

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT ROSWELL DISTRICT OFFICE P.O. BOX 1397 ROSWELL, NEW MEXICO 88201



RECEIVED

MR 22 399

O. C. D. WARTESHA, COFFICE

The Petroleum Corporation of Delaware 3131 Turtle Creek Blvd., Suite 400 Dallas, Texas 75219-5415

Gentlemen:

NM-0144698 3162.41 (065)

Your application for Permit to Drill the Superior Federal No. 1 well in the SW2SW2 sec. 1, T. 20 S., R. 29 E., Eddy County, New Mexico, lease NM-0144698, to a depth of 12,100 feet to test the Morrow formation in the oil-potash area is hereby approved as amended by stipulations attached to the application.

One copy of the application is returned herewith. Please notify the Bureau of Land Management office checked on the attached special stipulation, in sufficient time for a representative to witness all cementing operations.

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Sincerely,

Francis R. Cherry, Jr. District Manager

1 Enclosure

cc: NMOCD - Artesia - 2

Form 3160-3 (November 1983) (formerty 9-331C)	SUBMIT IN 7 (Other instru- reverse i INTERIOR			ide)		No. 1004-0136 t 31, 1985		
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						6. IF INDIAN ALLOTT	CE OR TRIBE NAME	
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DRILL 🛛 DEEPEN							7. UNIT AGREEMENT	NAME
b. TYPE OF WELL	b. TIPE OF WELL CAR			I FI FIFE				
WELL W				Ht.	S. FARM OF LEASE NA	MB		
2. NAME OF OPERATOR							Superior-Federal	
	leum Corporation	of Delawar	е				9. WELL NO.	
3. ADDRESS OF OPERATOR						0	<b>1</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
3131 Turi	tle Creek Blvd. St	e 400, Dalla	s, Texas	75219	9-5415	<u>()</u>	19 AT AND POOL,	OR WILDCAT
4. LOCATION OF WELL (R At surface	eport location clearly and	in accordance wi	th any State	requirem	ents.*)	N	East Burton Fla	at (Morrow)
Unit Lette	er M. 660' FSL and				17	•• }	11. SEC., T., B., M., OR AND BURVEY OR A	BLE.
At proposed prod. zon								
							Sec. 1, T=20-S,I	<b>Κ-29-Ε</b>
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 12. COUNTY OR PARISH 13. STAT						I 13. STATE		
18 Miles E-NE of Carlsbad, New Mexico						New Mexico		
10. DISTANCE FROM PROPOSED <sup>®</sup> LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to Dearest drig, unit line, if any) (660)'						17. NO. OF ACRES ASSIGNED TO THIS WELL 320 S/2 Sec. 1		
13. DISTANCE FROM PROPOSED LOCATION <sup>®</sup> TO NEAREST WELL, DRILLING, COMPLETED,			1		20. ROTAL	20. ROTARY OR CABLE TOOLS		
OR APPLIED FOR, ON THI		ne	12,100				Rotary	
21. ELEVATIONS (Show whe					<u></u>	22. APPROX. DATE WO March 15, 1		
23.		PROPOSED CASI	NG AND CE	MENTING	G PROGRAM	1	······································	·····
SIZE OF HOLE	BIZE OF CASING	WEIGHT PER F	00T	SETTING	DEPTH		QUANTITY OF CEME	NT
15" or 17 <sup>1</sup> / <sub>7</sub> "	11 3/4" or 13 3/8"	42# or 62#		350'		Circ. t	o surface MII	NESS
$\frac{1100}{4}$ od $12\frac{1}{4}$	8 5/8"	24# & 32#		3200'			o surface With	NE55
7 7/8"	5 <u>1</u> "	17# & 20#	1:	2,100′		500 SX., Exact quantity to be determined from caliper		

Adequate BOP to be installed from 350' to TD.

Mud program outlined in Exhibit F.

۰ <u>۸</u>	Subject to Like Approval by State	NK & AP = 3-31-89
IN ABOVE SPACE DESCRIBE PROFOSED PROGRAM : If proposal is to zone. If proposal is to drill or deepen directionally, give perti preventer program, if any.		
BIGNED TA ROCH P. Handerson	TITLE OPERATIONS ENGINEER	ATE 2/10/09

POST TA-1

1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -

DATE

2-22-89

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(This space for Federal or State office use)

APPROVED BY CONDITIONS OF APPROVAL, IF ANY : į

BIGNED

PERMIT NO.

