



OCD-ARTESIA

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 19 2008

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. LC-029415-B	
1b Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name -----	
2. Name of Operator: 25111 (RANDALL HUDSON 817-336-7190) HUDSON OIL COMPANY OF TEXAS (JON SMITH 575-676-2266)		7. If Unit or CA Agreement, Name and No. -----	
3a Address: 616 TEXAS STREET FORT WORTH, TEXAS 76102-4612		8. Lease Name and Well No. 35554 PUCKETT NORTH #. 2.	
3b Phone No (include area code): 817-336-7190		9. API Well No. 30-015-36632	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface: 1880' FWL & 1936' FSL SECTION 12 T17S-R31E EDDY CO. At proposed prod. zone: SAME		10. Field and Pool, or Exploratory: 43329 MALJAMAR-GRAYBURG SAN ANDRES	
14. Distance in miles and direction from nearest town or post office* Approximately 6 miles Northwest of Maljamar New Mexico		11. Sec., T R. M. or Blk and Survey or Area SECTION 12 T17S-R31E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 1830'		12. County or Parish EDDY CO.	
16. No. of acres in lease 1920		13. State NM	
17. Spacing Unit dedicated to this well 40			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 185'		20. BLM/BIA Bond No. on file BLM-NM-1055 STATEWIDE	
19. Proposed Depth 4300'			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3973' GL		22. Approximate date work will start* WHEN APPROVED	
		23. Estimated duration 15 days	
24. Attachments			

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature: <i>Joe T. Jsnica</i>	Name (Printed/Typed): Joe T. Jsnica	Date: 07/29/08
Title: Permit Eng.		
Approved by (Signature): <i>/s/ Don Peterson</i>	Name (Printed/Typed): /s/ Don Peterson	Date: SEP 17 2008
Title: FIELD MANAGER		
Office: CARLSBAD FIELD OFFICE		

Application approval 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.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43, U.S.C. Section 1212, make 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.

(Continued on page 2)

Roswell Controlled Water Basin

*(Instructions on page 2)

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

OCD-ARIESIA

Form 3160-5
(August 2007)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No 1004-0137
Expires July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.5. Lease Serial No.
LC 029415 B

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

7. If Unit of CA/Agreement, Name and/or No

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
Puckett North #22. Name of Operator
Hudson Oil Company of Texas

9. API Well No.

3a. Address
616 Texas Street
Fort Worth, Texas 761023b. Phone No. (include area code)
817-336-710910. Field and Pool or Exploratory Area
Maljamar - Grayburg San Andres4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
1830' FWL & 1936' FSL
Section 12, Township 17 South, Range 31 East11. Country or Parish, State
Eddy County, New Mexico**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Change surface</u>	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	location _____	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____	

13 Describe Proposed or Completed Operation. Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Surface location of the well will be changed per the request of BLM Biologist Steve Bird to the following:

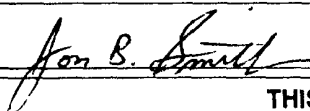
1880' FWL & 1936' FSL
Section 12, Township 17 South, Range 31 East

14 I hereby certify that the foregoing is true and correct Name (Printed/Typed)

Jon Smith

Title Field Superintendent

Signature



Date 8-26-08

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/s/ Don Peterson

Title

FIELD MANAGER

Date

SEP 17 2008

Conditions of approval, if any, are attached. Approval of this notice 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

Office

CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

(Instructions on page 2)

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II

1391 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code		Pool Name	
Property Code		Property Name PUCKETT NORTH			Well Number 2
OGRID No.		Operator Name HUDSON OIL COMPANY OF TEXAS			Elevation 3972'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	12	17-S	31-E		1936	SOUTH	1880	WEST	EDDY

