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REPORT OF RESPONSE ACTION AND INVESTIGATION RELATED TO AN ACCIDENTIAL RELEASE OF DIESEL (#2) FUEL AT MIDWAY PARK 7-DAY CONVENIENCE STORE JACKSONVILLE, NC

PREPARED FOR

MR. SAM BLIZZARD OF

BLIZZARD CONSTRUCTION COMPANY, INC.

BEULAVILLE, NC

MARCH 19, 1993

CES PROJECT #93114

- Make 2 copies
- mail to:
  1. Charlie Stehman
  2. Dave Holsinger (or Bruce Reed)

CLARK ENVIRONMENTAL SERVICES, INC.

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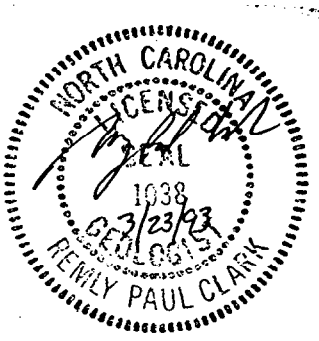

PREPARED BY:

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POST OFFICE BOX 10136
WILMINGTON, NORTH CAROLINA 28405
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RELATED TO AN ACCIDENTAL

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AT

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1.0 PURPOSE/AUTHORIZATION:

The purpose of this investigation and report was to determine and document the emergency response actions and the effect of such actions taken to mitigate the spread of diesel fuel resulting from an accidental release at the subject location. Mr. Sam Blizzard of Blizzard Construction Company (BCC) authorized the collection of data and preparation of this report.

2.0 LOCATION AND BACKGROUND:

This site is located on NC Hwy 24, approximately 1/4 mile south of the Camp LeJeune main gate (Figure 1). Historically, it has been utilized for exchange operations, including fuel storage and dispensing. Recently, a new convenience store was constructed by BCC and the former exchange has been abandoned.

Figure 2 is a scaled map developed from a survey of the site. The map illustrates the relative locations of buildings and other development, and includes the layout of fuel storage and dispensing facilities. Of particular interest is the location of the underground storage tank area and the associated piping route.

These tanks and lines were recently installed by Halls Petroleum & Equipment Company (HPE) under subcontract with BCC. The new tanks were installed in a former underground storage tank farm area. Above ground petroleum storage tanks shown on Figure 2 are also currently in use.

The new underground tanks and fiberglass product lines installed by HPE are routed to dispensers located in front of the store. A submerged pump system delivers the fuel to the dispensers. Braswell Equipment Company (BEC) supplied the dispensers and completed the hook-up to the product lines.

Subsequent to the completion of the fuel line systems, construction activities near the dispenser island apparently broke a diesel product line. A backhoe bucket is believed to have accidentally broken the pipe adjacent to the dispenser.

After dispenser installation, BEC personnel were testing the system prior to the store's opening. The diesel system was apparently activated for approximately ten minutes before the BEC technician realized that something was wrong. An estimated total of 240 gallons were released below the concrete slab before the system was shut down. The automatic tank gauging system and follow-up manual stick reading generally concurred with the estimated volume released.

3.0 EMERGENCY RESPONSE:

Base officials were immediately notified of the problem and actions were taken to recover the product as quickly as was possible. Recovery operations included excavation along the product lines, the utilization of a vacuum recovery unit, pumps and sorbents. Excavated contaminated soils were staged in a bermed, plastic-lined storage area (Figure 2). Clark Environmental Services, Inc. (CES) was contracted to provide professional consulting services relative to the recovery process.

4.0 HYDROGEOLOGICAL SETTING:

The site is situated in the Coastal Plain Physiographic Province, approximately 35 feet above mean sea level (according to the 7.5 minute quadrangle for the area). Shallow Coastal Plain sediments include sands, silts, and clays of primarily marine origin. In the shallow subsurface (0-2') at this site, a silty clay was encountered. The water table (surficial aquifer) occurs at approximately two feet below the surface.

5.0 RECOVERY/RESTORATION PROCEDURES:

Subsurface materials encountered in the shallow borings were silty clays and the backfill around the product lines was highly permeable gravel. The static water table was approximately two feet below the surface and the leaked fuel appeared to be migrating predominantly along the product line trenching back toward the tanks.

Based upon this scenario, the following strategy was implemented to remove the spilled product and mitigate the situation so that the store could open as soon as possible:

5.1 Excavate from the source area back toward the tank along the piping route.

5.2 Remove any adjacent contaminated soils.

5.3 Remove floating product and visibly contaminated groundwater from the trenches using pumps and vacuum equipment.

5.4 Properly dispose of water/product.

5.5 Properly stage/dispose of excavated soils and gravel.

5.6 Implement sampling program to verify the extent of contamination and the success of recovery operations.

5.7 Repair and test fuel systems.

5.8 Restore the site's facilities so that retail operations can begin.

A total of 33 yd^3 of soils were reportedly removed and stockpiled. BCC is working with the North Carolina Division of Environmental Management (NC-DEM) to properly and permanently dispose of the contaminated soils. Using this volume of soils, and assuming one percent product saturation by volume, an estimated 66 gallons of product was retained in the soils. An estimated 862 gallons of contaminated water and 168 gallons of free phase product were recovered as liquids. HPE is handling the disposal of the waste liquids through a permitted facility.

Calculations shown in Appendix III combine the total estimated recovered quantity of product and suggest that approximately 235 gallons were removed through the recovery procedures.

6.0 SAMPLING METHODOLOGY/RESULTS:

Figure 2 depicts the location of the excavated area where recovery was undertaken and the locations of soil and water sampling points.

6.1 Soils:

Ten soil samples were retrieved at the capillary fringe area (where impacts would most likely be detected). Samples were taken in accordance with methods described in Appendix I. Soils were analyzed per EPA Method 3550 (Total Petroleum Hydrocarbons). All analyses (Appendix II) found concentrations below detection limits.

6.2 Water:

Surficial groundwater samples were obtained at locations shown on Figure 2 (B-2, B-11, EX). Samples were prepared and shipped to an analytical laboratory according to methods described in Appendix I. Each was analyzed per EPA Method 602 and Method 610 plus 10 most prominent non-targeted peaks. All analyses (Appendix II) found concentrations below detection limits.

