

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

30-015-22062

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 "L"

9. WELL NO.

121

10. FIELD AND POOL, OR WILDCAT

Empire Abo

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

3-18S-27E

12. COUNTY OR PARISH 13. STATE

Eddy

N.M.

## 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 Pichfield 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

1186' FSL &amp; 200' FEL (Unit Letter P)

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, FT.

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

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

19. PROPOSED DEPTH

6150'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

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

3509.3' GR

22. APPROX. DATE WORK WILL START\*

23.

## PROPOSED CASING AND 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 surf
7-7/8"	5-1/2" OD	14 & 15.5# K-55	6150'	1725 sx Circ to surf

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.

RECEIVED

JAN 27 1977

U. S. GEOLOGICAL SURVEY  
ARTESIA, NEW MEXICO

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*John K. ...*

TITLE Dist. Drlg. Supt.

DATE 1/20/77

(This space for Federal or State office use)

PERMIT NO.

APPROVED

CONDITIONS OF APPROVAL, IF ANY:

THIS APPROVAL IS REMOVED IF OPERATIONS  
ARE NOT COMMENCED WITHIN 3 MONTHS.  
EXPIRES MAY 25 1977

DATE

FEB 25 1977  
ACTING DISTRICT ENGINEER

\*See Instructions On Reverse Side

**NEW MEXICO OIL CONSERVATION COMMISSION**  
**WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form 1-77  
 Superseded 6-1-78  
 Effective 1-1-75

All distances must be from the outer boundaries of the Section

Section <b>ATLANTIC RICHFIELD COMPANY</b>			Lease <b>Empire Abo Unit "L"</b>		Acres <b>121</b>
Unit Letter <b>P</b>	Section <b>3</b>	Township <b>18 South</b>	Range <b>27 East</b>	County <b>Eddy</b>	
Actual Footage Location of Well: <b>1186</b> feet from the <b>south</b> line and <b>200</b> feet from the <b>east</b> line					
Ground Level Elev. <b>3509.3</b>	Producing Formation <b>Abo Reef</b>		Pool <b>Empire Abo</b>		Estimated Acreage <b>40</b>

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the map below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (that is, the working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of the owners been 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 (Use 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.

Name \_\_\_\_\_  
*John W. West*

**Dist. Drlg. Supt.**

**Atlantic Richfield Company**

Date  
**1/20/77**

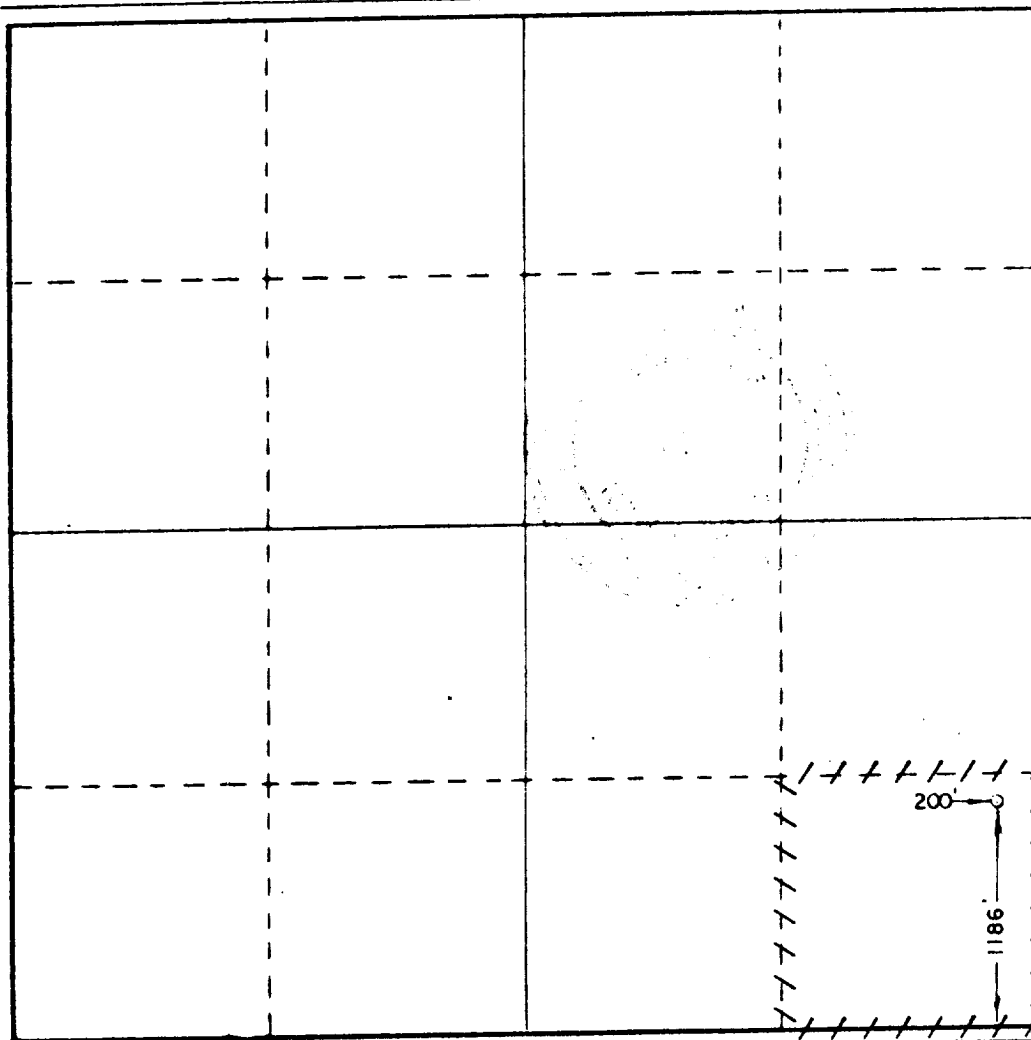
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**Sept 30, 1976**