10-1 4

## \*See Instructions On Reverse Side

APPROVAL DATE

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

TITLE

## N MEXICO OIL CONSERVATION COMMISS. 4 WELL LOCATION AND ACREAGE DEDICATION PLAT

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Form C-102 Supersedes C-128 Effective 1-1-65

All distances must be from the outer boundaries of the Section.						
Operator TI D .			ease Suporio	r Fodorel		Well No.
	roleum Corp. o			r Federal		<b>5</b> 1
Unit Letter	Section	Township	Range	County		
M Actual Footage Loca		20 South	29 East	<u>E</u>	Eddy County	<u>, N.M.</u>
		Uoch	660 *		· · · • •	
660 Ground Level Elev.	feet from the Producing For	West line and	$\frac{660}{1124}$	feet from the S	South	line ated Acreage:
3297.		-	East Burton Fla	t (Morrow)	Dedici	320
				· · · · · · · · · · · · · · · · · · ·	<u>_</u>	Acies
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2. If more th interest an		dedicated to the well, o	outline each and i	identify the own	ership thereof	(both as to working
	ommunitization, u	fferent ownership is dec nitization, force-pooling	.etc?		rests of all o	wners been consoli-
🗌 Yes	No If an	swer is "yes," type of c	onsolidation	N/A		
- 4						
If answer i	s "no," list the o	owners and tract descrip	tions which have	actually been o	consolidated. (	Use reverse side of
	necessary.)					
No allowab	le will be assigne	d to the well until all in	terests have beer	n consolidated	(by communiti	zation, unitization,
Iorced-pool	ing, or otherwise)	or until a non-standard u	nıt, eliminating s	uch interests, l	nas been appro	ved by the Commis-
sion.						
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## APPLICATION FOR DRILLING The Petroleum Corporation Superior Federal Well No. 14-1 660' FSL and 660'FWL Section 1-T20S-R29E Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill, subject well in Section 1, Township 20 South, Range 29 East, Eddy County, New Mexico, The Petroleum Corporation submits the following ten items of pertinent information in accordance with U.S.G.S. requirements:

1. The geologic surface formation is Alluvium and Bolson deposits.

2. The estimated tops of geologic markers are as follows:

Yates	1,400'
Seven Rivers	1,700'
Delaware	3,200'
Bone Springs	5,900'
Wolfcamp	9,600′
Strawn	10,650'
Atoka	11,000′
Morrow	11,550'
Barnett Shale	12,150'

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3. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered are:

Water:	At approximately 240 feet.
Oil or Gas:	Wolfcamp at approximately 9,600'
	Strawn at approximately 10,650'
	Atoka at approximately 11,000'
	Morrow at approximately 11,550'

- 4. Proposed casing program: See Form 3160-3 and Exhibit F (Page 2)
- 5. Pressure control equipment: See Form 3160-3 and Exhibit E
- 6. Mud Program: See Exhibit F (Page 3)

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- 7. Testing, logging and coring programs: See Exhibit F (Page 2)
- 8. No abnormal pressures or temperatures are anticipated.
- 9. Anticipated starting date: As soon as possible.

Page 1 of 3

## THE PETROLEUM CORPORATION of Delaware 3131 Turtle Creek Blvd. Suite 400 Dallas, Texas 75219

The Petroleum Corporation Superior Federal Well No. 14-1 660' FSL and 660' FWL Section 1-T20S-R29E Eddy County, New Mexico

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## DRILLING PROGRAM

SUPERIOR FEDERAL NO. 14-1 Section 1, T-20-S, R-29-E Eddy County, New Mexico

LOCATION 660 feet FSL and 660' feet FWL of Section 1, T-20-S, R-29-E, Eddy County, New Mexico

ELEVATION 3,297 feet G. L.

GENERAL Drill a 15 inch hole to approximately 350 feet, and run 11-3/4 inch casing
Drill a 11 inch hole to approximately 3,200 feet and run 8-5/8 inch casing
Drill a 7-7/8 inch hole to approximately 12,100 feet for total depth

LOCATION This will be located on a federal lease and the Bureau of Land Management must be notified prior to any dirt work being done. Also, prior to cementing any casing the BLM office in Carlsbad must be notified (505/887-6544). The man in this office is Vince Balderaz. They also require a slush pit and burn pit in addition to the reserve pit. The BLM should also be notified prior to testing the BOP's just before drilling the Wolfcamp formation.

