

N. M. O. C. C. COPY

SUBMIT IN TRIPPLICATE\*

(Other instr as on  
reverse)Copy to SF  
Form approved.  
Budget Bureau No. 42-R1425.UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

5. LEASE DESIGNATION AND SERIAL NO.

NM 025604

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
Empire Abo Pressure  
Maintenance Project

8. FARM OR LEASE NAME

Empire Abo Unit "N"

9. WELL NO.

91

10. FIELD AND POOL, OR WILDCAT

✓ Empire Abo

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

10-18S-27E

12. COUNTY OR PARISH

Eddy

13. STATE

New Mexico

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Atlantic Richfield Company

3. ADDRESS OF OPERATOR

Box 1710, Hobbs, New Mexico 88240

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)

At surface

2390' FNL &amp; 940' FWL (Unit letter E)

At proposed prod. zone

Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approx 13 miles East of Artesia, New Mexico

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, ETC.

(Also to nearest orig. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL

OR APPROPRIATE

16. NO. OF ACRES IN LEASE

19. PROPOSED DEPTH

6250'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

21. REMARKS (Show whether DF, RT, GR, etc.)

22. APPROX. DATE WORK WILL START\*

## PROPOSED CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11"	8-5/8" OD	24# K-55	1000'	350 sx Circ to surface
7-7/8"	5-1/2" OD	14 & 15.5#K-55	6250'	1725 sx Circ to surface

Propose to drill an infill development well within the Empire Abo Unit area to more economically recover additional oil reserves and conserve reservoir pressure in accordance with Unit OCC Rules & Regulations.

Blowout Preventer Program attached.

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preventer program, if any.

24. SIGNED [Signature] TITLE Dist. Dirg. Supt. DATE 1/24/77

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

ACTING DISTRICT ENGINEER

\*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

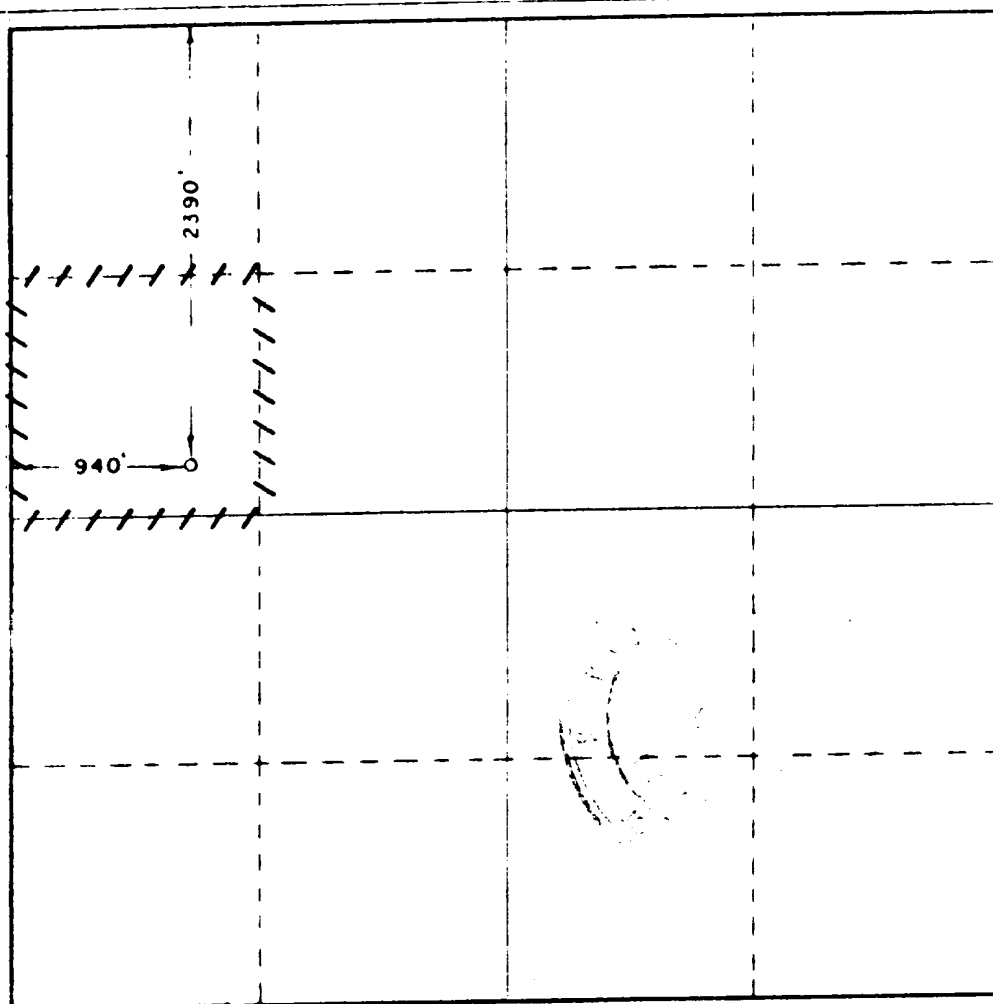
Lessee <b>ATLANTIC RICHFIELD COMPANY</b>			Lease <b>Empire Abo Unit "NN"</b>		91
Section <b>8</b>	Section <b>10</b>	Section <b>18 South</b>	Section <b>27 East</b>	County <b>Eddy</b>	
Actual Section Location and Area: <b>2390</b> feet from the <b>north</b> line and <b>940</b> feet from the <b>west</b> line					
Ground Level Elev. <b>3596.3</b>	Producing Formation <b>Abo Reef</b>		Pool <b>Empire Abo</b>		Section Area <b>40</b>

