



6701 Carmel Road
Suite 200
Charlotte, NC 28226-3901
704/541-9890
FAX: 704/543-4035

March 17, 1993

RECEIVED
N.C. Dept. of EHNR

MAR 19 1993

Winston-Salem
Regional Office

North Carolina Department of Environment,
Health and Natural Resources
Division of Environmental Management
Ground Water Section
8025 N. Point Blvd.
Suite 100
Winston-Salem, North Carolina 27106

Attention: Ms. Sabra Murphy

Subject: Monitor Well Construction
Exxon RAS #4-3998
407 West Market Street
Greensboro, North Carolina
FTF #5135
Delta Project No. 50-92-037.01

Dear Ms. Murphy:

Please find enclosed a copy of the Well Construction Permit No. #40-1045-WM-0456 and the application for a permit to construct three additional off-site wells. The site map and well construction details are attached.

Drilling is scheduled for March 24 and 25, 1993. Verbal and written Right-of-entry permissions were obtained.

If you have any questions please contact me at (704) 541-9890.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

A handwritten signature in cursive script that reads "Luba K. Gross".

Luba K. Gross
Staff Hydrogeologist

LKG/amh

Enclosures

NORTH CAROLINA
 ENVIRONMENTAL MANAGEMENT COMMISSION
 DEPARTMENT OF ENVIRONMENT, HEALTH, & NATURAL RESOURCES
APPLICATION FOR PERMIT TO CONSTRUCT A MONITORING WELL SYSTEM

Date: March 17, 19 93 County Guilford

In accordance with the provisions of Article 7, Chapter 87, General Statutes of North Carolina and regulations pursuant thereto, application is hereby made for a permit to monitoring wells.

1. Name of Applicant: Delta Environmental Consultants, Inc. (Telephone: 704-541-9890)
 Applicant's Mailing Address: 6701 Carmel Rd., Suite 200, Charlotte, NC 28226
2. Name of Property Owner (if different from applicant) Quality Oil Co. (Shell) & Captain D's Restaurant
 Owner's Mailing Address: P. O. Box 2736 Winston Salem, NC 28102 P. O. Box 41379 Memphis, TN 38174
3. Contact Person: David Curlis, Delta Environmental Consultants, Inc. 6701 Carmel Rd (Telephone: 704-541-9890)
Suite 200, Charlotte, NC 28226
4. Location of Property: Intersection between W. Market St., Spring Garden St. & Muirs Chapel Rd.
5. Reason for Monitoring Well(s): additional sub-surface investigations required by NCDEHNR
 (ex: nondischarge permit requirements, suspected contamination, environmental assessment, etc.)
6. Type of facility or site for which the monitoring well(s) is needed: gasoline station & restaurant
 (ex: nondischarge facility, waste disposal site, landfill, underground storage tank, etc.)
7. Type of contamination being monitored (if applicable): hydrocarbon
 (ex: nutrients, organics, heavy metals, etc.)
8. Are any existing recovery wells associated with the monitoring well(s)? none If yes, how many? _____
 Recovery Well Construction Permit No. _____
9. Distance to a known waste or pollution source: 75 feet
10. Are any water supply wells located less than 500 feet from the proposed monitoring wells? none
 If yes, give distance: _____ feet
11. Well Driller: Geologic Exploration
12. Registration #: _____
13. Driller's Address: Route 12, Box 292, Statesville, NC 28671, 1-800-752-8853

PROPOSED MONITORING WELL CONSTRUCTION INFORMATION

1. Total Number of Wells to be constructed: 3 ; (A) Number to be completed in bedrock? None
 (B) Number to be completed in unconsolidated material? 3
2. Estimated depth of well(s): 40 feet
3. Gravel or sand pack interval (if appropriate)
 From 40 feet To 23 feet
4. Type of casing used: PVC
 (ex: PVC, stainless steel, galvanized steel, etc.)
5. Diameter of casing: 2 inches

FOR OFFICE USE ONLY	
<input type="checkbox"/> PERMITTED ACTIVITY	
<input type="checkbox"/> U.S.T. LEAK DETECTION	
<input type="checkbox"/> GROUNDWATER QUALITY STANDARDS VIOLATIONS SUSPECTED FROM UNPERMITTED ACTIVITIES	
<input type="checkbox"/> NOTICE OF NON-COMPLIANCE AT UNPERMITTED FACILITIES	
PERMIT NO. _____	ISSUED _____ 19 _____
INCIDENT # _____	