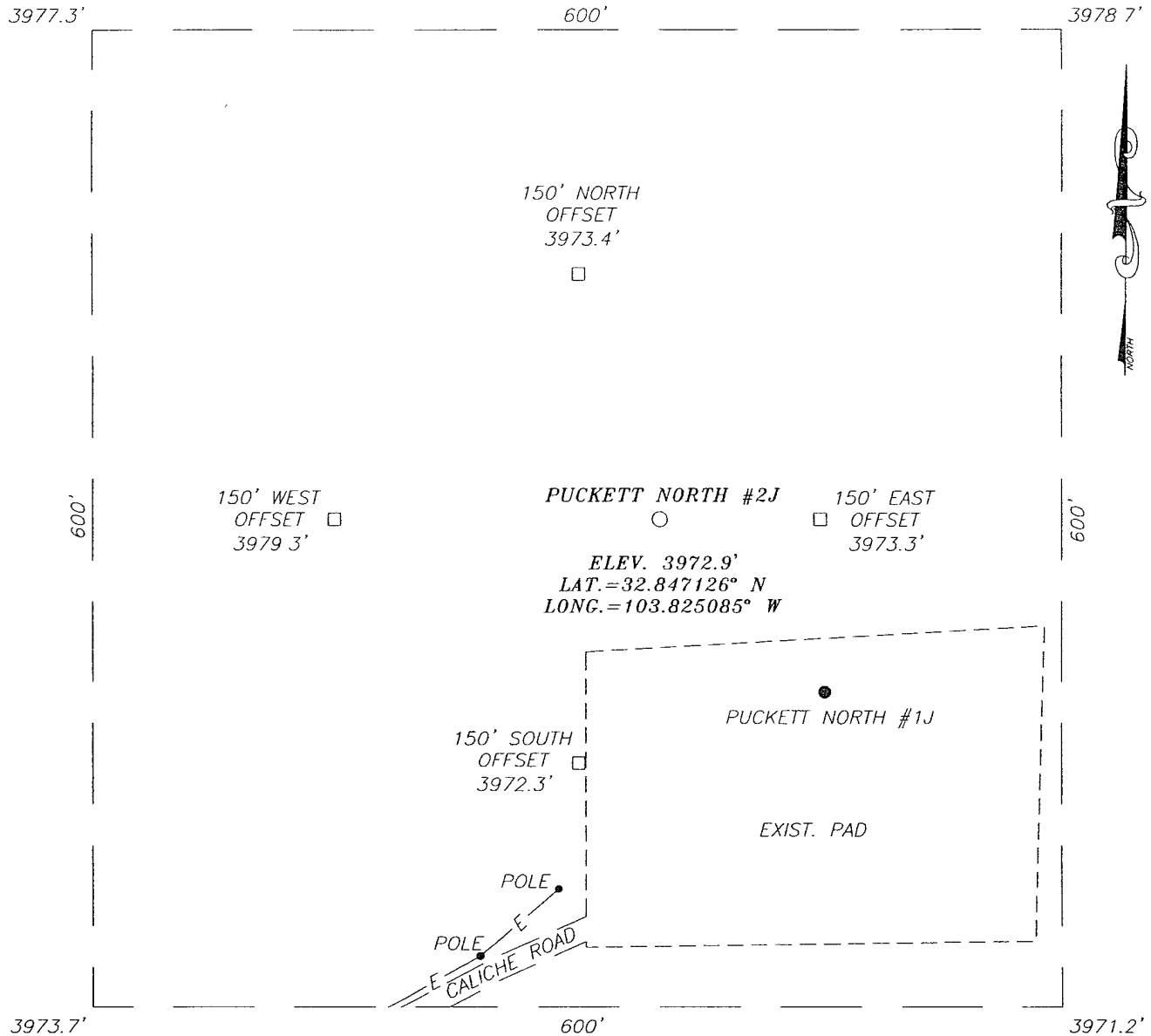
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres		Joint or Infill		Consolidation Code		Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

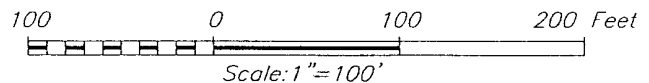
	<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=672271.2 N X=656089.5 E</p> <p>LAT = 32.847126° N LONG. = 103.825085° W</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>J.B. Smith</i> 8-26-08 Signature Date</p> <p>J.B. Smith Printed Name</p>
	<p>SURVEYOR CERTIFICATION</p> <p>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 belief</p>	
	<p>Date Surveyed: 8/25/08</p> <p>Signature & Seal of Professional Surveyor: <i>Ronald J. Eidson</i></p>	
	<p>Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>	

SECTION 12, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF US. HWY. #82 AND
CO. RD. #224 (RIPPLE RD.), GO SOUTHWEST ON
US. HWY. #82 APPROX. 1.0 MILE. TURN RIGHT
AND GO NORTHWEST APPROX. 0.3 MILES. TURN
RIGHT AND GO NORTH APPROX. 1.7 MILES. TURN
RIGHT AND GO EAST APPROX. 0.85 MILES TO THE
EXISTING PUCKETT NORTH #1J WELL PAD. THIS
LOCATION IS APPROX. 185 FEET NORTHWEST.



