the waters of the State, which in the opinion of the Environmental Management Commission is of sufficient magnitude to justify investigation.

§ 143-215.91. Penalties. — (a) Civil Penalties. — Any person who intentionally or negligently discharges oil or other hazardous substances, or knowingly causes or permits the discharge of oil in violation of this Part or fails to report a discharge as required by G.S. 143-215.85, shall incur, in addition to any other penalty provided by law, a penalty in an amount not to exceed five thousand dollars ($5,000) for every such violation, the amount to be determined by the Environmental Management Commission after taking into consideration the gravity of the violation, the previous record of the violator in complying or failing to comply with the provisions of this Part as well as G.S. 143-215.1, the amount expended by the violator in complying with the provisions of G.S. 143-215.84, the estimated damages attributed to the violator under G.S. 143-215.90, and such other considerations as the Environmental Management Commission deems appropriate. Every act or omission which causes, aids or abets a violation of this section shall be considered a violation under the provisions of this section and subject to the penalty herein provided. The penalty herein provided for shall become due and payable when the person incurring the penalty receives a notice in writing from the Environmental Management Commission describing the violation with reasonable particularity and advising such person that the penalty is due. The Environmental Management Commission may, upon written application therefor, received within 15 days, and when deemed in the best interest of the State in carrying out the purposes of this Article, remit or mitigate any penalty provided for in this section or discontinue any action to recover the penalty upon such terms as it, in its discretion, shall deem proper, and shall have the authority to ascertain facts upon all such application in such manner and under such regulations as the Environmental Management Commission may adopt. If the amount of such penalty is not paid to the Department within 15 days after receipt of notice, or if an application for remission or mitigation has not been made within 15 days as herein provided, and the amount provided in the order issued by the Environmental Management Commission subsequent to such application is not paid within 15 days of receipt thereof, the Attorney General, upon request of the Environmental Management Commission, shall bring an action in the name of the State in the Superior Court of Wake County or of any other county wherein such violator does business, to recover the amount specified in the final order of the Environmental Management Commission. In any such action, the amount of the penalty shall be subject to review by the court. In all such actions and procedures and rules of evidence shall be the same as in an ordinary civil action except as otherwise in this Article provided. Notification received pursuant to this subsection or information obtained by the exploitation of such notification shall not be used against any person in any criminal case, except as prosecution for perjury or for giving false statement.

(b) Criminal Penalties. — Any person who intentionally or knowingly or willfully discharges or causes or permits the discharge of oil or other hazardous substances in violation of this Part shall be guilty of a misdemeanor punishable by imprisonment not to exceed six months or by fine to be not more than ten thousand dollars ($10,000), or by both, in the discretion of the court. No proceeding shall be brought or continued under this subsection for or on account of a violation by any person who has previously been convicted of a federal violation or a local ordinance violation based upon the same set of facts. (1973, c. 534, s. 1; c. 1262, s. 23.)

(c) The civil and criminal penalties provided by this section (except the civil penalty for failure to report) shall not apply to the discharge of a pesticide regulated by the North Carolina Pesticide Board, if such discharge would constitute a violation of the North Carolina Pesticide Law and if such discharge has not entered the surface waters of the State.

§ 143-215.92. Lien on vessel. — Any vessel (other than one owned or operated by the State of North Carolina or its political subdivisions or the United States government) from which oil or other hazardous substances is discharged in violation of this Part or any regulation prescribed pursuant thereto, shall be liable for the pecuniary penalty and costs of oil and other hazardous substances removal specified in this Part and such penalty and costs shall constitute a lien on such vessel; provided, however, that said lien shall not attach if a surety bond is posted with the Environmental Management Commission in an amount and with sureties acceptable to the Environmental Management Commission, or a cash deposit is made with the Environmental Management Commission in an amount acceptable to the Environmental Management Commission. Provided further, that such lien shall not have priority over any existing perfected lien or security interest. The Environmental Management Commission may adopt regulations providing for such conditions, limitations, and requirements concerning the bond or deposit prescribed by this section as the Environmental Management Commission deems necessary. (1973, c. 534, s. 1; c. 1262, s. 2

§ 143-215.93. Liability for damage caused. — Any person having control over oil or other hazardous substances which enters the waters of the State in violation of this Part shall be strictly liable, without regard to fault, for damages to persons or property, public or private, caused by such entry, subject to the exceptions enumerated in G.S. 143-215.83(b). (1973, c. 534, s.1.)