6. Thickness of casing: SCh 40 PVC inches
7. How will the well(s) be secured? locking protective casing
8. Estimated beginning construction date: March 24, 1993
9. Estimated completion date: March 25, 1993

ADDITIONAL INFORMATION

1. ATTACH A SITE MAP SHOWING THE LOCATIONS OF THE FOLLOWING:
- 1 - PROPOSED MONITORING WELL(S)
 - 2 - ALL EXISTING MONITORING AND RECOVERY WELLS OR TEST BORINGS WITH THE PROPERTY BOUNDARY
 - 3 - ALL WATER SUPPLY WELLS WITHIN 500 FEET OF THE WASTE SOURCES
 - 4 - AT LEAST TWO REFERENCE POINTS (NUMBERED ROADS, INTERSECTIONS, STREAMS, ETC.)
2. PROVIDE A WELL CONSTRUCTION DIAGRAM OF EACH WELL SHOWING DIAMETER, ESTIMATED DEPTH, SCREEN INTERVALS, SAND/GRAVEL PACKS, TYPE OF CASING MATERIAL, CASING WALL THICKNESS, WELL HEAD COMPLETION DETAILS, ETC.)
-
-

The Applicant hereby agrees the proposed well(s) will be constructed in accordance with approved specifications and conditions of the Well Construction Permit as regulated under the Well Construction Standards (Title 15A North Carolina Administrative Code, Subchapter 2C) and accepts full responsibility for compliance with these rules.