HUDSON OIL COMPANY OF TEXAS

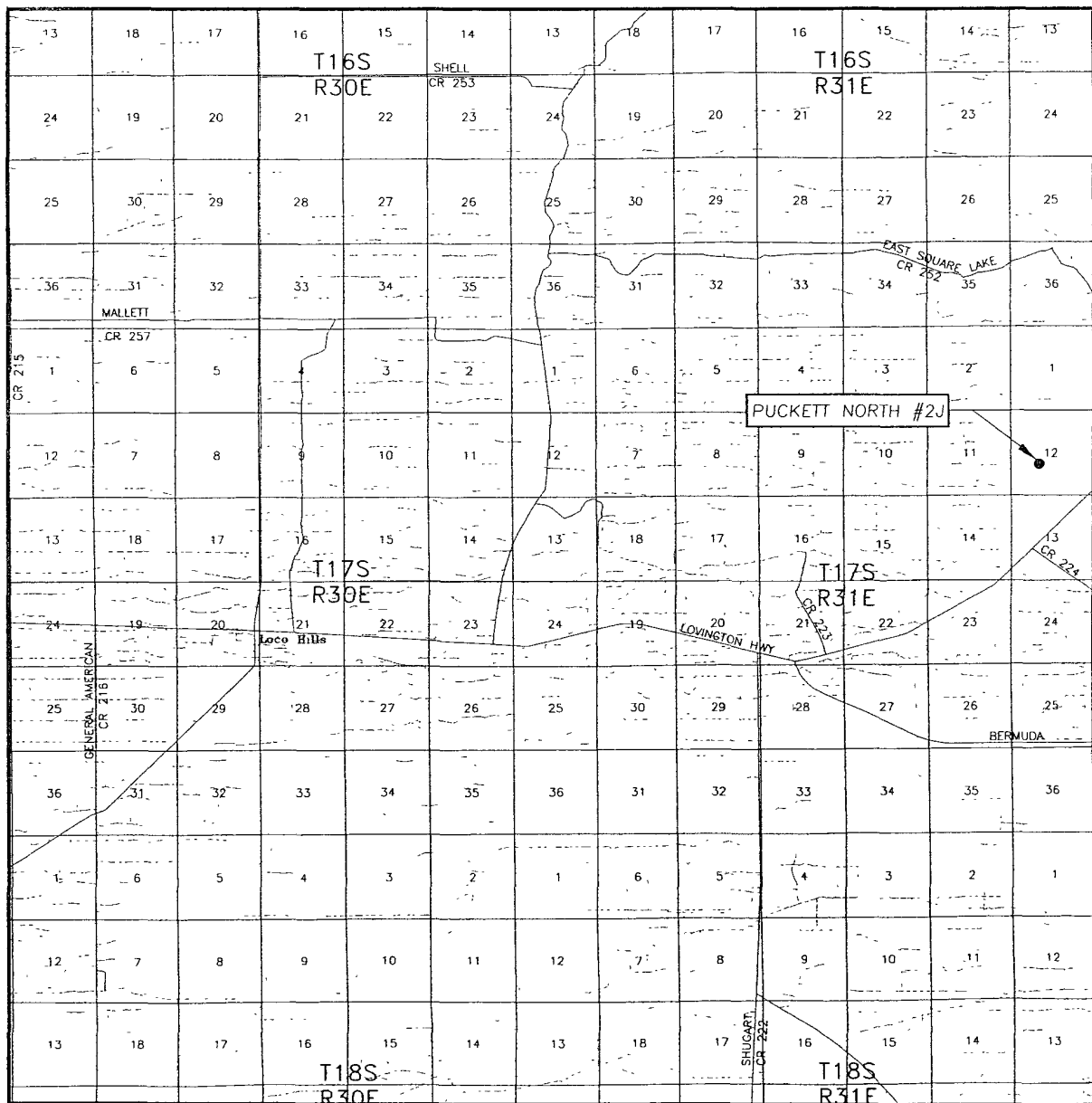
PUCKETT NORTH #2J WELL
LOCATED 1936 FEET FROM THE SOUTH LINE
AND 1880 FEET FROM THE WEST LINE OF SECTION 12,
TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 6/20/08	Sheet 1 of 1 Sheets
W.O. Number: 08.13.1372	Dr By: LA
Date: 8/25/08	08131372
	Scale: 1"=100'



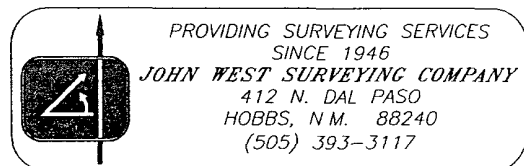
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