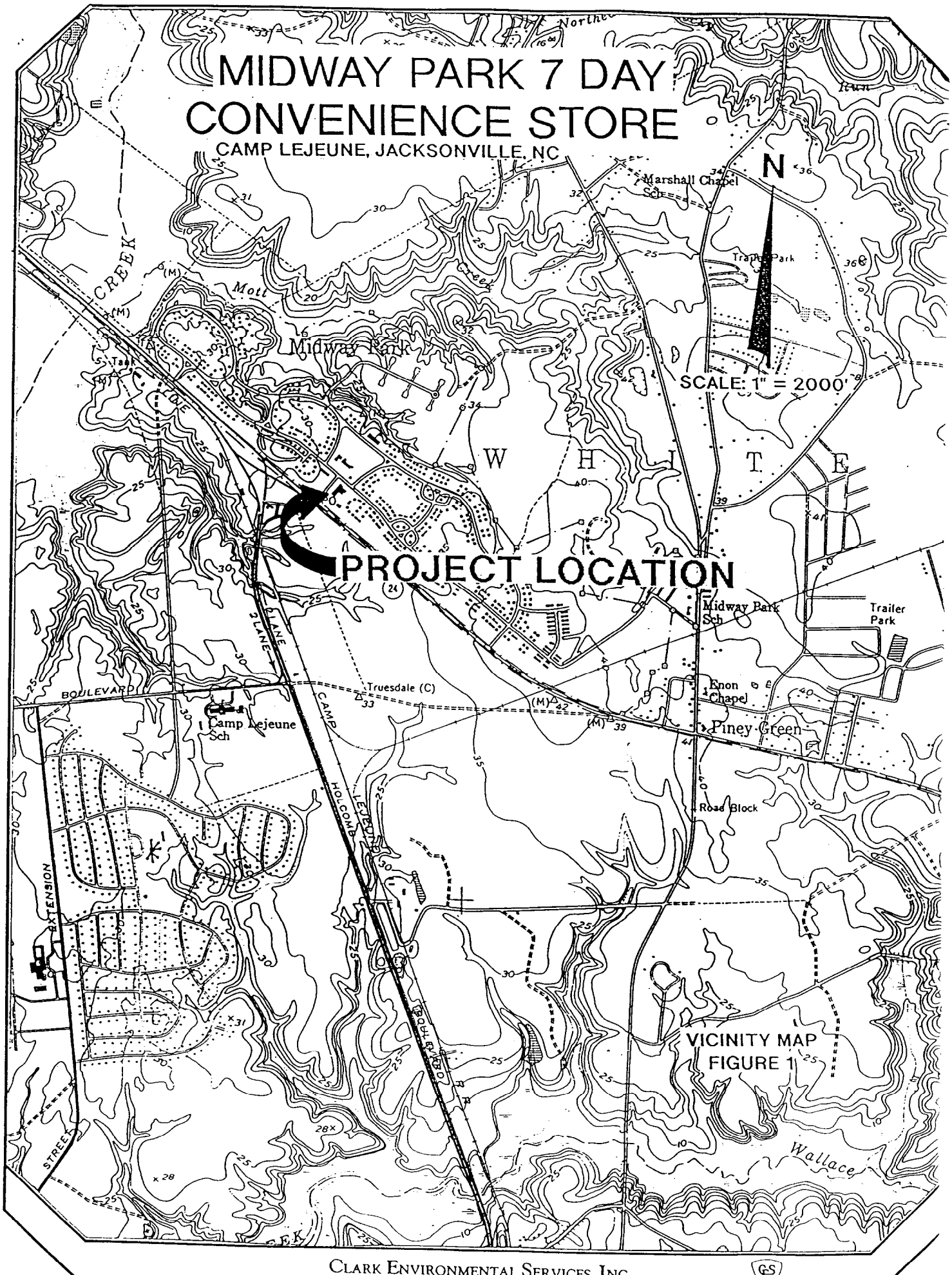
7.0 CONCLUSIONS:

Because of expeditious action on the part of BCC, it is estimated that 98% of the spilled product was removed (see assumptions, data in Appendix III). Analyses results suggest that the release was confined to the excavated area at the time of sampling, and that any lingering impacts to groundwater are probably minor. A comprehensive evaluation of any groundwater impacts was not conducted.

8.0 LIMITATIONS:

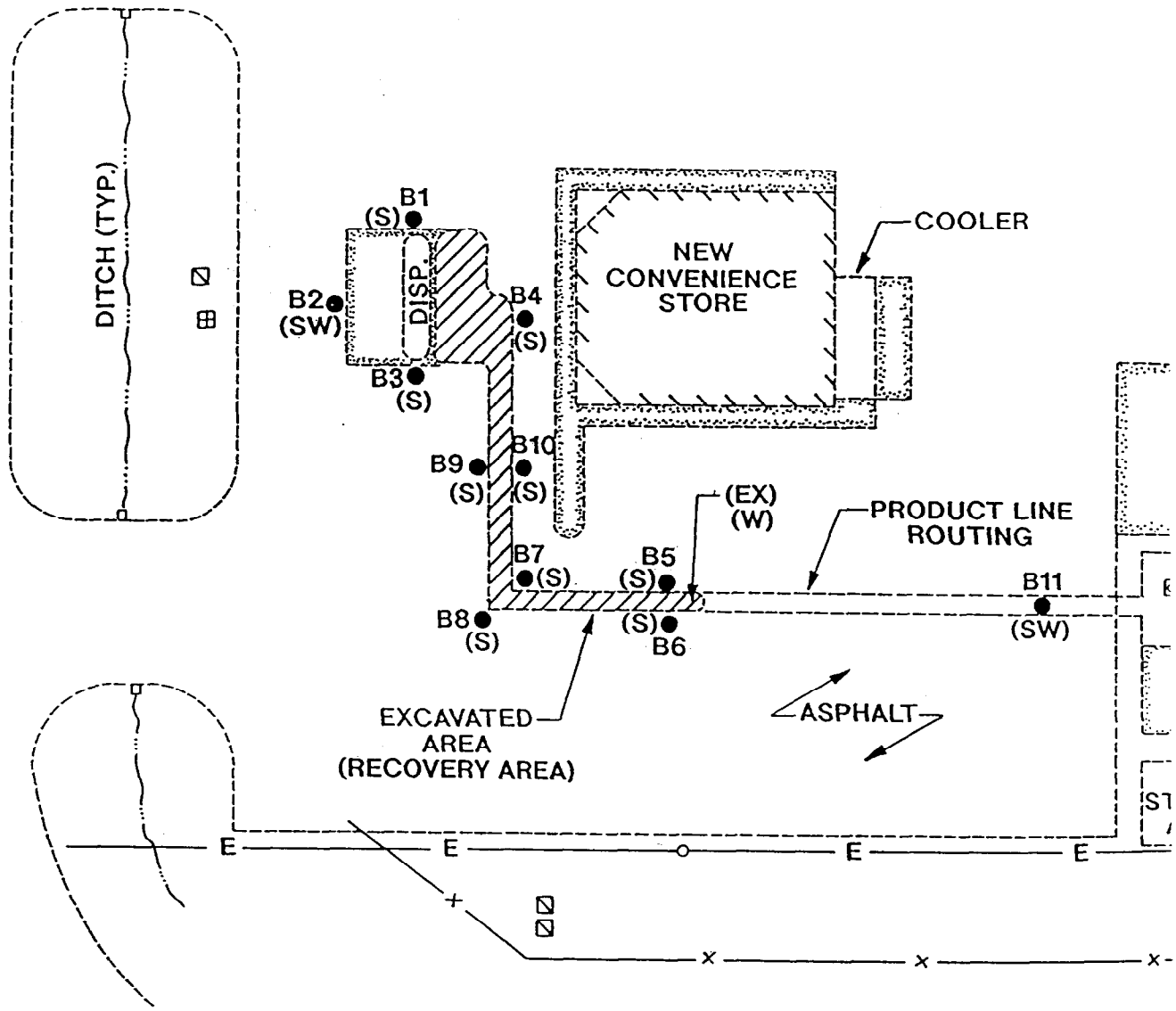
Information obtained and presented as part of this investigation is based on available data in an effort to understand and/or correct an existing problem. The validity of any resulting conclusions is limited by methodological constraints and by the lack of a statistically significant number of data points. Therefore, there is no warranty, expressed or implied, that additional or new information and/or additional measures will not be required to ultimately solve the problem. Additionally, Clark Environmental Services, Inc. (CES) assumes no responsibility for the validity of subjective or interpolated interpretations, whether or not implied or indicated although an attempt is made to qualify such areas.