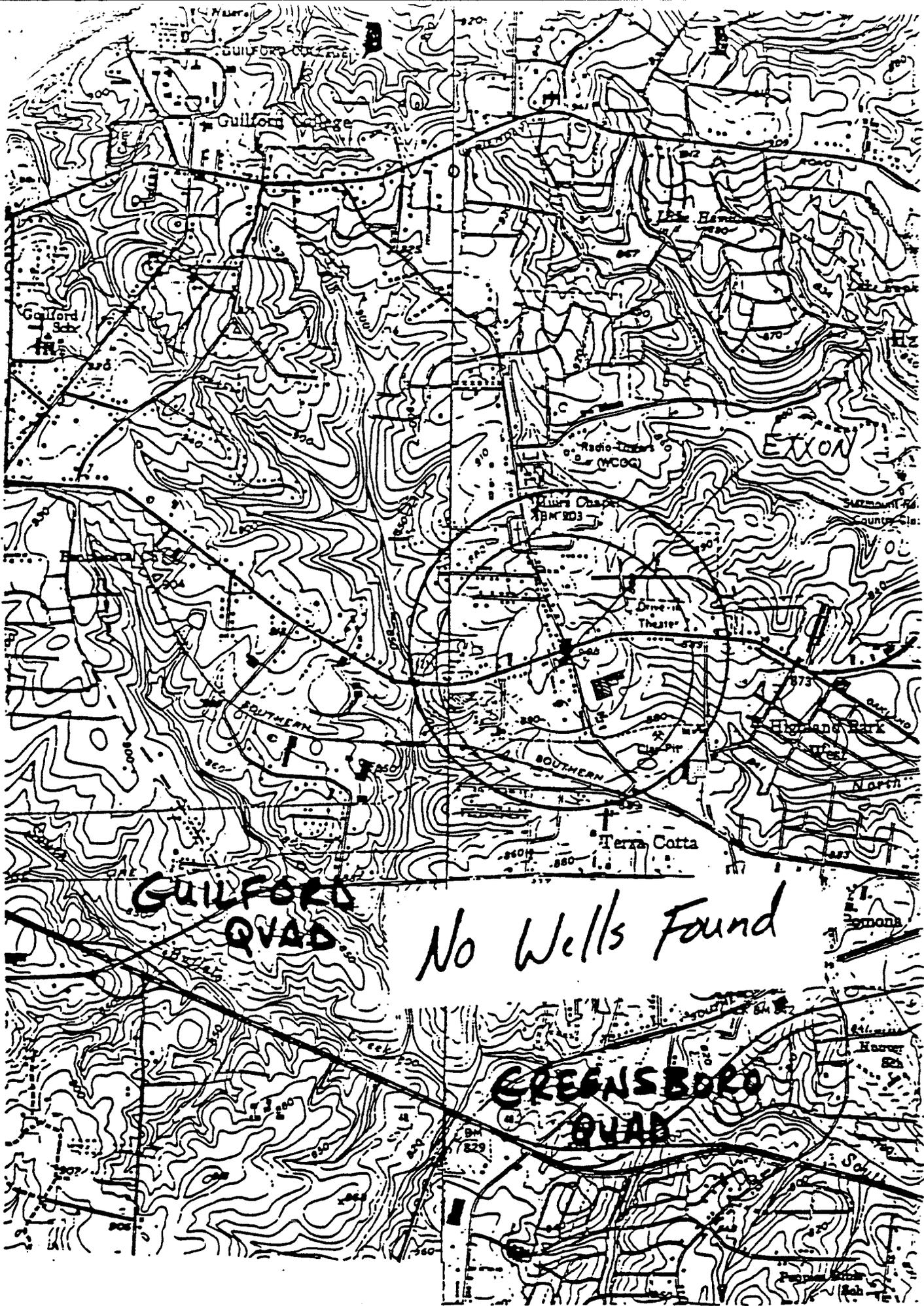
Signature of Applicant or Agent

PROJECT MANAGER

Title (if applicable)

If the property is owned by someone other than the applicant, the property owner hereby consents to allow the applicant to construct monitoring wells as outlined in this application and that it shall be the responsibility of the applicant to ensure that these monitoring wells conform to the Well Construction Standards (Title 15A North Carolina Administrative Code, Subchapter 2C).

Signature of Property Owner (if different from applicant)