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below
2. If more than one lease is dedicated to the well, outline each and identify the ownership (both as to working interest and royalty)
3. If more than one lease of different ownership is dedicated to the well, have the interests of the owners consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated (reverse side of this form if necessary)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

*John H. West*

Dist. Dir. Supt.

Atlantic Richfield Company

1/24/77

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief.

Date: Sept 30, 1976

Registered Professional Engineer  
No. 10,000

*John H. West*

To Supplement USGS Form 9-331C "Application for Permit to Drill, Deepen or Plugback", the following additional information is submitted:

Operator: Atlantic Richfield Company  
Lease & Well No: Empire Abo Unit "N" #91  
Location: Unit letter E, 2390' FNL & 940' FWL  
Section 10-18S-27E, Eddy County, New Mexico

1. See Form 9-331C
2. See Form 9-331C
3. The geologic name of the surface formation is: Tertiary with some Triassic exposed.
4. See Form 9-331C
5. See Form 9-331C
6. The estimated tops of important geologic markers are:  
  
Queen 1020', San Andres 1947', Glorieta 3415', Abo 5796'
7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are:  
  

Santa Rosa Water Formation	- ± 300'	Brackish
Empire Yates Seven Rivers	- ± 340'	Oil & Gas
Artesia Grayburg Queen SA	- 1020'	Oil & Gas
Abo	- 5796'	Oil & Gas
8. The proposed casing program including the size, grade and weight-per-foot of each string has been indicated on Form 9-331C. All strings of casing will be new.
9. See Form 9-331C for amount of cmt. Cl C cmt cont'g 4% gel,  $\frac{1}{4}$ # flocele, 6# salt/sk & 2% CaCl will be used for cmtg surface csg. Cl C cmt 50:50 pozmix cont'g 2% gel, .6% CFR-2, 8# salt/sk & 5# gilsonite/sk will be used to cmt 1st stage on production string and HLW cmt cont'g 8#/sk salt followed by Cl C cmt cont'g 8#/sk salt will be used to cmt 2nd stage.
10. The pressure control diagram is attached to Form 9-331C. The following additional information of the pressure control equipment is as follows:

Size: 10"-900 Series Dbl Hyd Pipe and Blind Rams  
Pressure Ratings (or API Series): 3000# WP, 6000# T  
Testing Procedures: Pressure up to 1500# PSIG before drilling out of casing  
Testing Frequency: Upon installation, daily and on all trips.

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11. The type and characteristics of the proposed circulating medium or mediums to be employed for rotary drilling and the quantities and types of mud and weighting material to be maintained will be as follows:

0-1000' Spud mud, 1000-5690' brackish water, 5690-6250' SWG 34-38 Vis, 5-8 WL, 30,000 PPM salinity

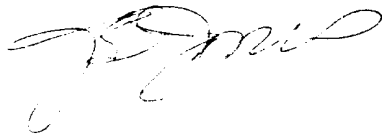
12. The auxiliary equipment to be used will consist of: Kelly cocks, and a sub on floor with full opening valve to be used when needed. No mud logging will be performed.