FIGURES


MIDWAY PARK 7 DAY CONVENIENCE STORE
CAMP LEJEUNE, JACKSONVILLE, NC
N
SCALE: 1" = 2000'
PROJECT LOCATION
W H I T E
Midway Park
Midway Park Sch
Trailer Park
Marshall Chapel Sch
Enon Chapel
Piney Green
Road Block
Camp Lejeune Sch
Truesdale (C)
BOULEVARD
CAMP LEJEUNE
HOLCOMB BOULEVARD
EXTENSION
STREET
CREEK
Mott
Wallace
VICINITY MAP
FIGURE 1

MIDWAY PARK 7 DAY CO

CAMP LEJEUNE, JACKSONVILLE, NC



NC

CLARK ENVIRONMEI

APPENDICES

APPENDIX I

STANDARD METHODS

STANDARD METHODS FOR CONDUCTING SUBSURFACE ENVIRONMENTAL INVESTIGATIONS

STANDARD METHODS FOR CONDUCTING

SUBSURFACE ENVIRONMENTAL INVESTIGATIONS

1.0 DATA COLLECTION:

1.1 PROJECT BACKGROUND:

Historical information relevant to comprehensive subsurface investigation is generated through a wide spectrum of potential sources. Those most often utilized as credible sources include, but are not limited to, the following:

1.1.1 Correspondence and/or conversations with clients, regulatory officials and attorneys;

1.1.2 Regulatory mandates;

1.1.3 Pre-existing reports and other technical data;

1.1.4 Public records;

1.1.5 Documented eyewitness accounts;

1.1.6 Site reconnaissance.

1.2 POTENTIAL RECEPTOR SURVEYS:

Potential plume receptor data is generated on a site specific basis. The scope of information is based upon the intended level of investigation. The availability of data is dependent, to differing degrees, upon the existence and accuracy of public and private record keeping; and on property ingress and egress. Generally, an attempt is made to facilitate a reasonable determination of possible environmental impacts in the context of the investigation being conducted, and with the goal of adequate and appropriate site assessment and corrective action planning. Potential receptors are identified and surveyed/evaluated in the context of individual relevance and/or regulatory mandate or guidance.

1.3 SITE SURVEYS:

Physical surveys are utilized in the development of a horizontal and vertical project database. The data is often used to construct maps, to assist in making hydrogeologic determinations, and to aid in corrective action planning.

1.3.1 Horizontal Control:

Horizontal survey data is compiled using a possible combination of methods. Usually standard field and computational methods are employed. However, existing survey maps and/or photogrammetric techniques may be utilized, or a combination of existing data and field generated information may be used.

1.3.2 Vertical Control:

Vertical survey data is utilized primarily for establishing hydrogeologic control, and for evaluating topographic characteristics when necessary. The datum plane is generally assumed, except as otherwise noted. Assumed benchmarks are generally chosen to correspond with the approximate ground level, and vertical control is generally carried to an accuracy of +/- 0.01'.

1.4 DRILLING/HAND AUGERING AND MONITORING WELL/RECOVERY WELL/PIEZOMETER INSTALLATION:

Drilling, hand augering and subsurface installations are accomplished in accordance with site specific requirements, regulatory requirements and feasibility considerations. The method employed at a specific site is tailored to the situation. Prior to any drilling or well construction activities, all necessary permits are obtained in accordance with federal, state and local requirements. All applicable licensing and bonding requirements are also fulfilled prior to beginning any work. Any boreholes purposely conducted at off-site locations are previously permitted through ingress/egress agreements with affected property owners or their agents.

1.4.1 Drilling Methods:

The following drilling methods are utilized:

1.4.1.1 Hand Augering:

Hand augering is commonly employed where economically, scientifically and/or situationally feasible. Hand augers typically produce 3" to 5" holes.

1.4.1.2 Auger Drilling:

Auger drilling is most often utilized in subsurface investigations. A truck or trailer mounted rig is usually employed and continuous five foot auger flights of varying configurations are used to produce the borehole. Sampling is often accomplished through hollow-stem type augers. Auger selection is based on site specific requirements.

1.4.1.3 Rotary Drilling:

Air or mud rotary drilling may be utilized for special applications where necessary or appropriate. Rotary drilling is usually preferred and often utilized for telescoping well installations.

1.4.1.4 Other Drilling Methods:

Other methods such as coring, cable tool, truck mounted bucket augering, hammer drilling, and reverse rotary are not commonly utilized except under special circumstances.

1.4.2 Decontamination:

Drilling tools are thoroughly cleaned between boreholes to prevent cross-contamination. Depending upon site specific circumstances, cleaning methods may include steam cleaning, detergent wash, nitric acid rinsing and deionized water or analyte free water rinsing.

1.4.3 Soil Sample Collection/Borehole Monitoring:

Typically, soil samples are retrieved using a split-spoon device at five foot intervals. Cuttings and penetration rates are continuously monitored and additional samples are taken when appropriate.