**GUILFORD
QVAD**

No Wells Found

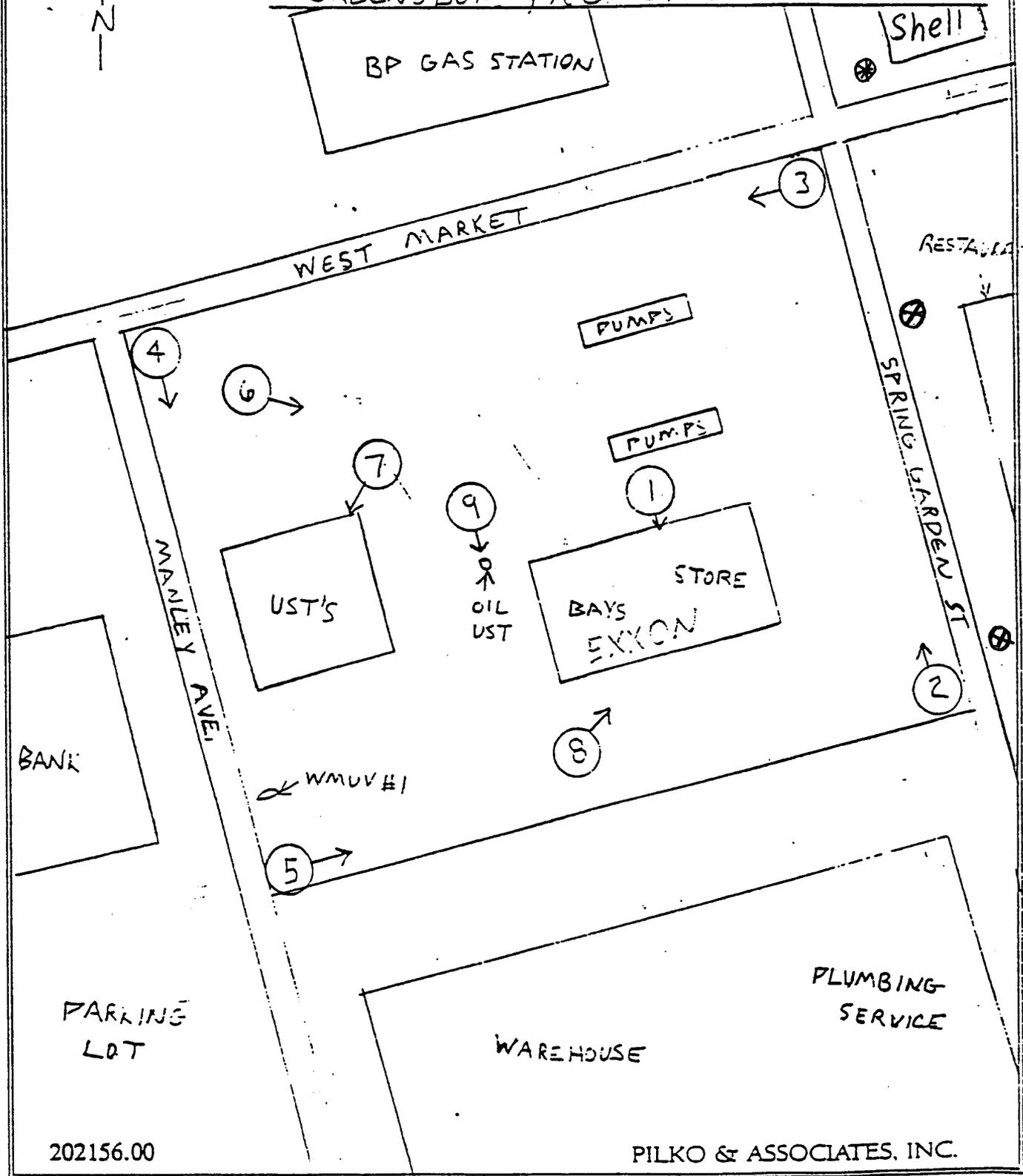
**GREENSBORO
QVAD**

SITE SKETCH

STORE NO.: 43998

ADDRESS: 4701 W. MARKET ST.

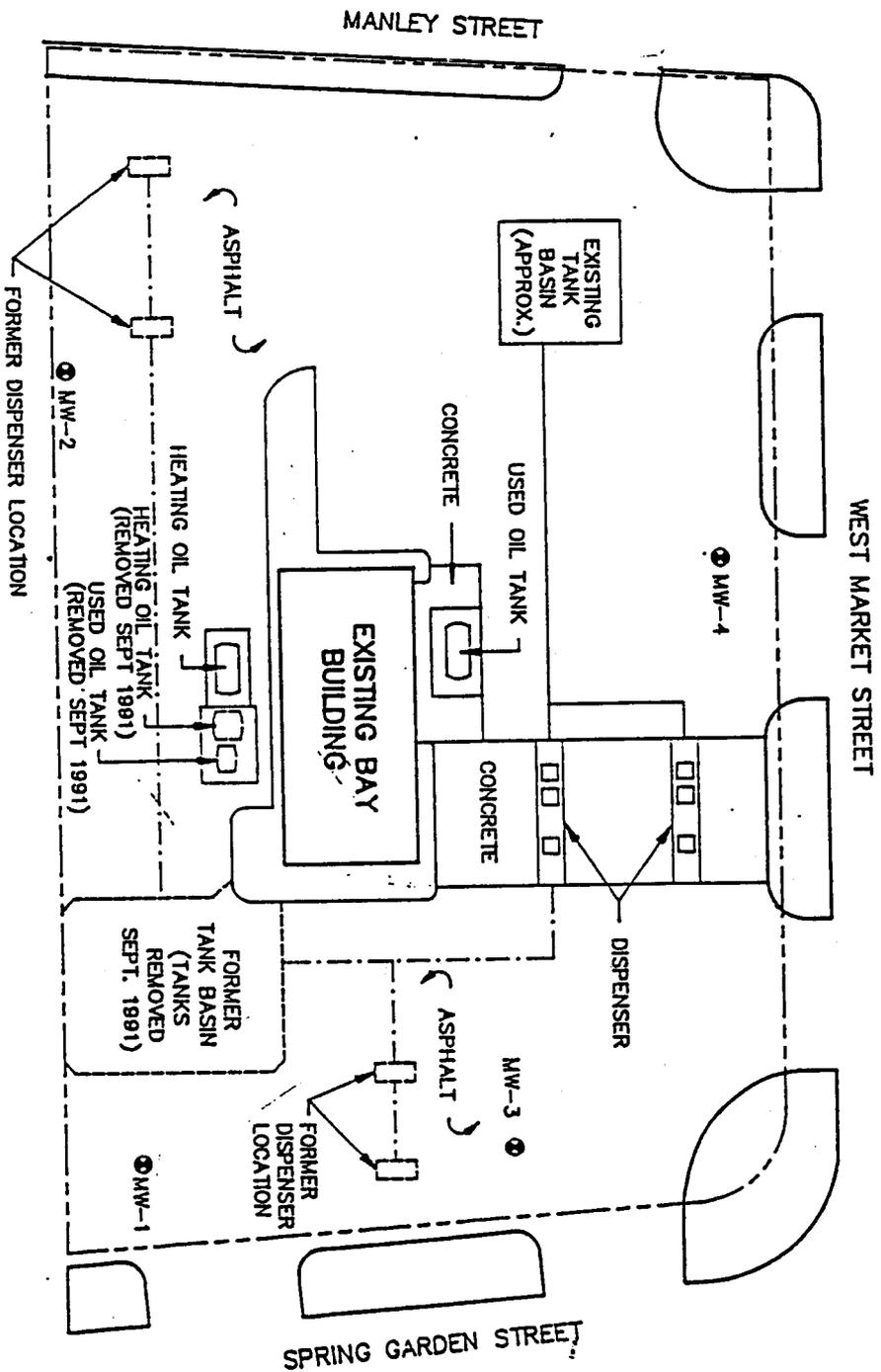
GREENSBORO, N.C. 27409



202156.00

PILKO & ASSOCIATES, INC.