§ 143-215.94. Joint and several liability. — In order to provide maximum protection for the public interest, any actions brought pursuant to G.S. 143-215.88 through 143-215.91(a), 143-215.93 or any other section of this Article, for recovery of cleanup costs or for civil penalties or for damages, may be brought against any one or more of the persons having control over the oil or other hazardous substances or causing or contributing to the discharge of oil or other hazardous substances. All said persons shall be jointly and severally liable, but ultimate liability as between the parties may be determined by common-law principles. (1973, c. 534, s. 1; 1977, c. 858, s. 3.)

E

APPENDIX E

Actions taken to comply with EPA Rules 40 CFR §280.61 through §280.65.

1. 40 CFR §280.61, Initial Response

   - With reference to paragraph (b), the supply lines have been upgraded to fiberglass piping and leak detection has been installed. The USTs have been internally inspected and found to be sound. We therefore, believe no further release of regulated substance into the environment will occur.

   - With reference to paragraph (c), fire, explosion, and vapor hazardous are unlikely because of the low concentrations of contamination and because most of the contaminated soil has been removed. Vapor detection monitor wells are in place and will be checked on a regular basis for the presence of hydrocarbon vapors.

2. 40 CFR §280.62, Initial Abatement Measure and Site Check

   - With reference to item (a)(1), the old supply lines have been drained and capped. New fiberglass lines with leak detection have been installed.

   - With reference to item (a)(2), the old lines have been replaced, most of the contaminated soil has been removed and vapor wells are being monitored on a regular basis.

   - With reference to item (a)(3), there is no evidence of free product or explosive vapors in any of the structures on site.

   - With reference to item (a)(4), most of the contaminated soil has been removed and is stockpiled on site. It has been sampled and will be transported to a proper disposal site.

   - With reference to item (a)(5), soil samples were taken from eight locations on the site, below the pump islands and at the corners of the UST pit. Sample results indicate the contamination has not migrated into the underlying residuum.

   - With reference to item (a)(6), there is no evidence for the presence of free product.

   - With reference to item (b), unless otherwise directed by the NCDEM, this report should fulfill the reporting requirements set forth in paragraph (b).

3. 40 CFR §280.63, .64, and .65

- Unless otherwise directed by the NCDEM we feel the attached report has satisfied all the necessary reporting requirements set forth in 40 CFR §280. We do not feel any further reports are necessary.

State of North Carolina
Department of Natural Resources and Community Development
Winston-Salem Regional Office

James G. Martin, Governor

William W. Cobey, Jr., Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

November 21, 1989

NC-10

Howard Smith, Engineering Department
Crown Central Petroleum
1 North Charles Street
Baltimore, Maryland 21201

SUBJECT: Notification of Federal Release Response Requirements for Owners and Operators of Underground Storage Tank Systems Containing Petroleum or Hazardous Substances, 2300 Randleman Road, Greensboro, Guilford County

Dear Mr. Smith:

The North Carolina Department of Environment, Health, and Natural Resources (DEHNR), Division of Environmental Management (Division) is the implementing agency of the Federal Underground Storage Tank Program for the State of North Carolina under the authority of 42 U.S.C. 6991, et seq. The applicable federal rules are found at Part 280 of Title 40 of the Code of Federal Regulations (CFR).

On November 13, 1989, this office received confirmation of a release from an underground storage tank (UST) system at 2300 Randleman Road, Greensboro, Guilford County. This confirmation was in the form of a telephone call from Mr. Jim Woody from Crown Central Petroleum, Raleigh, N.C. office.

Our records show that you are the owner of the subject UST system. Owners and operators of petroleum or hazardous substance underground storage tank systems, in response to a confirmed release, must comply with the attached federal regulations. The following will give you some explanation of the requirements.

1. 40 CFR 280.61, Initial Response. You have already complied with paragraph (a); however, you must take the required actions in paragraphs (b) and (c).

8025 North Point Boulevard, Suite 100, Winston-Salem, N.C. 27106-3295 • Telephone 919-761-2351

2. 40 CFR 280.62 Initial Abatement Measure and Site Check. The Division is requiring you to take all six measures set out in 40 CFR 280.62(a). The report required in 40 CFR 280.62 is due on December 11, 1989.

3. 40 CFR 280.63, Initial Site Characterization. The Division is requiring you to submit a report including all the information described in 40 CFR 280.63(a). The report is due on January 4, 1990.

4. 40 CFR 280.64, Free Product Removal. If you detect the presence of free product, you must comply with this regulation. You must remove free product to the maximum extent practicable as determined by the Division. If free product is present, the Division will require you to submit a report in accordance with 40 CFR 280.64(d) which is due on January 4, 1990.

5. 40 CFR 280.65, Investigation for Soil and Groundwater Cleanup. The Division requests under 40 CFR 280.65(a)(4), that an investigation for soil and groundwater cleanup is necessary. This investigation should determine the full vertical and horizontal extent of contamination and should be submitted in a technical and field data report by March 20, 1990.