1.4.4 Well Installation:

Wells/piezometers are typically constructed utilizing threaded PVC casing and screen. Glues and cements are not used. Stainless steel or

Teflon materials may also be used if site specific conditions dictate.

Filter packs are selected to be compatible with screen slot characteristics. Bentonite is utilized to seal the borehole above the filter pack and grout is used to fill the remaining annulus. Well diameter and protective covers are chosen specific to site conditions. Well construction records are prepared from field notes.

1.4.5 Well Development:

Under appropriate circumstances, wells are developed by overpumping, surging or bailing. Any contaminated development water is temporarily stored on-site for proper disposal. For large volumes of contaminated water, other site specific arrangements may be made.

1.5 HYDROGEOLOGIC DATA:

Many methods are utilized for obtaining hydrogeologic data. Those methods most commonly utilized are as generally described below:

1.5.1 Regional Framework:

Information relating to the regional geological scope are generally compiled from existing published literature; however, previous technical reports, unpublished reports and personal communications with qualified workers may also be utilized.

1.5.2 Site Characteristics:

Most site information is generated through investigations on-site, although previous work proximal to the area of investigation may also be utilized. Borehole descriptions are important for making interpretations with respect to contacts, lithostratigraphic gradations, facies changes, fractures, faults, cleavage and diagenetic porosity and permeability modifications. Geophysical methods may also be employed.

1.5.3 Groundwater Measurements:

Groundwater measurements include physical and chemical qualitative and quantitative parameters. There are many procedures for making groundwater

determinations in the field, including, but not limited to, those listed below:

1.5.3.1 Well Water Levels:

Water levels are primarily measured using pre-cleaned probes or tapes in conjunction with water and gas finding pastes. Measurements are usually made to an accuracy of +/- 0.01'. Floating products are measured and a specific gravity determination is made for each product type. A specific gravity adjustment is then used to calculate true hydraulic grade. Well measurements are combined with vertical survey data to calculate relative groundwater elevations. Transducers, bubbler lines or other methods may also be used under special circumstances to make water level measurements.

1.5.3.2 Aquifer Tests:

Various aquifer tests may be utilized to characterize aquifer parameters. These tests may include, but are not limited to, pumping tests, slug tests, recovery tests, tracer tests, specific capacity tests, laboratory permeability tests, sieve and pipette analyses and drawdown tests. Vertical gradients are usually characterized through nested well configurations. Other methods, including fracture tracing, geophysical logging and resistivity surveys, may be utilized on a site specific basis.

1.5.3.3 Chemical Data:

Chemical data may be field measured using organic analyzers, pH meters or litmus paper, specific conductance meters, thermometers or other equipment.

1.6 CONTAMINATION DATA:

1.6.1 Collection Methods:

Depending upon the nature of contamination, many methods are utilized to collect information. The following are the most commonly utilized methods; however, the list is not inclusive:

1.6.1.1 Direct thickness measurements of phase (gravity) separated components.

1.6.1.2 Laboratory analyses of free-phase products.

1.6.1.3 Specific gravity measurements of free phase products.

1.6.1.4 Field vapor or headspace analysis.

1.6.1.5 Laboratory analysis of vapor, soil and groundwater.

1.6.1.6 Visual observations.

1.6.1.7 Field analytical procedures: temperature, conductance, pH, etc.

1.6.1.8 Geophysical methods.

1.6.2 Field Sampling for Laboratory Analyses:

Field sampling methods are generally in accordance with the 1986 EPA SOP and QA Manual and State guidance documents. Rigorous cleaning procedures are adhered to and quality control blanks are utilized. Chain of custody is documented throughout the sample handling process. Generally, procedures are as follows:

1.6.2.1 Products:

Pure product samples are refrigerated and shipped to the analytical laboratory.

1.6.2.2 Soil:

Soil samples are obtained utilizing precleaned equipment, and quickly containerized. Samples are then immediately

refrigerated and shipped to the analytical laboratory.

1.6.2.3 Surface Water:

Grab samples are obtained with the sampler facing the upstream direction, if in a flowing body of water. Samples are refrigerated and shipped to the analytical laboratory.

1.6.2.4 Vapor:

Vapor samples are obtained either utilizing carbon tubes in conjunction with a calibrated pump, Tedlar bags, or by using a glass syringe. Samples are refrigerated and shipped to an analytical laboratory.

1.6.2.5 Water Supply Wells:

Water supply wells are difficult to properly purge and sample due to several factors including:

A) availability of accurate construction records

B) inaccessibility

C) attached appurtenances such as tanks, treatment systems, etc.

D) agitation from pumping

E) analyte-incompatible construction materials.

Generally, an attempt is made to obtain samples from as close to the wellhead as possible, and to completely purge the well and any attached equipment such as holding or pressure tanks. Also, prior to actual sample collection, flow is slowed to a trickle to minimize agitation. If possible, the sample is taken directly from the well using a bailer.

1.6.2.6 Monitoring Wells:

Monitoring wells are sampled according to a standard procedure, as follows:

A) A total storage volume is calculated for each well.

B) Three volumes are removed using a bailer or purging pump. If the well dries up during bailing, a minimum of one volume is removed.

C) Samples are labeled.

D) Samples are refrigerated and immediately preserved and/or containerized in accordance with protocol.

E) Sampling records are completed.

F) Chain of custody records are completed.

G) A travel blank will be utilized. It will originate at the laboratory and will remain with all samples until returning to the laboratory.

H) Samples are promptly shipped to the analytical laboratory.

2.0 DATA COMPILATION/EVALUATION:

Data is compiled and evaluated in accordance with generally accepted industry standards, summarized as follows:

2.1 BACKGROUND DATA:

Background information is utilized to develop an historical perspective relating to the identification of all potential sources or contributors.

2.2 RECEPTOR DATA:

Receptor information is evaluated with regard to the potential for past, current and future environmental impact.

2.3 SURVEY DATA:

Horizontal survey data is reduced and utilized in the development of site maps for use as a framework to provide a spacial context. Vertical survey data is utilized to provide a vertical datum for hydrogeologic and topographic characterizations.

2.4 DRILLING DATA:

Drilling information is compiled and presented in boring logs. The information is utilized for hydrogeologic characterizations.

2.5 WELL CONSTRUCTION:

Well construction information is utilized in the development of as-built well details and/or other well construction records and evaluated in terms of depths and screen settings as they relate to hydrogeologic and contaminant characteristics.

2.6 CONTAMINATION/LABORATORY ANALYSES DATA:

Laboratory and other analyses data are utilized in the development of maps, calculations, models and other constructions and are used in developing and monitoring corrective actions.

