

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-101
Revised 10-1-78

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LAND OFFICE	
OPERATOR	

5A. Indicate Type of Lease
STATE ☒ FEE ☐
5. State Oil & Gas Lease No.
V-1268-1

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Unit Agreement Name N/A
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. Farm or Lease Name Lea State
2. Name of Operator Hudson Petroleum (USA), Inc. (405) 235-9531		9. Well No. 1-15
3. Address of Operator P.O. Box 26770, Oklahoma City, Ok. 73126		10. Field and Pool, or Wildcat Orama Rdg. Morrow Gas
4. Location of Well UNIT LETTER J LOCATED 1,980 FEET FROM THE East LINE AND 1,980 FEET FROM THE South LINE OF SEC. 16 TWP. 22 s RGE. 34 e NMPM		12. County Lea
19. Proposed Depth 13,600'		19A. Formation Atoka & Morrow
20. Rotary or C.T. Rotary		
21. Elevations (Show whether DF, RT, etc.) 3,502' 0L	21A. Kind & Status Plug. Bond Statewide	21B. Drilling Contractor Not Yet Known
22. Approx. Date Work will start September, 1987		

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP

See PAGES 2-4 for casing, cementing, and pressure control information.

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. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed W.P. Ezell Title **Drilling & Production Engineer** Date **AUG 19 1987**

(This space for State Use)

Orig. Signed by
Paul Kautz
Geologist

APPROVED BY _____ TITLE _____ DATE **AUG 24 1987**

CONDITIONS OF APPROVAL, IF ANY:

Permit Expires 6 Months From Approval
Date Unless Drilling Underway.

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

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

All distances must be from the outer boundaries of the Section.

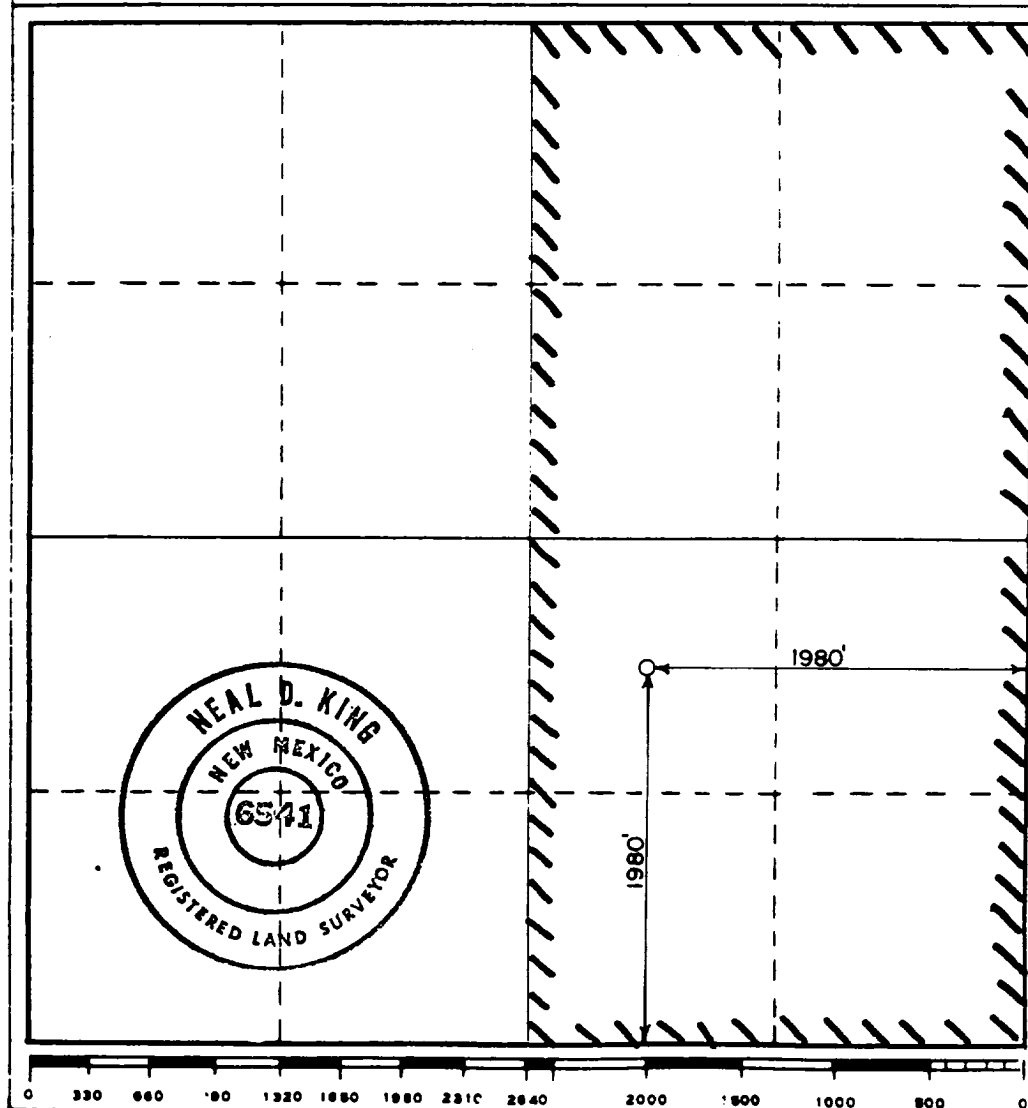
Operator Hadson Petroleum (USA), Inc.			Lease Lea State V-1268-1		Well No. 1-16
Unit Letter J	Section 16	Township 22 South	Range 34 East	County Lea	
Actual Footage Location of Well: 1980 feet from the South line and 1980 feet from the East line					
Ground Level Elev. 3502	Producing Formation Atoka & Morrow		Pool Gramma Ridge Morrow Gas		Dedicated Acreage: 320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (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 all owners been consolidated by communitization, unitization, force-pooling, etc?