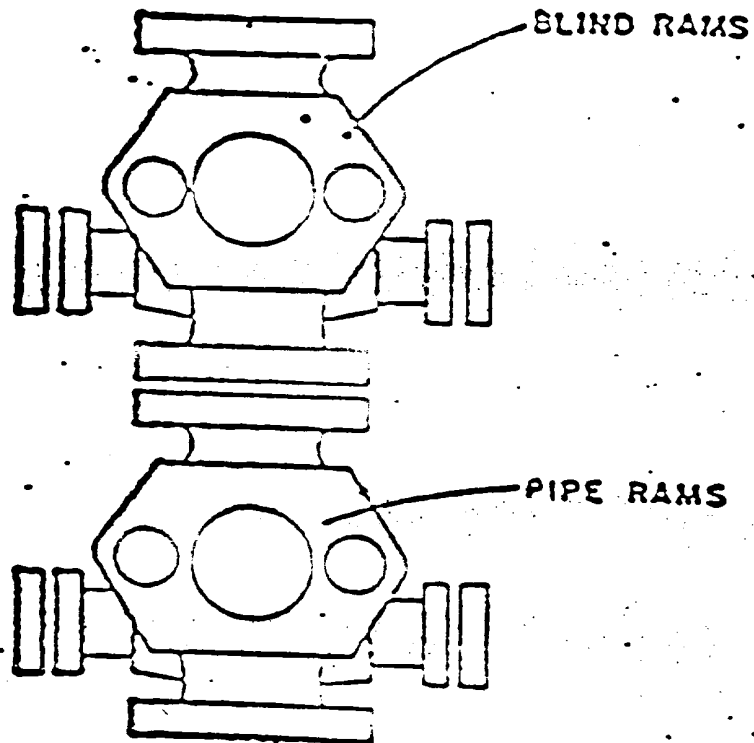
13. The testing, logging and coring programs will be:

GR-DLL w/RXO (MSFL) & caliper, GR-Calibrated Neutron, CNL-FDC, Sonic and Tape Logs for Coriband analysis. Straddle tests Abo to locate Gas-Oil contact.

14. No abnormal pressures or temperatures are expected to be encountered.

15. The starting date will be approx 2/15/77 and will be completed approx 3/1/77.

A handwritten signature in cursive script, likely reading "R. Smith", is written in the lower center of the page.



ATLANTIC RICHFIELD COMPANY  
Blow Out Preventer Program

Lease Name Empire Abo Unit "A"

Well No. 91

Location 2390' FNL & 940' FNL  
Sec 10-188-27N, T14N, R10W

BOP to be tested before installed on well and will be maintained in good working condition during drilling. All wellhead fittings to be of sufficient pressure to operate in a safe manner.

## Multi-Point Surface Use and Operations Plan

Atlantic Richfield Company  
Well No. "N" 91 Empire Abo Unit  
2390' FNL & 940' FWL Sec 10-T18S-R27E  
Eddy County, New Mexico  
Lease, New Mexico 025604  
(Development Well)

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This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operation.

### 1. Existing Roads:

- A. Exhibit "A" From Artesia, go East 9 miles on U.S. Highway 82, turn South off Highway 82 on AMOCO Gasoline Plant black top road 0.5 miles, continue Southwest off black top onto caliche existing road 1 mile, turn South .9 miles, then East approximately 100' along staked and flagged proposed new road to location.
- B. Exhibit "B" is a plat showing all existing roads within a one mile radius of the well site and the planned access road.

### 2. Planned Access Roads:

- A. Length & Width: New roads required will be approximately 100' long and 12' wide. This road is labeled and color coded red on Exhibit "B". The center line of road has been staked and flagged with the stakes being visible from any one to the next.
- B. Turnouts: none
- C. Culverts: none
- D. Cuts and Fills: Minimal to level drill pad.
- E. Gates, Cattleguards: none

### 3. Location of Existing Wells:

- A. See Exhibit "B" for existing wells within a 1 mile radius of location.

4. Location of Existing and/or Proposed Facilities:

- A. Location of the existing tank battery and flow lines from Well No. "N" 91 are shown on Exhibit "C". The gas injection and salt water disposal lines are buried. The flow lines are not buried.
- B. When the proposed well is completed for production the location of the new flow line to the existing battery is shown on Exhibit "C". The line will not be buried. The proposed flow line has not been staked and flagged.