⊕ = PROPOSED MONITORING WELL



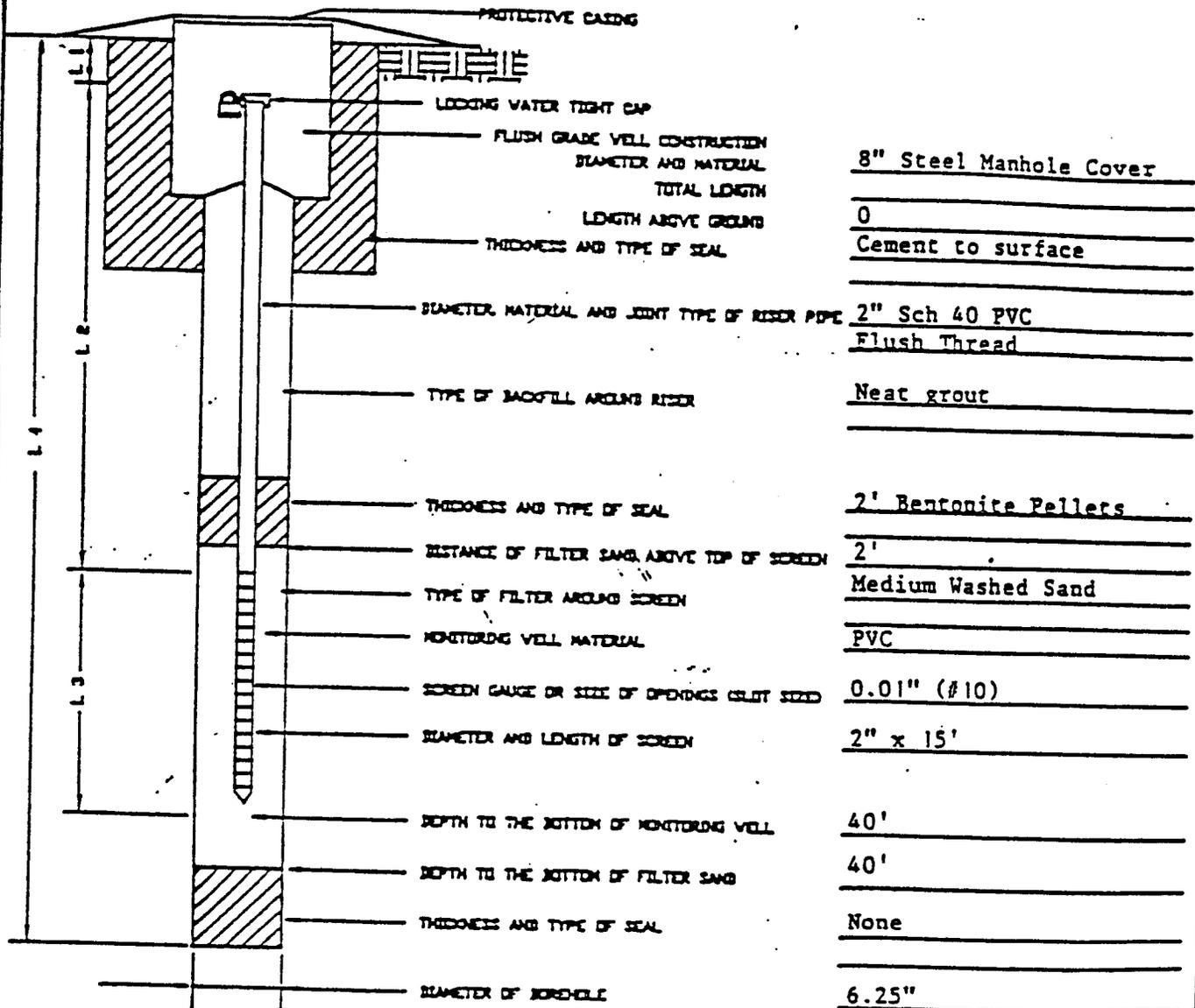
- LEGEND:**
- MONITORING WELL LOCATION
 - EXISTING DISTRIBUTION LINE (APPROX LOCATION)
 - - - FORMER DISTRIBUTION LINE (APPROX LOCATION) - REMOVED SEPT 1991
 - PROPERTY BOUNDARY

<p>Delta Environmental Consultants, Inc. Charlotte, North Carolina 28226</p>		CLIENT/LOCATION	
		<p>EXXON COMPANY, USA GREENSBORO, NC</p>	
FIGURE NO.	3	DELTA PROJECT NO.	50-92-037
DRAWN BY	C. HATHCOX	DATE	9-21-92
REVIEWED BY		SCALE	1" = 40'
SITE MAP RAS #4-3998		CAD NO.	037-S14

PROPOSED FLUSH GRADE MONITORING WELL CONSTRUCTION DETAILS

PROJECT Exxon, USA

DELTA NO. 50-92-037.01



L1 = 0.5 FT.