2.7 GEOLOGICAL/HYDROGEOLOGICAL DATA:

Geological and hydrogeological data are used for developing maps, calculations and other constructions as they relate to making characterizations and developing and monitoring corrective actions.

APPENDIX II

LABORATORY RESULTS

LAW & COMPANY
Consulting and Analytical Chemists
ESTABLISHED 1903

Main Office
1711 Castle Street
P.O. Box 629
Wilmington, N.C. 28402

919-762-7082 919-762-8956
FAX 919-762-8785

FILE

REPORT OF ANALYSES

CLARK ENVIRONMENTAL SERVICE
P.O. BOX 10136
WILMINGTON, NC 28405-
Attn: PAUL CLARK

PROJECT NAME: MIDWAY PARK (C STORE)
DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 1 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3375	02/15/93	1055	MICHAEL MCDONALD	02/16/93	1250
3376	02/15/93	1115	MICHAEL MCDONALD	02/16/93	1250
3377	02/15/93	1138	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: B1	B2	B3
		LAB #: 3375	3376	3377
TOTAL PETROLEUM HYDROCARBONS	ppm	<10	<10	<10
PURGEABLE AROMATICS		N.R.	N.R.	N.R.
BENZENE	ug/L	N.R.	N.R.	N.R.
ETHYLBENZENE	ug/L	N.R.	N.R.	N.R.
TOLUENE	ug/L	N.R.	N.R.	N.R.
XYLENE	ug/L	N.R.	N.R.	N.R.
METHYL TER-BUTYL ETHER	ug/L	N.R.	N.R.	N.R.
POLYNUCLEAR ARO. HYDROCARBONS		N.R.	N.R.	N.R.
ACENAPHTHENE	ug/L	N.R.	N.R.	N.R.
ACENAPHTHYLENE	ug/L	N.R.	N.R.	N.R.
ANTHRACENE	ug/L	N.R.	N.R.	N.R.
BENZO (A) ANTHRACENE	ug/L	N.R.	N.R.	N.R.
BENZO (A) PYRENE	ug/L	N.R.	N.R.	N.R.
BENZO (B) FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
BENZO (GHI) PERYLENE	ug/L	N.R.	N.R.	N.R.
BENZO (K) FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
CHRYSENE	ug/L	N.R.	N.R.	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE, METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)
< = BELOW DETECTION LIMITS.

NOTE: N. R. = ANALYSIS NOT REQUIRED

LABORATORY DIRECTOR Dolly Bridwell

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DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 2 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3378	02/15/93	1200	MICHAEL MCDONALD	02/16/93	1250
3379	02/15/93	1215	MICHAEL MCDONALD	02/16/93	1250
3380	02/15/93	1225	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: B4	B5	B6
		LAB #: 3378	3379	3380
TOTAL PETROLEUM HYDROCARBONS	ppm	<10	<10	<10
PURGEABLE AROMATICS		N.R.	N.R.	N.R.
BENZENE	ug/L	N.R.	N.R.	N.R.
ETHYLBENZENE	ug/L	N.R.	N.R.	N.R.
TOLUENE	ug/L	N.R.	N.R.	N.R.
XYLENE	ug/L	N.R.	N.R.	N.R.
METHYL TER-BUTYL ETHER	ug/L	N.R.	N.R.	N.R.
POLYNUCLEAR ARO. HYDROCARBONS		N.R.	N.R.	N.R.
ACENAPHTHENE	ug/L	N.R.	N.R.	N.R.
ACENAPHTHYLENE	ug/L	N.R.	N.R.	N.R.
ANTHRACENE	ug/L	N.R.	N.R.	N.R.
BENZO (A) ANTHRACENE	ug/L	N.R.	N.R.	N.R.
BENZO (A) PYRENE	ug/L	N.R.	N.R.	N.R.
BENZO (B) FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
BENZO (GHI) PERYLENE	ug/L	N.R.	N.R.	N.R.
BENZO (K) FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
CHRYSENE	ug/L	N.R.	N.R.	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE, METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)
< = BELOW DETECTION LIMITS.

NOTE: N. R. = ANALYSIS NOT REQUIRED

LABORATORY DIRECTOR Dolly Bridwell

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DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 3 of 12)

	SAMPLE			DELIVERY TO LAB	
LAB No.	DATE	TIME	SAMPLER	DATE	TIME
3381	02/15/93	1238	MICHAEL MCDONALD	02/16/93	1250
3382	02/15/93	1240	MICHAEL MCDONALD	02/16/93	1250
3383	02/15/93	1255	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID:	B7	B8	B9
		LAB #:	3381	3382	3383
TOTAL PETROLEUM HYDROCARBONS	ppm		<10	<10	<10
PURGEABLE AROMATICS			N.R.	N.R.	N.R.
BENZENE	ug/L		N.R.	N.R.	N.R.
ETHYLBENZENE	ug/L		N.R.	N.R.	N.R.
TOLUENE	ug/L		N.R.	N.R.	N.R.
XYLENE	ug/L		N.R.	N.R.	N.R.
METHYL TER-BUTYL ETHER	ug/L		N.R.	N.R.	N.R.
POLYNUCLEAR ARO. HYDROCARBONS			N.R.	N.R.	N.R.
ACENAPHTHENE	ug/L		N.R.	N.R.	N.R.
ACENAPHTHYLENE	ug/L		N.R.	N.R.	N.R.
ANTHRACENE	ug/L		N.R.	N.R.	N.R.
BENZO (A) ANTHRACENE	ug/L		N.R.	N.R.	N.R.
BENZO (A) PYRENE	ug/L		N.R.	N.R.	N.R.
BENZO (B) FLUORANTHENE	ug/L		N.R.	N.R.	N.R.
BENZO (GHI) PERYLENE	ug/L		N.R.	N.R.	N.R.
BENZO (K) FLUORANTHENE	ug/L		N.R.	N.R.	N.R.
CHRYSENE	ug/L		N.R.	N.R.	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE, METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)
< = BELOW DETECTION LIMITS.