5. Location and Type of Water Supply:

- A. Water for drilling will be from a fresh water well within the Empire Abo Unit boundaries located in Section 6-18S-28E and transported by pipeline to wellsite. The water line will not cause additional surface disturbance and will be removed after drilling is completed.

6. Source of Construction Materials:

- A. Johnson Construction Co., P. O. Box 837, Eunice, New Mexico will be furnishing caliche for surfacing the road and well pad. The source of caliche will be from an existing pit located in SE/4, NW/4 Section 12-18S-27E, Eddy County and royalty fees will be paid by the Construction Company.

7. Methods of Handling Waste Disposal:

- A. Drill cuttings will be disposed of in the drilling pits.
- B. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.
- C. Water produced during test will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.
- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- E. Trash, wastepaper, garbage, and junk will be covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind.
- F. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. Ancillary Facilities: none

9. Wellsite Layout:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, mud pits, reserve pit, and location of major rig components.
- B. Only minor levelling of the wellsite will be required. No significant cuts and fills will be necessary. Other than a 4' cut on north side of location and a minimum fill on south side of location.
- C. The reserve pit will be plastic lined.
- D. The pad and pit area has been staked and flagged.

10. Plans for Restorations of the Surface:

- A. After completion of drilling and/or completion operations all equipment and other material not needed for operations will be removed. Pits will be filled and location cleaned of all trash and junk to leave the wellsite in an aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. On Federal surface - after abandonment, any special rehabilitation and/or revegetation requirements of the surface management agency will be complied with and accomplished as expeditiously as possible. All pits to be abandoned within 90 days.

11. Other Information:

- A. Topography: rolling hills
- B. Soil: Caliche and Sand
- C. Flora and Fauna: Flora consists of cockle burs, needle grass, rag weed, grease bush, cat claw and native grasses. Fauna consists of coyotes, cotton tail and jack rabbits, hawks, dove, field larks and rattlesnakes.
- D. Ponds and Streams: none
- E. Residences and Other Structures: none
- F. Land Use: Oil and Gas Production, grazing and hunting in season.
- G. Surface Ownership: BLM



12. Operator's Representative:

The field representative responsible for assuring compliance with the approved surface use and operations plan are as follows:

Name: Jack D. Jones  
Address: P. O. Box 1710, Hobbs, New Mexico 88240

Office Phone: 505 - 393-7163  
Home Phone: 505 - 392-5268

13. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Atlantic Richfield Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Date