L2 = 24.5 FT.

L3 = 15 FT.

L4 = 40 FT.



Form 2.

PROPOSED WELL DETAIL

MANHOLE CASING SET INSIDE
EXTERIOR PIPE TO PERMIT
RAISING OF MANHOLE TOP IN
CASE OF RESURFACING

LOCKING WELL CAP

STEEL PROTE
(GASKETED/WATER-TIGHT)

(MEETS ASTM C-
476)
(CARRIES H-20
load)

GROUT CROWN

BENTONITE SEAL

SAND PACK
ABOVE SCREEN

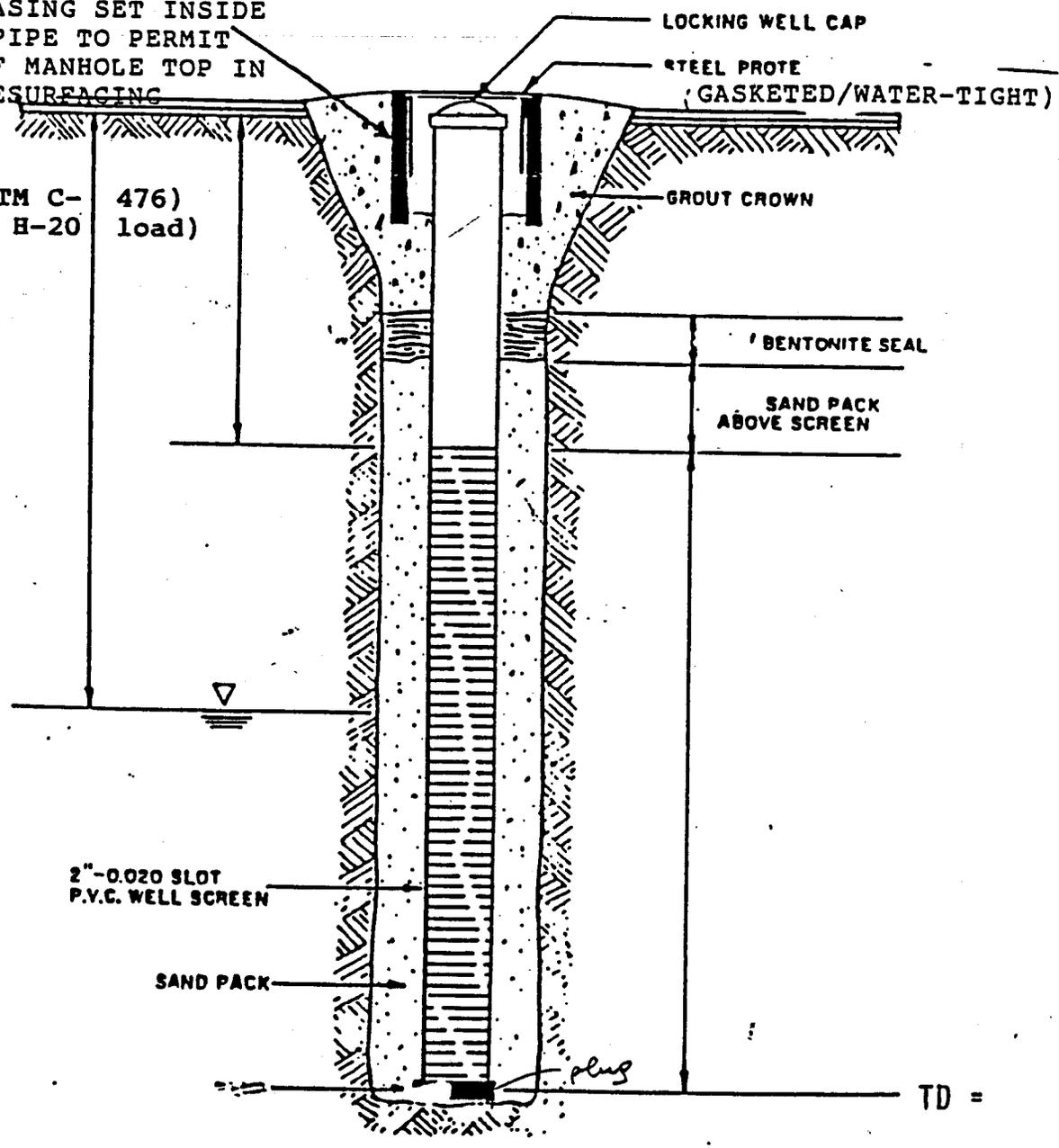
2"-0.020 SLOT
P.V.C. WELL SCREEN

SAND PACK

plug

TD =

NOT TO SCALE





AUG 11 1992

State of North Carolina
Department of Environment, Health and Natural Resources
Winston-Salem Regional Office

James G. Martin, Governor
William W. Cobey, Jr., Secretary

Margaret Plemmons Foster
Regional Manager

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION

August 11, 1992

Delta Environmental Consultants, Inc.
6701 Carmel Road, Suite 200
Charlotte, NC 28226

SUBJECT: MONITOR WELL CONSTRUCTION
PERMIT NO. 40-1045-WM-0456
GUILFORD COUNTY
FILE NAME: Exxon Company USA RAS #43998

Dear Sir:

In accordance with your application received August 6, 1992, we are forwarding herewith Monitor Well Construction Permit No. 40-1045-WM-0456 for the construction of six monitor wells in the Charlotte Belt Hydrogeologic Unit.

Henceforth, correspondence and data relating to these wells shall be designated as specified in the subject heading above.

This Permit will be effective from the date of its issuance and shall be subject to the conditions and limitations as specified therein.

Sincerely,

A handwritten signature in cursive script that reads "Sherri V. Knight".

Sherri V. Knight
Groundwater Supervisor

SVK/LDC/ahl
Enclosure

cc: Groundwater Section - Central Office
Guilford County Health Department
Exxon Company, USA
WSRO Files

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

PERMIT FOR THE CONSTRUCTION OF

A MONITOR WELL OR WELL SYSTEM

In accordance with the provisions of Article 7, Chapter 87, North Carolina General Statutes, and other applicable Laws, Rules, and Regulations.

PERMISSION IS HEREBY GRANTED TO

Delta Environmental Consultants, Inc.

FOR THE CONSTRUCTION OF SIX MONITOR WELLS in the Charlotte Belt Hydrogeologic unit located at 4701 W. Market Street, Greensboro, North Carolina in Guilford County in accordance with the application dated July 29, 1992, and in conformity with the specifications and supporting data, all of which are filed with the Department of Environment, Health and Natural Resources and are considered a part of this Permit.

This Permit is for well construction only, and does not waive any provisions or requirements or any other applicable laws or regulations.