NOTE: N. R. = ANALYSIS NOT REQUIRED

LABORATORY DIRECTOR Bill Bridwell

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ESTABLISHED 1903

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FAX 919-762-8785

REPORT OF ANALYSES

CLARK ENVIRONMENTAL SERVICE
P.O. BOX 10136
WILMINGTON, NC 28405-
Attn: PAUL CLARK

PROJECT NAME: MIDWAY PARK (C STORE)
DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 4 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3384	02/15/93	1305	MICHAEL MCDONALD	02/16/93	1250
3385	02/15/93	1430	MICHAEL MCDONALD	02/16/93	1250
3386	02/15/93	1610	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: B10	B11	B11
		LAB #: 3384	3385	3386
TOTAL PETROLEUM HYDROCARBONS	ppm	<10	<10	N.R.
PURGEABLE AROMATICS		N.R.	N.R.	
BENZENE	ug/L	N.R.	N.R.	<0.2
ETHYLBENZENE	ug/L	N.R.	N.R.	<0.2
TOLUENE	ug/L	N.R.	N.R.	<0.2
XYLENE	ug/L	N.R.	N.R.	<0.2
METHYL TER-BUTYL ETHER	ug/L	N.R.	N.R.	<0.2
POLYNUCLEAR ARO. HYDROCARBONS		N.R.	N.R.	N.R.
ACENAPHTHENE	ug/L	N.R.	N.R.	N.R.
ACENAPHTHYLENE	ug/L	N.R.	N.R.	N.R.
ANTHRACENE	ug/L	N.R.	N.R.	N.R.
BENZO (A) ANTHRACENE	ug/L	N.R.	N.R.	N.R.
BENZO (A) PYRENE	ug/L	N.R.	N.R.	N.R.
BENZO (B) FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
BENZO (GHI) PERYLENE	ug/L	N.R.	N.R.	N.R.
BENZO (K) FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
CHRYSENE	ug/L	N.R.	N.R.	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE, METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)
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REPORT OF ANALYSES

CLARK ENVIRONMENTAL SERVICE
P.O. BOX 10136
WILMINGTON, NC 28405-
Attn: PAUL CLARK

PROJECT NAME: MIDWAY PARK (C STORE)
DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 5 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3387	02/15/93	1610	MICHAEL MCDONALD	02/16/93	1250
3388	02/15/93	1620	MICHAEL MCDONALD	02/16/93	1250
3389	02/15/93	1620	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID:	B11	B2	B2
		LAB #:	3387	3388	3389
TOTAL PETROLEUM HYDROCARBONS	ppm		N.R.	N.R.	N.R.
PURGEABLE AROMATICS			N.R.		N.R.
BENZENE	ug/L		N.R.	<0.2	N.R.
ETHYLBENZENE	ug/L		N.R.	<0.2	N.R.
TOLUENE	ug/L		N.R.	<0.2	N.R.
XYLENE	ug/L		N.R.	<0.2	N.R.
METHYL TER-BUTYL ETHER	ug/L		N.R.	<0.2	N.R.
POLYNUCLEAR ARO. HYDROCARBONS				N.R.	
ACENAPHTHENE	ug/L		<10	N.R.	<10
ACENAPHTHYLENE	ug/L		<10	N.R.	<10
ANTHRACENE	ug/L		<10	N.R.	<10
BENZO (A) ANTHRACENE	ug/L		<10	N.R.	<10
BENZO (A) PYRENE	ug/L		<10	N.R.	<10
BENZO (B) FLUORANTHENE	ug/L		<10	N.R.	<10
BENZO (GHI) PERYLENE	ug/L		<10	N.R.	<10
BENZO (K) FLUORANTHENE	ug/L		<10	N.R.	<10
CHRYSENE	ug/L		<10	N.R.	<10

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE, METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)(NOTE: NO PEAKS WERE FOUND)
< = BELOW DETECTION LIMITS.

NOTE: N. R. = ANALYSIS NOT REQUIRED

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REPORT OF ANALYSES

CLARK ENVIRONMENTAL SERVICE
P.O. BOX 10136
WILMINGTON, NC 28405-
Attn: PAUL CLARK

PROJECT NAME: MIDWAY PARK (C STORE)
DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 6 of 12)

	SAMPLE			DELIVERY TO LAB	
LAB No.	DATE	TIME	SAMPLER	DATE	TIME
3390	02/15/93	1030	MICHAEL MCDONALD	02/16/93	1250
3391	02/15/93	1030	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: PRODUCT EXCUMA	PRODUCT EXCUMA
		LAB #: 3390	3391
TOTAL PETROLEUM HYDROCARBONS	ppm	N.R.	N.R.
PURGEABLE AROMATICS		N.R.	
BENZENE	ug/L	N.R.	<0.2
ETHYLBENZENE	ug/L	N.R.	<0.2
TOLUENE	ug/L	N.R.	<0.2
XYLENE	ug/L	N.R.	<0.2
METHYL TER-BUTYL ETHER	ug/L	N.R.	<0.2
POLYNUCLEAR ARO. HYDROCARBONS			N.R.
ACENAPHTHENE	ug/L	<10	N.R.
ACENAPHTHYLENE	ug/L	<10	N.R.
ANTHRACENE	ug/L	<10	N.R.
BENZO (A) ANTHRACENE	ug/L	<10	N.R.
BENZO (A) PYRENE	ug/L	<10	N.R.
BENZO (B) FLUORANTHENE	ug/L	<10	N.R.
BENZO (GHI) PERYLENE	ug/L	<10	N.R.
BENZO (K) FLUORANTHENE	ug/L	<10	N.R.
CHRYSENE	ug/L	<10	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE,
METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)(NOTE: NO PEAKS WERE FOUND)
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LABORATORY DIRECTOR Ashley Bridwell

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REPORT OF ANALYSES

CLARK ENVIRONMENTAL SERVICE
P.O. BOX 10136
WILMINGTON, NC 28405-
Attn: PAUL CLARK

PROJECT NAME: MIDWAY PARK (C STORE)
DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 7 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3375	02/15/93	1055	MICHAEL MCDONALD	02/16/93	1250
3376	02/15/93	1115	MICHAEL MCDONALD	02/16/93	1250
3377	02/15/93	1138	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: B1	B2	B3
		LAB #: 3375	3376	3377
DIBENZO (A,H) ANTHRACENE	ug/L	N.R.	N.R.	N.R.
FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
FLUORENE	ug/L	N.R.	N.R.	N.R.
INDENO (1,2,3-CD) PYRENE	ug/L	N.R.	N.R.	N.R.
NAPHTHALENE	ug/L	N.R.	N.R.	N.R.
PHENANTHRENE	ug/L	N.R.	N.R.	N.R.
PYRENE	ug/L	N.R.	N.R.	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
EPA METHOD #602 (BENZENE, ETHYL BENZENE, TOLUENE, XYLENE, METHYL TER-BUTYL ETHER)
EPA METHOD #610 (POLYNUCLEAR ARO. HYDROCARBON)
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YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 8 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3378	02/15/93	1200	MICHAEL MCDONALD	02/16/93	1250
3379	02/15/93	1215	MICHAEL MCDONALD	02/16/93	1250
3380	02/15/93	1225	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID:	B4	B5	B6
		LAB #:	3378	3379	3380
DIBENZO (A,H) ANTHRACENE	ug/L		N.R.	N.R.	N.R.
FLUORANTHENE	ug/L		N.R.	N.R.	N.R.
FLUORENE	ug/L		N.R.	N.R.	N.R.
INDENO (1,2,3-CD) PYRENE	ug/L		N.R.	N.R.	N.R.
NAPHTHALENE	ug/L		N.R.	N.R.	N.R.
PHENANTHRENE	ug/L		N.R.	N.R.	N.R.
PYRENE	ug/L		N.R.	N.R.	N.R.