J. D. Jones  
District Drilling Supt.

R 27 E

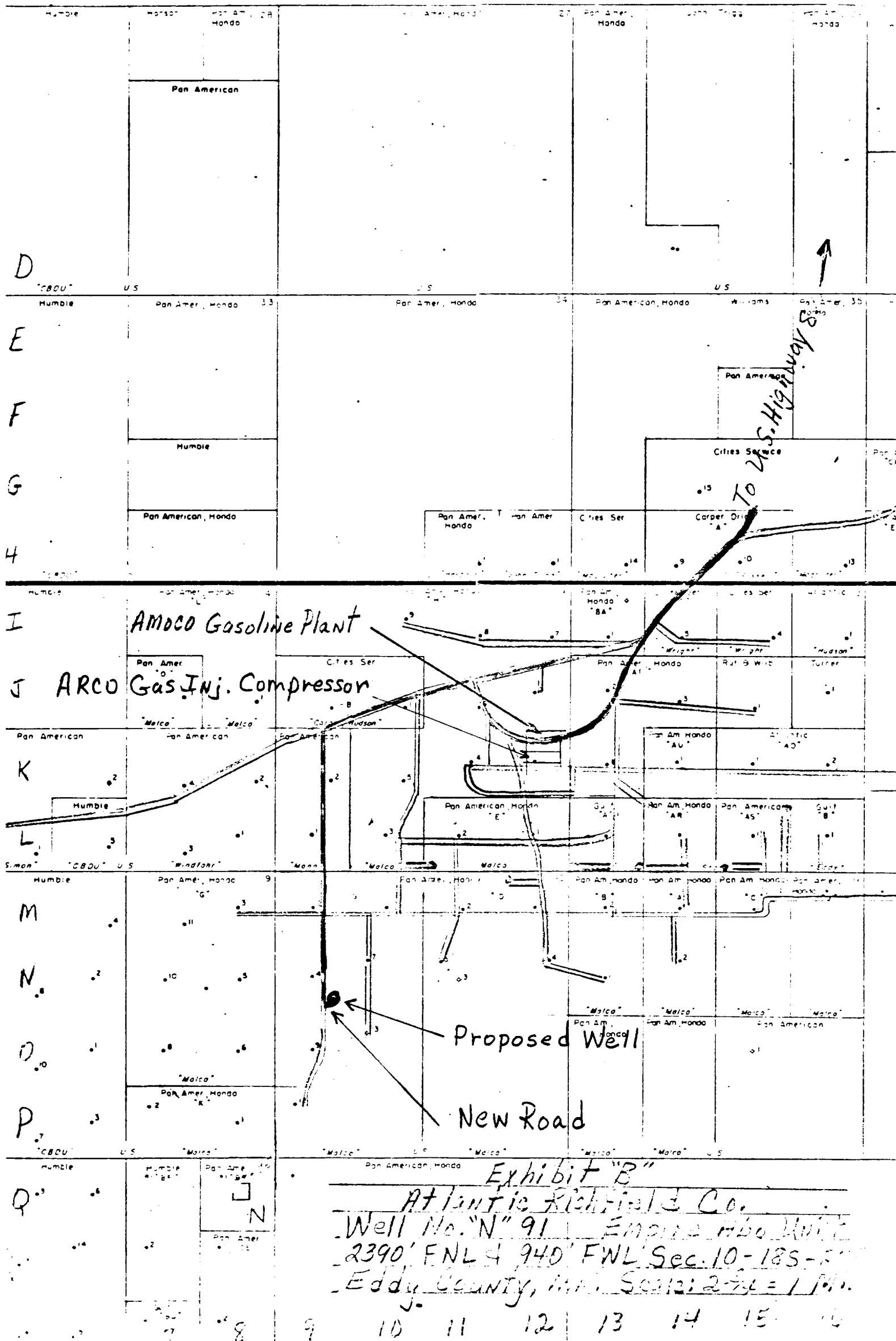


Exhibit "B"  
Atlantic Richfield Co.  
Well No. "N" 91 - Empire Mfg. Unit  
2390' FNL & 940' FWL Sec. 10-18S-R  
Eddy County, N.M. Serials 2-44-1 M.M.

T 17 S

T 18 S

Gas Injection Wells  
Gas Injection Lines  
Salt Water Disposal Wells  
Salt Water Disposal Lines  
R 27 E