Construction of a well under this Permit shall be in compliance with the North Carolina Well Construction Regulations and Standards, and any other laws and regulations pertaining to well construction.

This Permit will be effective from the date of its issuance until February 11, 1993, and shall be subject to other specified conditions, limitations or exceptions as follows:

1. A permanent identification plate with the date of construction, depth of well, screen interval, depth of grout, drilling contractor, and his registration number shall be attached to the well head or the outer protective steel casing.

2. The well construction completion form and all water quality data are to be submitted to the Central Office of the Groundwater Section P. O. Box 29535, Raleigh, North Carolina 27611.
3. All laboratory analysis of Groundwater samples collected from the permitted monitor wells are to be submitted to North Carolina Department of Environment, Health, and Natural Resources, Groundwater Section, P. O. Box 29535, Raleigh, N. C. 27611 with a copy to the North Carolina Department of Environment, Health and Natural Resources, Groundwater Section, 8025 North Point Boulevard, Suite 100, Winston-Salem, N. C. 27106 within 60 days of well completion, and quarterly thereafter.
4. All additional investigative findings in relation to the pollution sources being monitored, as indicated under "Additional Information" of form GW-22M ("Item J" of form GW-22B) of permit application, are to be submitted to North Carolina Department of Environment, Health and Natural Resources, Groundwater Section, P. O. Box 29535, Raleigh, N. C. 27611 with a copy to North Carolina Department of Environment, Health, and Natural Resources, Groundwater Section, 8025 North Point Boulevard, Suite 100, Winston-Salem, N. C. 27106 within 60 days of well completion, and quarterly thereafter.
5. The well shall be afforded a means of protection against vandalism, damage, or unauthorized use.
6. When any monitor well is no longer useful for its intended purpose, it shall be abandoned in compliance with North Carolina Administrative Code 15. 2C.0113 and a well abandonment form sent to the North Carolina Department of Environment, Health, and Natural Resources, Groundwater Section, P. O. Box 29535, Raleigh, N. C. 27611 with a copy to North Carolina Department of Environment, Health and Natural Resources, Groundwater Section, 8025 North Point Boulevard, Suite 100, Winston-Salem, N. C. 27106.