MUD PROGRAM	15 inch hole	Spud mud
۰,	11 inch hole	Brine water, circulating the reserve pit
۰.	7-7/8 inch hole	Drill with fresh water until reaching 10,000 feet if hole condition will permit; then discontinue circulating reserve pit and use brine water; at 10,000 feet add polymer for control; drill to total depth

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Page 2 of 3

Drilling Program Superior Federal No. 14-1 Page 2

The Petroleum Corporation Superior Federal Well No. 14-1 660' FSL and 660' FWL Section 1-T20S-R29E Eddy County, New Mexico

### ANTICIPATED FORMATIONS AND WELL DEPTHS

SAMPLE PROGRAM

ELECTRICAL LOGGING PROGRAM

SAFETY EQUIPMENT

## CASING PROGRAM

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1,400' Top of Yates Top of Seven Rivers 1,700' 3,200' Top of Delaware 5,900' Top of Bone Springs 9,600' Top of Wolfcamp Top of Strawn 10,650' 11,000' Top of Atoka 11.550' Top of Morrow Top of Barnett Shale 12,150'

Open hole drill stem tests will be made of all significant shows of hydrocarbons dependent upon satisfactory hole conditions

Ten foot (10') samples from base of intermediate casing to total depth

Dual Laterolog will be run from 3,200' to total depth

Compensated Neutron, Density Log and Borhole Compensated Sonic over all potential zones

PVT and flow line sensor from 3,200' to total depth. SWACO hydraulic choke from 3,200' to total depth. Rotating head, hydril and double ram preventors from 3,200' to total depth. Hydril and double ram preventors from 400 feet to 3,200'. Blow-out preventors to be pressure tested by Yellow Jacket prior to driling into the Wolfcamp formation.

 11-3/4 inch
 350 feet of 47#/ft, K-55, ST&C

 8-5/8 inch
 2,200 feet of 24#/ft. K-55, ST&C

 1,000 feet of 32#/ft, K-55, ST&C

 5-1/2 inch
 1,000 feet of 17#/ft, N-80, Buttress

 9,200 feet of 17#/Ft. N-80, LT&C

 1,900 feet of 20#/ft. N-80,LT&C

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EXHIBIT F Page 3 of 3

THE PETROLEUM CORPORATION Of Delaware 3131 Turtle Creek Blvd. Suite 400 Dallas, Texas 75219

The Petroleum Corporation Superior Federal Well No. 14-1 660' FSL and 660' FWL Section 1-T20S-R29E Eddy County, New Mexico

#### PROPOSED DRILLING FLUIDS PROGRAM

Superior Federal No. 14-1 Section 1, T-20-S, R-29-E Eddy County, New Mexico

DEPIH

Surface to 350 feet

DRILLING FLUIDS

Spud mud with fresh water gel and lime; 9.2#/gal; 28 to 32 viscosity

Run 11-3/4 or 13-3/8 inch casing set at 350 feet

350 feet to 3,200 feet

Run 8-5/8 inch casing set at 3,200 feet

3,200 feet to 10,000 feet

10,000 feet to 12,100 feet

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Brine water with salt gel and lost circulation material as required; 9.3#/gal; 28 to 30 viscosity

Drill out with existing brine water system, circulating reserve pit, maintaining chlorides at 90,000 ppm. Control ph with lime. Mud weight 9.2-9.4#/gal, viscosity 28-32, ph 9-10.

Discontinue reserve pit circulation, return to working pits, mud up with salt gel, lower water loss to 6 cc before drilling the Morrow formation. Water loss to be controlled by increasing oil content. 9.4-9.7#/gal 38-46 viscosity.