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

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 W.P. Eyzal
 Position Drilling & Production Engr.
 Company Hadson Petroleum (USA), Inc.
 Date AUG 10 1987

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.

June 30, 1987

Date Surveyed _____
Neal D. King
 Registered Professional Engineer
 and/or Land Surveyor

6541

Certificate No.

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Lea State 1-16
1980' FSL & 1980' FEL
Sec. 16, T. 22 S., R. 34 E.
Lea County, New Mexico

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8 Point Drilling Program

1. FORMATION TOPS

The estimated tops of important geologic markers are:

<u>Formation Name</u>	<u>GL Depth*</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Quaternary Dunes	000'	20'	+ 3,502'
Delaware	4,300'	4,320'	- 798'
Bone Spring	8,490'	8,510'	- 4,988'
Wolfcamp	11,330'	11,350'	- 7,828'
Strawn	11,815'	11,835'	- 8,313'
Atoka A	12,920'	12,940'	- 9,418'
Atoka B	12,930'	12,950'	- 9,428'
Morrow A	13,080'	13,100'	- 9,578'
Morrow C	13,250'	13,270'	- 9,748'
Total Depth (TD)	13,600'	13,620'	-10,098'

* ungraded ground level

2. NOTABLE ZONES

The estimated GL depths at which gas zones are expected to be encountered are:

Atoka A: 12,920'-12,930'
Atoka B: 12,930'-12,950'
Morrow A: 13,080'-13,100'
Morrow C: 13,250'-13,270'

The entire well bore will either be cased or lined. Surface casing will be cemented throughout its length. Production and intermediate casing will be cemented through zones of interest. Water zones will be protected with

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casing and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested to determine commercial potential.

3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact type of BOP to be used is not yet known. Schematic diagrams of typical 10,000 psi BOPs are on the following page. Whatever BOP is used will be tested when installed and prior to drilling out.

BOPs will be inspected at least daily to assure good mechanical working order. This inspection will be recorded on the daily drilling report. BOPs will be operated on trips.

4. CASING & CEMENTING

The proposed casing program is:

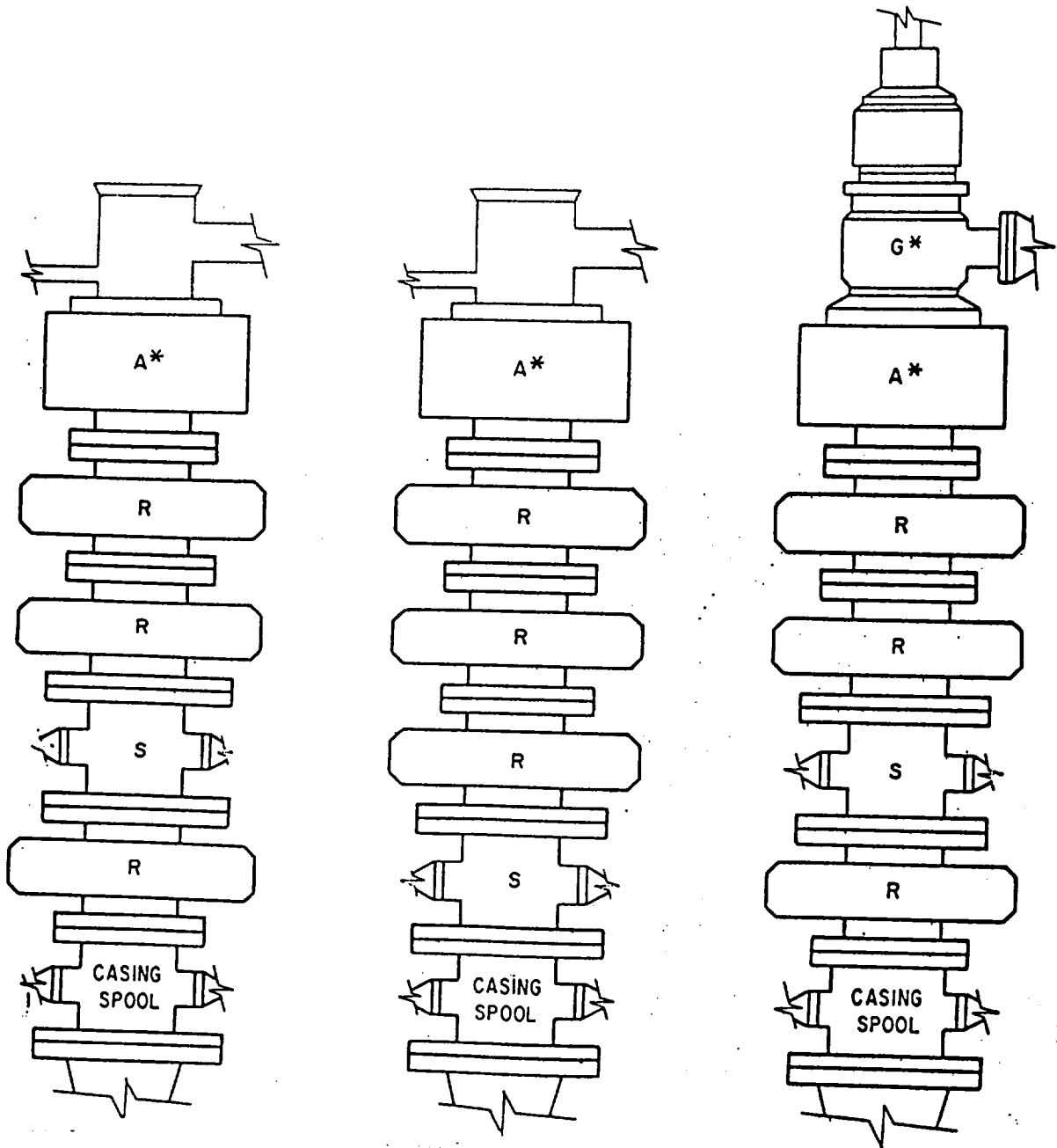
<u>Hole Size</u>	<u>O.D.</u>	<u>Weight (lb/ft.)</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>GL Setting Depth</u>
17-1/2"	13-3/8"	48	H-40	ST&C	New	1,000'
12-1/4"	9-5/8"	30	K-55/S-80	ST&C	New	5,500'
8-1/2"	7"	23/26	N-80/S-95	LT&C	New	11,700'
6-1/8"	4-1/2"	15.1	P-110	SFJP	New	13,600'

13-3/8" surface casing is calculated for 1,000' of fill with 100% excess. It will be cemented with 575 sx 65:35 C/POZ™ + 6% D20 gel + 2% CaCl₂ + 1/4 lb/sk D29 celloflake. Then tail with 250 sx Class C + 2% CaCl₂ + 1/4 lb/sk D29 celloflake.

9-5/8" surface casing is calculated for 5,500' of fill with 100% excess. It

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TYPICAL 10,000 psi WORKING PRESSURE BOP ARRANGEMENTS

A = Annular type blowout preventer

G = Rotating Head

R = Ram

S = Drilling spool with side outlet connections for choke & kill lines

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will be cemented with 1,550 sx 65:35 C/POZ™ + 6% D20 gel + 1/4 lb/sk D29 celloflake. Then tail with 450 sx Class C + 3 lb/sk D44 salt + 1/4 lb/sk D29 celloflake.

7" intermediate casing will be cemented with 250 sx Class H + 0.6% D60 fluid loss additive.

4-1/2" liner will be cemented 250 sx Class H GASBLOK™ + 5% D65 TIC™ + 0.05 gal/sk D47 + 1% KCl.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Water Loss</u>	<u>pH</u>
0'-1,000'	Spud/Gel	8.6-8.9	34-38	NC	NC
1,000'-5,500'	Fresh Water/Brine	8.4-10.1	28-33	NC	10-10.5
5,500'-11,700'	Fr. Water/Cut Brine	8.4-9.5	28-30	NC	10-10.5
11,700'-13,600'	XC Polymer/Drispac	11-13	38-42	5-15	9.5-10

Cedar plug, nut plug, paper, mica, and Kwik Seal will be on location in the event of lost circulation. A mud logging unit, gas detector, and flow sensor will also be present.

6. CORING, TESTING, & LOGGING

No cores are anticipated. Drill stem tests (DSTs) are most likely to be run in the Delaware, Bone Spring, and Wolfcamp zones. The following logs will be run:

DLL-GR-Caliper: Base of Surface Casing (1,000') to TD (13,600')
Micro-SFL, Compensated Neutron, Litho-Density: 4,300' to TD (13,600')

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7. DOWNHOLE CONDITIONS

No abnormal temperatures or hydrogen sulfide are expected. High pressure will be encountered from the top of the Strawn (11,815') to TD. Maximum pressure will be 9,000 psi.

8. OTHER INFORMATION

The anticipated spud date is in September, 1987. It is expected it will take 75 days to drill and 20 days to complete the well.