VICINITY MAP

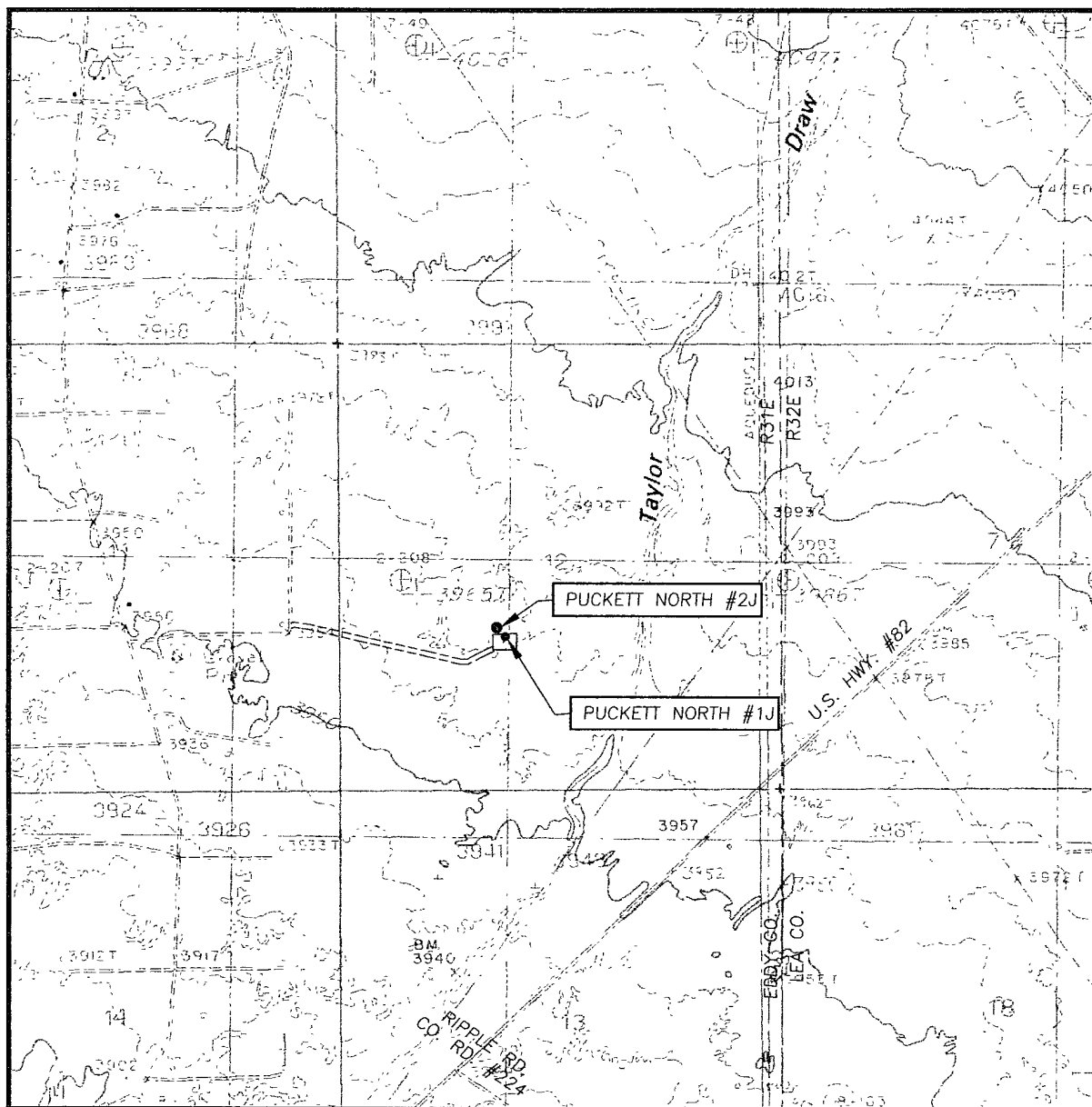


SCALE: 1" = 2 MILES

SEC. 12 TWP. 17-S RGE. 31-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 1936' FSL & 1880' FWL
 ELEVATION 3972'
 OPERATOR HUDSON OIL COMPANY OF TEXAS
 LEASE PUCKETT NORTH



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M. - 10'

SEC. 12 TWP. 17-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1936' FSL & 1880' FWL

ELEVATION 3972'