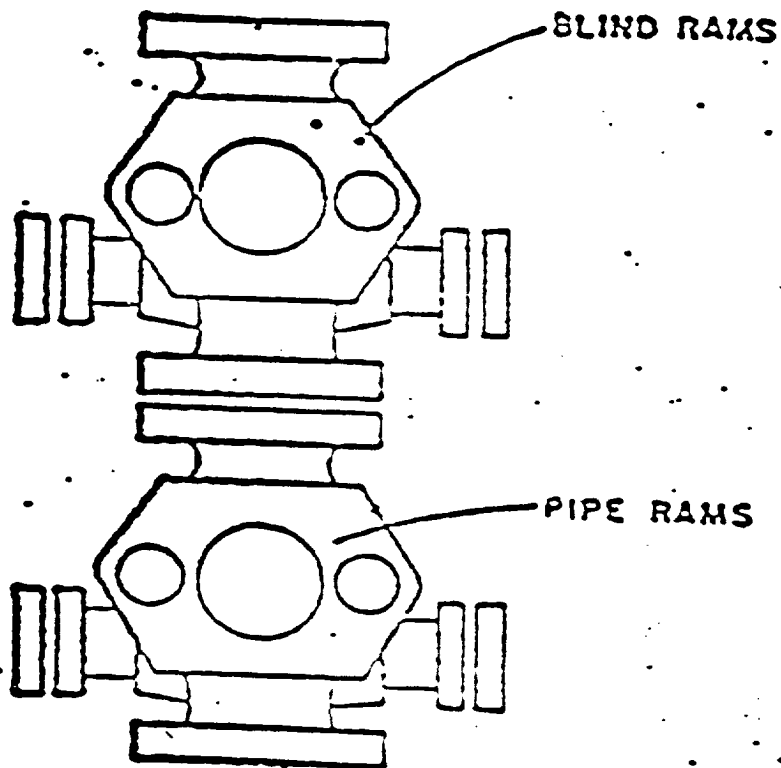
Registered Professional Engineer and Land Surveyor

*John W. West*

Certificate No. **676**



330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600



**ATLANTIC RICHFIELD COMPANY**  
**Blow Out Preventer Program**

**Lease Name** Empire Abo Unit "L"

**Well No.** 121

**Location** 1186' FSL & 200' FEL  
Sec 3-18S-27E, Eddy County

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.

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

Operator: Atlantic Richfield Company  
Lease & Well No: Empire Abo Unit "L" #121  
Location: Unit letter P, 1186' FSL & 200' FEL  
Section 3-18S-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 933', San Andres 1860', Glorieta 3328', Abo 5309'

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	-	933'	Oil & Gas
Abo	-	5309'	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 cement. Cl C cmt cont'g 4% gel, 1# 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 & 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

RECEIVED  
FEB 03 1977  
U.S. GEOLOGICAL SURVEY  
ARTESIA, NEW MEXICO

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; 1000-5200' Brackish water; 5200-6150' 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 to 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. 120' to be cored in Abo. Will run straddle tests after logging to locate Gas-Oil Contact.

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

15. The starting date will be approx 3/15/77 and will be completed approx 3/30/77.

A handwritten signature in dark ink, appearing to be "J. Jones" or similar, written in a cursive style.

Multi-Point Surface Use and Operations Plan

Atlantic Richfield Company  
Well No. "L" 121 Empire Abo Unit  
1186' FSL & 200' FEL Sec. 3-T18S-R27E  
Eddy County, New Mexico  
Lease, New Mexico 025604  
(Development Well)

RECEIVED  
JAN 27 1977  
U.S. GEOLOGICAL SURVEY  
ARTESIA, NEW MEXICO

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 mi. on U.S. Highway 82, turn right off Highway 82 on AMOCO Gasoline Plant black top existing road  $2\frac{1}{2}$  miles, turn left off black top, go  $\frac{1}{2}$  mi. South on dirt road, turn right to Southeast corner of Atlantic Richfield Gas Compressor Plant, new road flagged to location.
- B. Exhibit "B" is a plat showing all existing roads within a one mile radius of the wellsite and the planned access road.

2. Planned Access Roads:

- A. Length & Width: New road required will be 12' wide and 100' long. This new road is labeled and color coded red on Exhibit "B". The center line of the proposed new road from beginning to the wellsite has been staked and flagged with the stakes being visible from anyone to the next.
- B. Turnouts:  
None
- C. Culverts:  
None
- D. Cuts and Fills  
None
- E. Gates, Cattleguards  
None

3. Location of Existing Wells:

- A. See Exhibit "B" for existing wells within 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. "L" 121 are shown on Exhibit "C". The gas injection and salt water disposal lines are buried. The flow line is 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 used 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 the well pad. The source of caliche will be from an existing pit located in SW/4 SE/4 Sec. 1-18S-27E and any royalty payments will be made 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 tests 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, waste paper, 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. Location of trash pit is shown on Exhibit "D".
- 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:

- A. 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.
- C. The reserve pit will be plastic lined.
- D. The pad and pit area has been staked and flagged.

10. Plans for Restoration 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 as aesthetically pleasing a 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 consist of cockle-burs, needle grass, rag weeds, grease bush, cat claw and native grasses. Fauna consist of coyotes, jack rabbits, cotton tails, kangaroo mice, hawks, quail, 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 representatives 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  
(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 conditons 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.

1/25/77  
Date

J. D. Jones  
J. D. Jones -Dist. Drlg. Supt.