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
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< = BELOW DETECTION LIMITS.

NOTE: N. R. = ANALYSIS NOT REQUIRED

LABORATORY DIRECTOR Debby Burdwood

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REPORT OF ANALYSES

CLARK ENVIRONMENTAL SERVICE
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PROJECT NAME: MIDWAY PARK (C STORE)
DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 9 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3381	02/15/93	1238	MICHAEL MCDONALD	02/16/93	1250
3382	02/15/93	1240	MICHAEL MCDONALD	02/16/93	1250
3383	02/15/93	1255	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: B7	B8	B9
		LAB #: 3381	3382	3383
DIBENZO (A,H) ANTHRACENE	ug/L	N.R.	N.R.	N.R.
FLUORANTHENE	ug/L	N.R.	N.R.	N.R.
FLUORENE	ug/L	N.R.	N.R.	N.R.
INDENO (1,2,3-CD) PYRENE	ug/L	N.R.	N.R.	N.R.
NAPHTHALENE	ug/L	N.R.	N.R.	N.R.
PHENANTHRENE	ug/L	N.R.	N.R.	N.R.
PYRENE	ug/L	N.R.	N.R.	N.R.

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DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 10 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3384	02/15/93	1305	MICHAEL MCDONALD	02/16/93	1250
3385	02/15/93	1430	MICHAEL MCDONALD	02/16/93	1250
3386	02/15/93	1610	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID:	B10	B11	B11
		LAB #:	3384	3385	3386
DIBENZO (A,H) ANTHRACENE	ug/L		N.R.	N.R.	N.R.
FLUORANTHENE	ug/L		N.R.	N.R.	N.R.
FLUORENE	ug/L		N.R.	N.R.	N.R.
INDENO (1,2,3-CD) PYRENE	ug/L		N.R.	N.R.	N.R.
NAPHTHALENE	ug/L		N.R.	N.R.	N.R.
PHENANTHRENE	ug/L		N.R.	N.R.	N.R.
PYRENE	ug/L		N.R.	N.R.	N.R.

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Attn: PAUL CLARK

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DATE: 03/03/93
YOUR REF/P.O.: 02169342-13

SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 11 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3387	02/15/93	1610	MICHAEL MCDONALD	02/16/93	1250
3388	02/15/93	1620	MICHAEL MCDONALD	02/16/93	1250
3389	02/15/93	1620	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: B11	B2	B2
		LAB #: 3387	3388	3389
DIBENZO (A,H) ANTHRACENE	ug/L	<10	N.R.	<10
FLUORANTHENE	ug/L	<10	N.R.	<10
FLUORENE	ug/L	<10	N.R.	<10
INDENO (1,2,3-CD) PYRENE	ug/L	<10	N.R.	<10
NAPHTHALENE	ug/L	<10	N.R.	<10
PHENANTHRENE	ug/L	<10	N.R.	<10
PYRENE	ug/L	<10	N.R.	<10

EPA METHOD #3550 G.C. TOTAL PETROLEUM HYDROCARBON (SOIL)
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SOIL & WATER SAMPLES FROM PROJECT ID: MIDWAY PARK (C STORE) (Page 12 of 12)

LAB No.	SAMPLE DATE	SAMPLE TIME	SAMPLER	DELIVERY TO LAB DATE	DELIVERY TO LAB TIME
3390	02/15/93	1030	MICHAEL MCDONALD	02/16/93	1250
3391	02/15/93	1030	MICHAEL MCDONALD	02/16/93	1250

		CLIENT STATION ID: PRODUCT EXCUMA	PRODUCT EXCUMA
		LAB #: 3390	3391
DIBENZO (A,H) ANTHRACENE	ug/L	<10	N.R.
FLUORANTHENE	ug/L	<10	N.R.
FLUORENE	ug/L	<10	N.R.
INDENO (1,2,3-CD) PYRENE	ug/L	<10	N.R.
NAPHTHALENE	ug/L	<10	N.R.
PHENANTHRENE	ug/L	<10	N.R.
PYRENE	ug/L	<10	N.R.

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< = BELOW DETECTION LIMITS.

NOTE: N. R. = ANALYSIS NOT REQUIRED

LABORATORY DIRECTOR Molly Bridwell

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CHAIN OF CUSTODY RECORD 02169342-13

CUSTOMER: Clark

PROJECT ID: Midway Park (c store)

SAMPLERS (Signature)

SAMPLE NUMBER	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE WATER COMP	SAMPLE TYPE WATER GRAB	SAMPLE TYPE SOIL	NO. OF CONT.	ANALYSIS REQUIRED
1	B1	2/15/93	10:55			✓	1	TPH 3550
2	B2	"	11:15			✓	1	"
3	B3	"	11:38			✓	1	"
4	B4	"	12:00			✓	1	"
5	B5	"	12:15			✓	1	"
6	B6	"	12:25			✓	1	"
7	B7	"	12:38			✓	1	"
8	B8	"	12:40			✓	1	"
9	B9	"	12:55			✓	1	"
10	B10	"	1:05			✓	1	"
11	B11	"	2:30			✓	1	"
12	B11	"	4:10		✓		1	BTEX 602 MTBE
13	B11	"	4:10		✓		1	610 plus 10
14	B2	"	4:20		✓		1	BTEX 602 MTBE
15	B2	"	4:20		✓		1	610 plus 10
16	Product line Exemption	"	10:30		✓		1	"

Relinquished by: (Signature) Linda M. Hamrick	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Methods of Shipment	Received for Laboratory by: Bobby Jones	Date/Time 2/16/93 1250
Conditions upon receipt: Oil ICS	Remarks:	

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CHAIN OF CUSTODY RECORD 0216934Z-13

CUSTOMER: Chuck

PROJECT ID: Midway Park ("C" Store)

SAMPLERS (Signature) [signature] Michael McDonald

SAMPLE NUMBER	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			NO. OF CONT.	ANALYSIS REQUIRED
				WATER		SOIL		
				COMP	GRAB			
17	Product line Excavations	"	10:30		✓		1	BTEX 602 MTBE