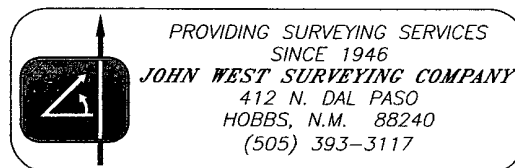
OPERATOR HUDSON OIL

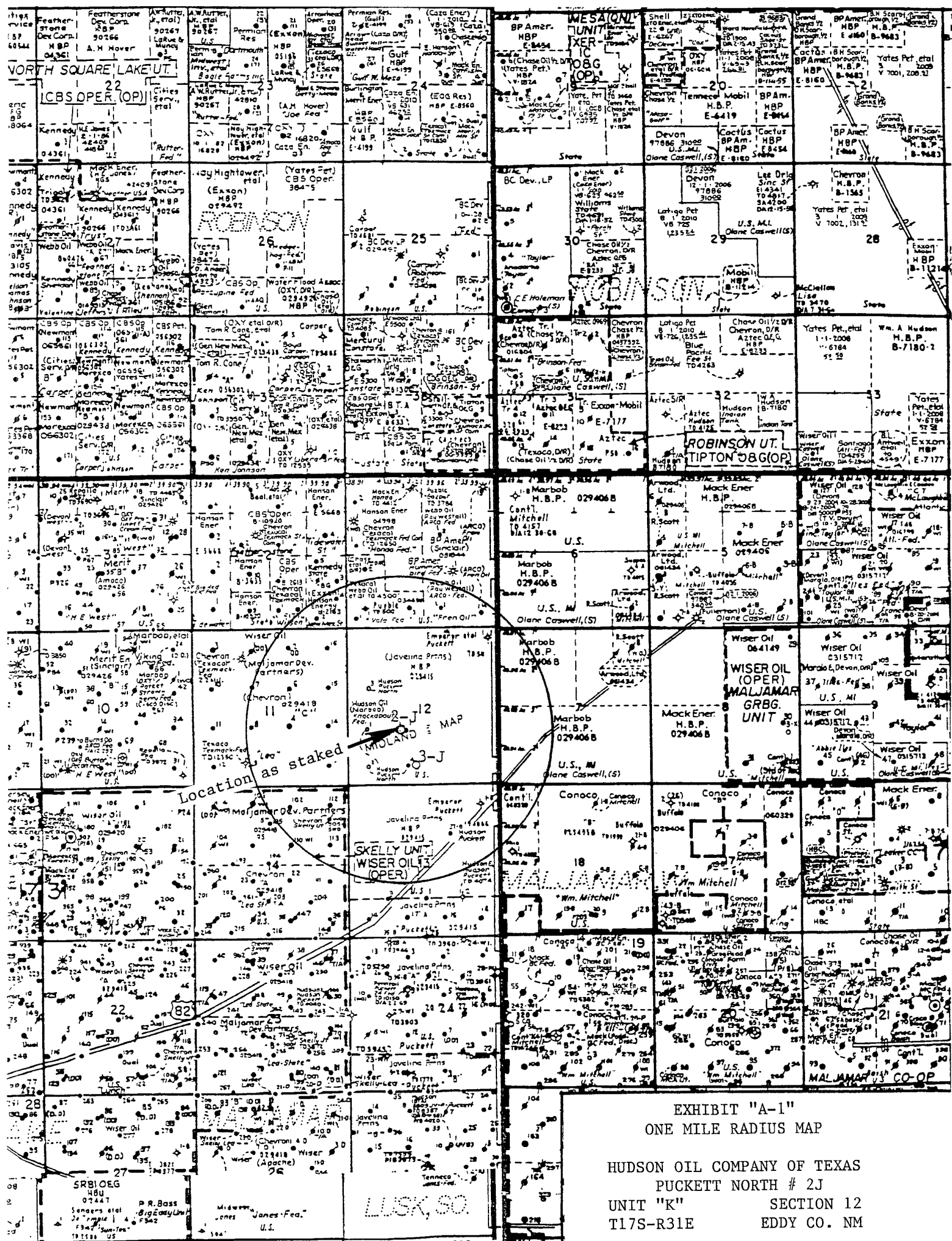
COMPANY OF TEXAS

LEASE PUCKETT NORTH

U.S.G.S. TOPOGRAPHIC MAP

MALJAMAR, N.M.