If you fail to comply with any of the above requirements, this matter may be referred to the U.S. Environmental Protection Agency who may assess civil penalties of up to $10,000.00 for each tank for each day of violation under authority of 42 U.S.C. 6991e(d).

You should also be advised that at any point after reviewing the information submitted in compliance with 40 CFR 280.61 through 40 CFR 280.65 the Division may require you to submit additional information or to develop a corrective action plan for responding to contaminated soils and groundwater, under the authority of 40 CFR 280.66. You will be notified of the decision in a separate letter.

If you have any questions, please contact Larry K. Lucas, or me at the letterhead address or telephone number.

Sincerely,

Larry D. Coble

Larry D. Coble
Regional Supervisor

LDC/ahl
Enclosure
cc: Incident Management Unit
WSRO
Jim Woody - Crown Central Petroleum

(c) Identify and mitigate fire, explosion, and vapor hazards.

§ 280.62 Initial abatement measures and site check.

(a) Unless directed to do otherwise by the implementing agency, owners and operators must perform the following abatement measures:

(1) Remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment;

(2) Visually inspect any aboveground releases or exposed belowground releases and prevent further migration of the released substance into surrounding soils and ground water;

(3) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements);

(4) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator must comply with applicable State and local requirements;

(5) Measure for the presence of a release where contamination is most likely to be present at the UST site, unless the presence and source of the release have been confirmed in accordance with the site check required by § 280.52(b) or the closure site assessment of § 280.72(a). In selecting sample types, sample locations, and measurement methods, the owner and operator must consider the nature of the stored substance, the type of backfill, depth to ground water and other factors as appropriate for identifying the presence and source of the release; and

(6) Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with § 280.64.

(b) Within 20 days after release confirmation, or within another reasonable period of time determined by the implementing agency, owners and operators must submit a report to the implementing agency summarizing the initial abatement steps taken under paragraph (a) of this section and any resulting information or data.

§ 280.63 Initial site characterization.

(a) Unless directed to do otherwise by the implementing agency, owners and operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in § 280.60 and § 280.61. This information must include, but is not necessarily limited to the following:

(1) Data on the nature and estimated quantity of release;

(2) Data from available sources and/or site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;

(3) Results of the site check required under § 280.62(a)(5); and

(4) Results of the free product investigations required under § 280.62(a)(6), to be used by owners and operators to determine whether free product must be recovered under § 280.64.

(b) Within 45 days of release confirmation or another reasonable period of time determined by the implementing agency, owners and operators must submit the information collected in compliance with paragraph (a) of this section to the implementing agency in a manner that demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the implementing agency.

§ 280.64 Free product removal.

At sites where investigations under § 280.62(a)(6) indicate the presence of free product, owners and operators must remove free product to the maximum extent practicable as determined by the implementing agency while continuing, as necessary, any actions initiated under §§ 280.61 through 280.63, or preparing for actions required under §§ 280.65 through 280.66. In meeting the requirements of this section, owners and operators must:

(a) Conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, State and Federal regulations;

(b) Use abatement of free product migration as a minimum objective for the design of the free product removal system;

(c) Handle any flammable products in a safe and competent manner to prevent fires or explosions; and

(d) Unless directed to do otherwise by the implementing agency, prepare and submit to the implementing agency, within 45 days after confirming a release, a free product removal report that provides at least the following information:

(1) The name of the person(s) responsible for implementing the free product removal measures;

(2) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;

(3) The type of free product recovery system used;

(4) Whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located;

(5) The type of treatment applied to, and the effluent quality expected from, any discharge;

(6) The steps that have been or are being taken to obtain necessary permits for any discharge; and

(7) The disposition of the recovered free product.

§ 280.65 Investigations for soil and ground-water cleanup.

(a) In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the ground water, owners and operators must conduct investigations of the release, the release site, and the surrounding area possibly affected by the release if any of the following conditions exist:

(1) There is evidence that ground-water wells have been affected by the release (e.g., as found during release confirmation or previous corrective action measures);

(2) Free product is found to need recovery in compliance with § 280.64;

(3) There is evidence that contaminated soils may be in contact with ground water (e.g., as found during conduct of the initial response measures or investigations required under §§ 280.60 through 280.64); and

(4) The implementing agency requests an investigation, based on the potential effects of contaminated soil or ground water on nearby surface water and ground-water resources.

(b) Owners and operators must submit the information collected under paragraph (a) of this section as soon as practicable or in accordance with a schedule established by the implementing agency.