Relinquished by: (Signature) [signature]	**Received by:** (Signature)	Date/Time
Relinquished by: (Signature)	**Received by:** (Signature)	Date/Time
Relinquished by: (Signature)	**Received by:** (Signature)	Date/Time
Methods of Shipment	**Received for Laboratory by:** Bobby Jones	Date/Time 4/16/93 1250
Conditions upon receipt: Ice	Remarks:	

APPENDIX III

CALCULATIONS

General Industries, Inc.
716 John Street • P.O. Box 1279
Goldsboro, North Carolina 27530

HORIZONTAL TANK CHARTS

Volume
(GALLONS)

RECOVERY TANK

DEPTH (inches)	150 (50x50)	270 (56x62)	530 (46x74)	1000 (46x144)	2000 (64x144)	3000 (64x216)	4000 (64x288)
1	1.7	2.3	3.1	6.0	7.1	10.6	14.1
2	4.5	6.3	8.4	10.3	19.3	28.9	38.5
3	8.1	11.1	15.1	29.4	34.8	52.3	69.7
4	12.3	16.9	22.9	44.7	53.1	79.6	106.2
5	17.0	23.3	31.7	61.8	73.6	110.6	147.2
6	22.0	30.3	41.3	30.4	96.0	144.0	192.1
7	27.4	37.7	51.6	100.5	120.2	180.3	240.4
8	33.0	45.6	62.5	121.7	145.9	218.9	291.9
9	38.9	53.8	74.0	144.0	173.1	259.6	346.2
10	44.9	62.3	86.0	167.3	201.5	302.3	403.0
11	51.1	71.1	98.3	191.4	231.1	346.7	462.2
12	57.5	80.2	111.1	216.2	261.8	392.7	523.6
13	63.9	89.4	124.3	241.8	293.5	440.2	586.9
14	70.3	98.7	137.7	267.9	326.1	489.1	652.1
15	76.8	108.2	151.4	294.6	359.5	539.3	719.0
16	83.3	117.8	165.3	321.7	393.7	590.6	787.4
17	89.8	127.4	179.5	349.2	428.7	643.0	857.3
18	96.2	137.1	193.8	377.1	464.3	696.4	928.5
19	102.5	146.7	208.2	405.2	500.4	750.7	1000.9
20	108.7	156.3	222.8	433.6	537.2	805.8	1074.4
21	114.7	165.9	237.5	462.1	574.5	861.7	1148.9
22	120.6	175.4	252.2	490.7	612.2	918.2	1224.3
23	126.2	184.8	266.9	519.4	650.3	975.4	1300.5
24	131.6	194.0	281.6	548.0	688.8	1033.1	1377.5
25	136.6	203.0	296.3	576.7	727.6	1091.3	1455.1
26	141.3	211.8	311.0	605.2	766.6	1149.9	1533.3
27	145.5	220.3	325.6	633.5	805.9	1208.9	1611.9
28	149.1	228.5	340.0	661.6	845.4	1268.2	1690.9
29	152.0	236.4	354.3	689.5	885.1	1327.7	1770.2
30	153.6	243.9	368.5	717.0	924.9	1387.3	1849.8
31		250.8	382.4	744.2	964.7	1447.1	1929.5
32		257.2	396.1	770.8	1004.6	1506.9	2009.3
33		263.0	409.5	797.0	1044.5	1566.8	2089.0
34		267.9	422.7	822.5	1084.4	1626.6	2168.7
35		271.9	435.5	847.4	1124.1	1686.2	2248.3
36		276.1	447.8	871.5	1163.8	1745.7	2327.6
37			459.8	894.7	1203.3	1805.0	2406.6
38			471.3	917.0	1242.6	1863.9	2485.3
39			482.2	938.3	1281.7	1922.6	2563.4
40			492.5	958.3	1320.5	1980.8	2641.0
41			502.1	977.0	1359.0	2038.5	2718.0
42			510.9	994.1	1397.1	2095.6	2794.2
43			518.7	1009.4	1434.8	2152.2	2869.6
44			525.4	1022.5	1472.1	2208.1	2944.1
45			530.7	1032.8	1508.8	2263.2	3017.6
46			533.8	1038.7	1545.0	2317.5	3090.0
47					1580.6	2370.9	3161.2
48					1615.5	2423.3	3231.1
49					1649.8	2474.6	3299.5
50					1683.2	2524.8	3366.4
51					1715.8	2573.7	3431.6
52					1747.5	2621.2	3494.9
53					1778.1	2667.2	3556.3
54					1807.7	2711.6	3615.5
55					1836.2	2754.3	3672.4
56					1863.3	2795.0	3726.6
57					1889.0	2833.6	3778.1
58					1913.2	2869.8	3826.5
59					1935.7	2903.5	3871.3
60					1956.2	2934.3	3912.3
61					1974.4	2961.6	3948.8
62					1990.0	2985.0	3980.0

TOTAL P.01

PROJECT: Midway Park COMPUTED BY: RBC DATE: 3/19/93

SHEET 1 OF 1 CHECKED BY: RBThoms DATE: 3-19-1993

DESCRIPTION: Calculate volume of product/water recovered.

- Reported quantities (Sam Buzzard)

- 55 Gallon Drums (all full, except for 2"[1], use 55 gal)

① (3) 2½" oil / remaining water
② (1) 6½" oil " "
③ (1) 2" oil " "
④ (1) 1" oil

- 270 gal horizontal tank
⑤ Full loads w/
⑤ 8" oil
⑥ 10" oil
⑦ 6" oil

- Calculate volumes

For drums, use 21.21 gal/ft — Measured dimensions for 55 gal drum: r = 1.875' h = 2.92' ~ 21.21 gal/ft

① 2.5" × 1 ft/12" × 21.21 gal/ft × 3 = 13.26 gal prod 41.74 gal water
② 6.5" × 1 ft/12" × 21.21 gal/ft = 11.49 gal prod 43.51 gal water
③ 7" × 1 ft/12" × 21.21 gal/ft = 3.54 gal prod 51.47 gal water
④ 1" × 1 ft/12" × 21.21 gal/ft = 1.77 gal prod 53.23 gal water

From tank chart (attached)

⑤ 8" oil = 45.6 gal prod 224.4 gal water
⑥ 10" oil = 62.3 gal prod 207.7 gal water
⑦ 6" oil = 30.3 gal prod 239.7 gal water

Liquid totals 168.26 gal prod 861.75 gal water

- Soil Estimation (based on estimated volume of 33 yd³)

33 yd³, assume 1% product by volume

33 yd³ × 27 ft³/yd³ × .01 × 7.48 gal/ft³ = 66.65 gals prod

⊛ Grand total estimated = 234.91 gals prod. ~ 240