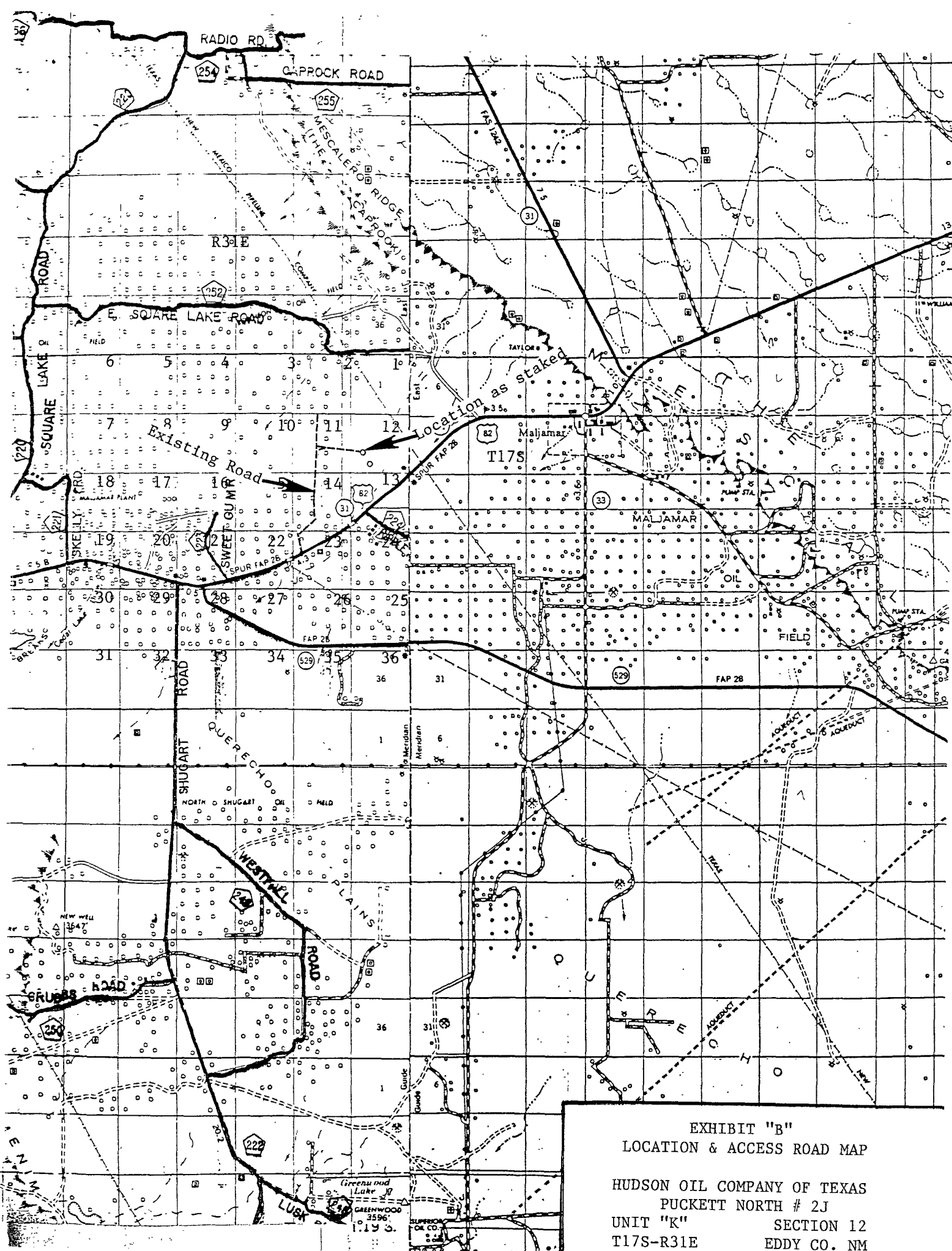


EXHIBIT "B"
LOCATION & ACCESS ROAD MAP

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

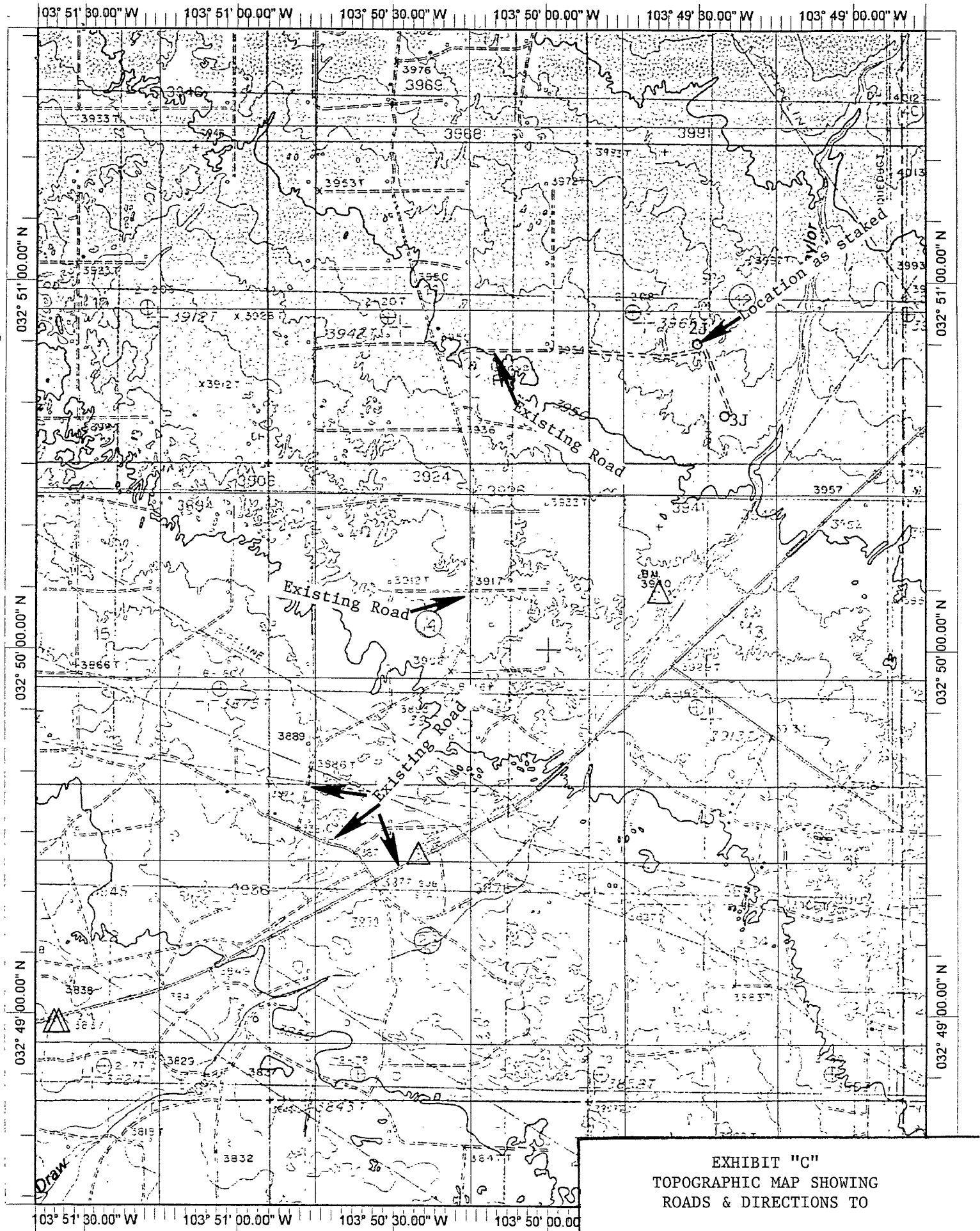


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

Date: NAD27

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APPLICATION TO DRILL

HUDSON OIL COMPANY OF TEXAS
 PUCKETT NORTH # 2J
 UNIT "K" SECTION 12
 T17S-R31E EDDY CO. NM

In response to questions asked under Section II of Bulliten NTL-6, the following information on the above will be provided.

1. LOCATION: 1936' FSL & 1830' FWL SECTION 12 T17S-R31E EDDY CO. NM
2. ELEVATION ABOVE SEA LEVEL: 3973' GL
3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits.
4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.
5. PROPOSED DRILLING DEPTH: 4300'
6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	685'
Queen	3135
Grayburg	3640'
San Andres	3950'
7. POSSIBLE MINERAL BEARING FORMATIONS:

Queen	Oil
Grayburg	Oil
San Andres	Oil
8. CASING PROGRAM:

HOLE SIZE	INTERVAL	OD OF CASING	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
26"	0-40	20"	NA	NA	NA	Conductor	New
12 1/2"	0-725	8 5/8"	24#	8-R	ST&C	J-55	New
7 7/8"	0-4300'	5 1/2"	17#	8-R	ST&C	J-55	New

Casing design factors:

Collapse	1.125	Burst	1.0	Body Yield	1.5	Joint Strength	8-R	1.8
						Buttress		1.6

APPLICATION TO DRILL

HUDSON OIL COMPANY OF TEXAS
 PUCKETT NORTH # 2J
 UNIT "K" SECTION 12
 T17S-R31E EDDY CO. NM

9. CASING CEMENTING & SETTING DEPTHS:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