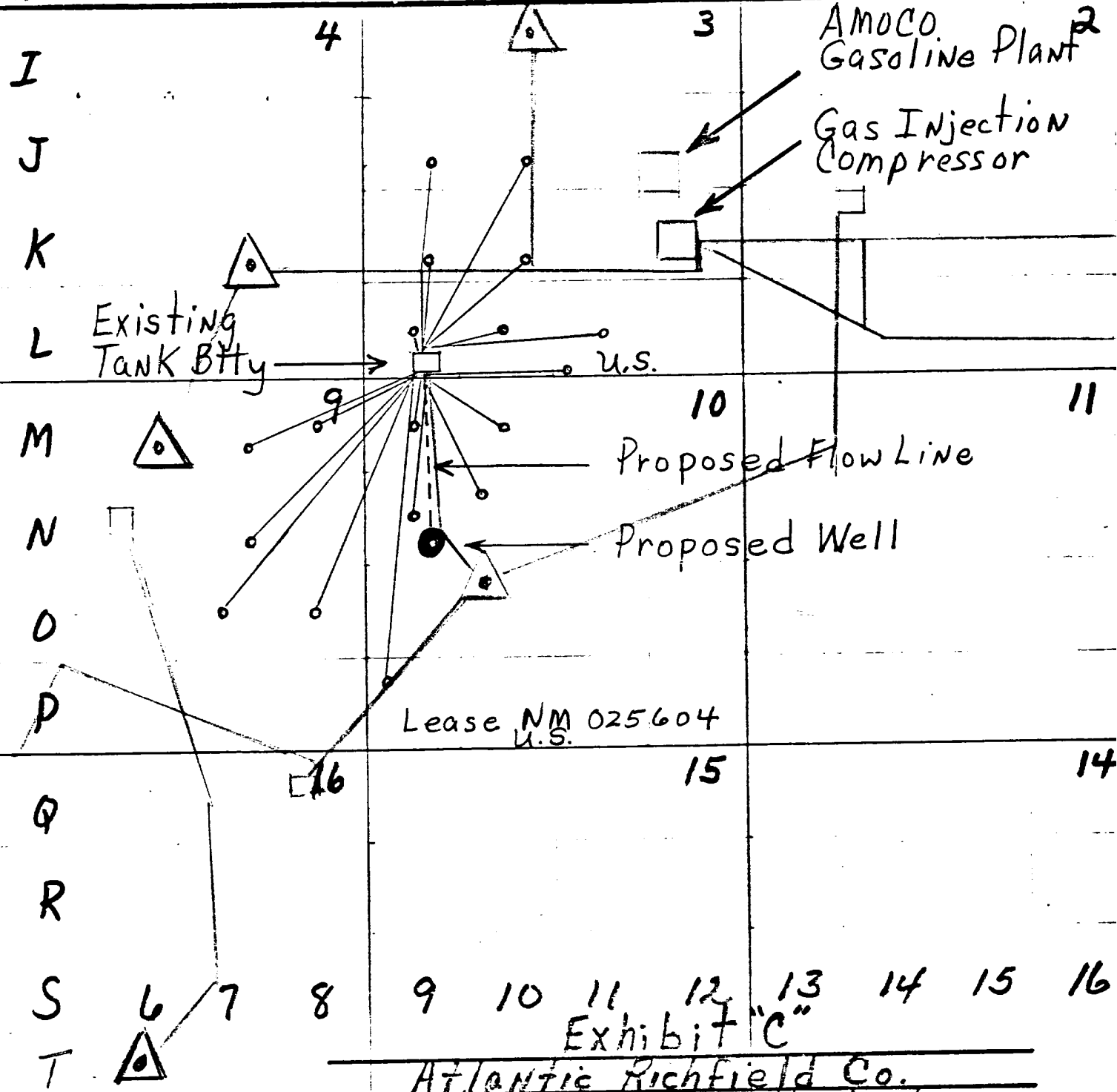


Exhibit "C"  
Atlantic Richfield Co.  
Well No. "N" 91 Empire Abo Unit  
2390' FNL & 940' FWL Sec. 10-18S-27E  
Eddy County, N.M. Scale: 2-3/4" = 1 Mi.

13' Trash Pit

Reserve:  
75' Pit  
75'