Permit No. 40-1045-WM-0456
Page three

7. The monitor well shall be constructed in accordance with the Groundwater Section's recommended construction details as outlined in attachment #1.
8. A county monitor well construction permit shall be required by the county health departments where applicable. In Forsyth County, contact the Forsyth County Health Department, Division of Environmental Health, P.O. Box 686, Winston-Salem, NC 27102-0686.

Permit issued this the 11th day of August 1992

FOR THE NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION


For Larry D. Coble, Regional Supervisor
Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 40-1045-WM-0456

RIGHT OF ENTRY
(the License)

The property owner(s) (referred to in this Agreement as the "Owner(s)") have the sole right to possession of the property for which a right of entry is granted by this document. The property is located at: intersection between W. Market Street and Spring Garden St. in Greensboro, NC.

The Owner(s) give Exxon Company, USA (the "Licensee"), its agents, subcontractors, employees, and assigns, the right to enter upon the property to install and sample ground water monitoring wells and to do all activities required to complete their work. The Owner(s) acknowledge that Delta Environmental Consultants, Inc. ("Delta") is an agent of the Licensee.

This License is effective immediately upon signing. Licensee agrees to repair or cause to be repaired any damage to the property resulting from entry onto the property by Licensee, its agents, employees, or assigns, by restoring the property, as much as reasonably possible, to its condition immediately prior to the entry. This license is also subject to those provisions mentioned in the attached "Amendment to Right of Entry Agreement".

Dated this 11 day of March 1993.

"Owner(s)"
Gary W. Borth V.P.
Signature

Gary W. Borth V.P.
Printed Name

Signature

Printed Name

"Licensee"
Exxon Company, USA

By Delta Environmental Consultants, Inc.,
Agent for Licensee.
By [Signature]
Its Project Manager

Quality Oil

MANAGEMENT, INC.

GENERAL PARTNER

QUALITY OIL COMPANY LIMITED PARTNERSHIP

F A X T R A N S M I T T A L

TO: *Delta Environmental*
David Curless

FROM: QUALITY OIL COMPANY LIMITED PARTNERSHIP

Danny Stroud

COMMENTS: *2* pages; includes cover Date: *3-17-93*

ADMINISTRATIVE OFFICE
1540 GLAS CREEK PARKWAY
POST OFFICE BOX 2736
WINSTON-SALEM, NC 27102-2736
(919) 722-3441
FAX (919) 721-9520

STATESVILLE OFFICE
828 SALISBURY ROAD
POST OFFICE BOX 22
STATESVILLE, NC 28677-0646
(704) 873-8135

MOUNT AIRY OFFICE
1976 ROCKFORD STREET
POST OFFICE BOX 409
MOUNT AIRY, NC 27030-5202
(919) 786-8331

GREENVILLE OFFICE
220 HOOKER ROAD
POST OFFICE BOX 515
GREENVILLE, NC 27834-9990
(919) 756-3145

RIGHT OF ENTRY
("the License")

The property owner(s) (referred to in this Agreement as the "Owner(s)") have the sole right to possession of the property for which a right of entry is granted by this document. The property is located at: intersection between W. Market Street and Muir's Chapel Road in Greensboro, NC.

The Owner(s) give Exxon Company, USA (the "Licensee"), its agents, subcontractors, employees, and assigns, the right to enter upon the property to install and sample ground water monitoring wells and to do all activities required to complete their work. The Owner(s) acknowledge that Delta Environmental Consultants, Inc. ("Delta") is an agent of the Licensee.

This License is effective immediately upon signing. Licensee agrees to repair or cause to be repaired any damage to the property resulting from entry onto the property by Licensee, its agents, employees, or assigns, by restoring the property, as much as reasonably possible, to its condition immediately prior to the entry.

Dated this 17 day of March 1993

"Owner(s)"

Danny C. Stroud
Signature

Danny C. Stroud
Printed Name

Signature

Printed Name

"Licensee"

Exxon Company, USA

By Delta Environmental Consultants, Inc.,
Agent for Licensee

By J. David Woods
Its Project Manager

This agreement is contingent upon Quality Oil Company meeting with Delta Environmental to locate the ground water monitoring wells.