8 5/8"	Surface	Set 725' of 8 5/8" 24# J-55 ST&C casing. Cement with 190 Sx. of Perm-Lite, + 3% CaCl, Yield 1.89, tail in with 200 Sx. of Premium Lite cement + 2% CaCl Yield 1.35, circulate cement to surface.
5 1/2"	Production	Set 4300' of 5 1/2" 17# J-55 ST&C casing. Cement with 1500 Sx. of Premium Lite + additives, Yield 1.97, Tail in with 150 Sx. of 50/50 CLASS "C" POZ + additives Yield 1.4, circulate cement to surface.

see COA →

*per operator
9/5/08*

10. PRESSURE CONTROL EQUIPMENT:

Exhibit "E" shows a 2000 PSI working pressure B.O.P. with an annular bag type preventor, with 2" inlets and 2" outlets to the choke manifold. This B.O.P. will be nipped up on the 8 5/8" casing. The B.O.P. will be tested to the pressures acceptable to the BLM. Exhibit "E-1" shows a 2-3M PSI choke manifold with two adjustable chokes and a 3" blow down line to the pit. No abnormal pressures or abnormal temperatures are expected while drilling this well. Other wells drilled in this section and area have not encountered any problems while drilling.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-725'	8.4-8.7	29-32	NC	Fresh water Spud Mud use paper to control seepage .
725-TD	10.1-10.2	29-38		Brine water add Salt Water Gel if native mud does not have the desired viscosity. Use paper to control seepage. If water loss control is needed use starch to accomplish these needs.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run logs and casing the mud system may have to be altered to meet these needs,