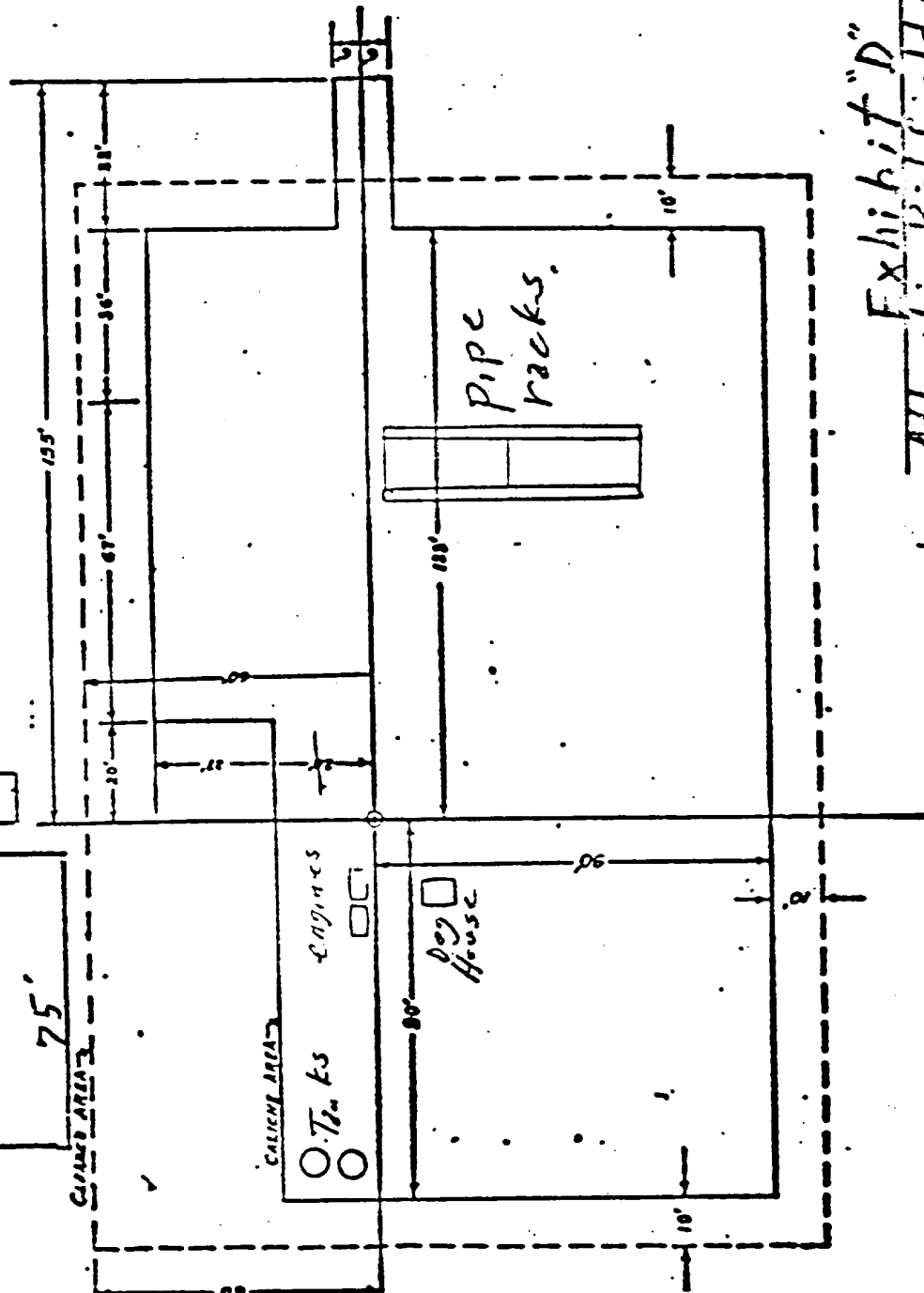


Exhibit "D"

Atlantic Richfield Co.

Rig layout

Well No. N 91 Empire Abo U

2390 FNL + 940 FNL Sec. 10-185

Eddy County, N.M.

# SPECIFICATIONS-

## A. LOCATION

1. CONVEYOR SHALL FURNISH, HALL, CUM STREET, AND CONTACT CALICHE MINIMUM SHALL BE 8" CONCRETE. WATER SHALL BE APPLIED AT THE APPROPRIATE RATE OF 1 GALLON PER SQ. FT. IN AREA OUTLINE BY AREA WITH A DASHED LINE SHALL BE 10' WITH PAD.

## ROAD WHEELS APPLICABLE

2. ROAD SHALL BE 10' IN THE RESERVATION. A 10' MINIMUM OF WIDE WITH CURVES AND 10' MINIMUM TO ACCOMMODATE LOADED TRUCKS. ROAD SHALL BE COVERED WITH 4" CONCRETE USING MIXER AT THE RATE OF APPROX. ONE CU YD PER 10' FT.

3. ATLANTIC SHALL FURNISH AT THE LOCAL, IN CATTLE GUARD, TINDER 300'S, AND POST. CONTRACTOR SHALL INSTALL CATTLE GUARD. LANDOWNER'S SPECIFICATIONS.

4. EXTRA CHARGE FOR ALL TURNING RADIUS BE ANTICIPATED AND LINEAR MEASUREMENTS SHALL INCLUDE SUCH EXTRA CHARGE REQUIREMENTS.

## C. GENERAL

1. DRILLING MAT CONTAINS AN ESTIMATED CUT FOR 1000'S MEASUREMENT.  
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ROYALTIES INCLUDING PIT ENTRY FEE, IF ANY.  
3. CELLAR TO BE 8" X 8" WOOD FRAME.

BLUE PRINT SHEET	
DATE	10/10/50
BY	W. J. H. H.
CHECKED BY	W. J. H. H.
APPROVED BY	W. J. H. H.
STANDARD DRILLING MAT	FOR WELLS LESS THAN 2000 FT.
FILE NO.	1000

1" = 45'