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## MULTI-POINT SURFACE USE AND OPERATIONS PLAN The Petroleum Corporation Superior Federal Well No. 14-1 660' FSL and 660' FWL Section 1-T20S-R29E Eddy County, New Mexico (Development Well)

The plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described will. The purpose of this 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 operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

#### 1. EXISTING ROADS.

- A. Exhibit A is a portion of BLM quad color map no. SE-24, on a scale of  $\frac{1}{2}$  inch to a mile, showing the area of the proposed wellsite and the roads in the vicinity. The location is situated approximately 18 miles northeast of Carlsbad, New Mexico, via the access road shown in red. Directions to the location are as follows:
  - (1) Starting from the intersection of 62/180 east of Carlsbad and the Pecos River, proceed east on 62/180 toward Hobbs for 13.7 miles.
  - (2) Turn left (north) on County Road #238 and go 2.1 miles to fork in the road.
  - (3) Take right hand fork and proceed on oil road for 2.1 miles to another fork in the road.
  - (4) Take right hand fork (east) and follow oil road approximately 1 mile to the Slinkard U.R. Federal #2 location pad.
  - (5) Take road from northwest corner of pad to location for Superior Federal 14-1 (3000')
- 2. PLANNED ACCESS ROAD.
  - A. The proposed new access road will be approximately 3000' from the northwest corner of the pad for the Slinkard U.R. Federal #2.
  - B. The new road will be 12 feet in width (driving surface) except at the point of origin, adjacent to the existing road, at which point enough additional width will be provided to allow heavy trucks and equipment to turn.
  - C. The new road will be covered with the necessary depth of caliche. The surface will be crowned, with drainage on both sides. No turnouts will be necessary.
  - D. The center line of the new road has been staked and flagged, and the route of the road is clearly visible.
- 3. LOCATION OF EXISTING WELLS.
  - A. Exhibit B shows the locations of the four (4) currently active producing wells on the lease: however; there are no active wells in the Section 1 acreage portion of the lease.

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- B. Exhibit B also shows the location of the currently active production adjacent to the Section 1 acreage.
- 4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.
  - A. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive of oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.
- 5. LOCATION AND TYPE OF WATER SUPPLY.
  - A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.
- 6. SOURCE OF CONSTRUCTION MATERIALS.
  - A. Any caliche required for construction of the drilling pad and the new access road will be obtained from and existing caliche pit located on State-owned surface in Section 29-T19S-R29E.
- 7. METHODS OF HANDLING WASTE DISPOSAL.
  - A. Drill cuttings will be disposed of in the reserve pits.
  - B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
  - C. Water produced during operations will be collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the USGS for appropriate approval.
  - D. Oil produced during operations will be stored in tanks until sold.
  - E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
  - F. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind.
  - G. 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 required.

9. WELLSITE LAYOUT.

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A. Exhibit D shows the dimensions of the well pad and reserve pits, and the location of major rig components.

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- B. The ground surface at the drilling location is relatively flat, with a gentle knoll toward the west. The pad area will be covered with six inches of compacted caliche.
- C. The reserve pits will be plastic lined.
- D. The pad and pit area has been staked and flagged.
- 10. PLANS FOR RESTORATION OF THE SURFACE
  - A. After finishing drilling and/or completion operations, all equipment and other material no needed for further operations will be removed. The location will be cleared of all trash and junk, to leave the wellsite in as aesthetically pleasing a condition as possible.
  - B. Unguarded pits, if any, containing fluids will be fenced until they have been filled.
  - C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment.

11. TOPOGRAPHY. (Exhibit C)

- A. The wellsite and access route are located in a relatively flat area.
- B. The topsoil at the wellsite is moderately soft sand.
- C. The E/2 NE/4 of Section 1 is a potash surface mining operation, located approximately 2800 feet NE of the proposed location.
- D. The vegetation cover at the wellsite is moderately sparse, consisting primarily of prairie grass, some yucca and cacti, and miscellaneous weeds. No wildlife was observed, but it is likely that typical semi-arid desert wildlife inhabit the area. The area is used for cattle grazing.
- E. There are no ponds, lakes, streams or rivers within several miles of the wellsite.
- F. There are no occupied dwellings in the vicinity of the location. The nearest windmills are located about two miles south and two miles east of the wellsite.
- G. The wellsite is located on federal surface.
- H. There is no evidence of any archaeological, historical, or cultural sites in the vicinity of the location.

## 12. OPERATOR'S REPRESENTATIVE

A. The field representative responsible for assuring compliance with the approved surface use plan is:

Jim Lunday Engineer 3105 Haynes Midland, Texas 79705 Telephone: Office: 915/697-3326

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### 13. CERTIFICATION

N. 1

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 The Petroleum Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Z/10/83 DATE

Kenner P. Neurisser

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Ronald P. Henderson Operations Engineer The Petroleum Corp. of Delaware







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