APPLICATION TO DRILL

HUDSON OIL COMPANY OF TEXAS

PUCKETT NORTH # 2J

UNIT "K"

SECTION 12

T17S-R31E

EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Laterolog, SNP, MSFL, LDT, Caliper and Gamma Ray log from TD back to the 8 5/8" casing shoe.
- B. Cased hole log: Gamma Ray, Neutron from the 8 5/8" casing shoe to the surface.
- C. No DST's, Cores, or Mud Logger is planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H²S in this area. If H²S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 2150± PSI, and Estimated BHT 135°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

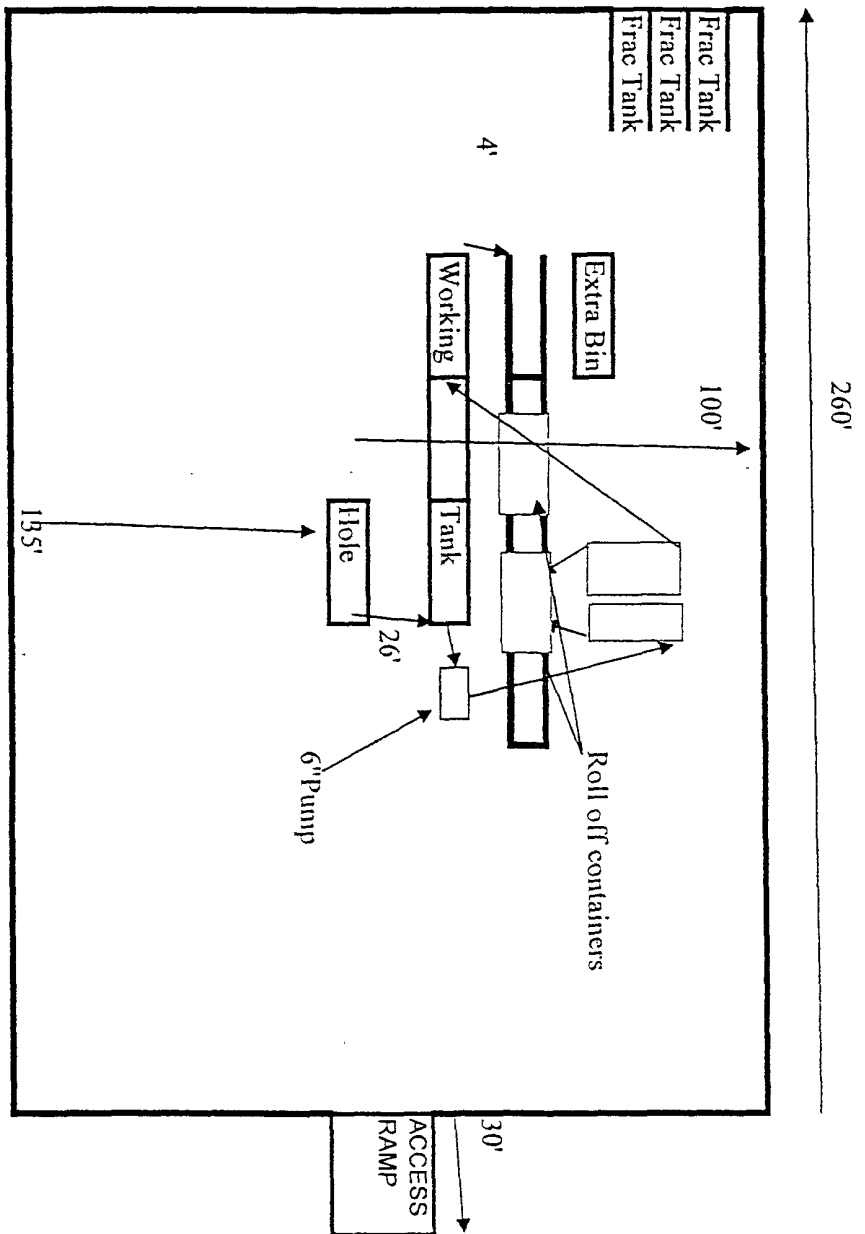
Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 15 days days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The GRBG-SAN ANDRES formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as an oil well.

RIG PLAT

50' Of Excess Around Back Of Rig For Water Trucks.



PROPOSED DRILL SITE LAYOUT

EXHIBIT "D" RIG LAY OUT PLAT

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH #2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

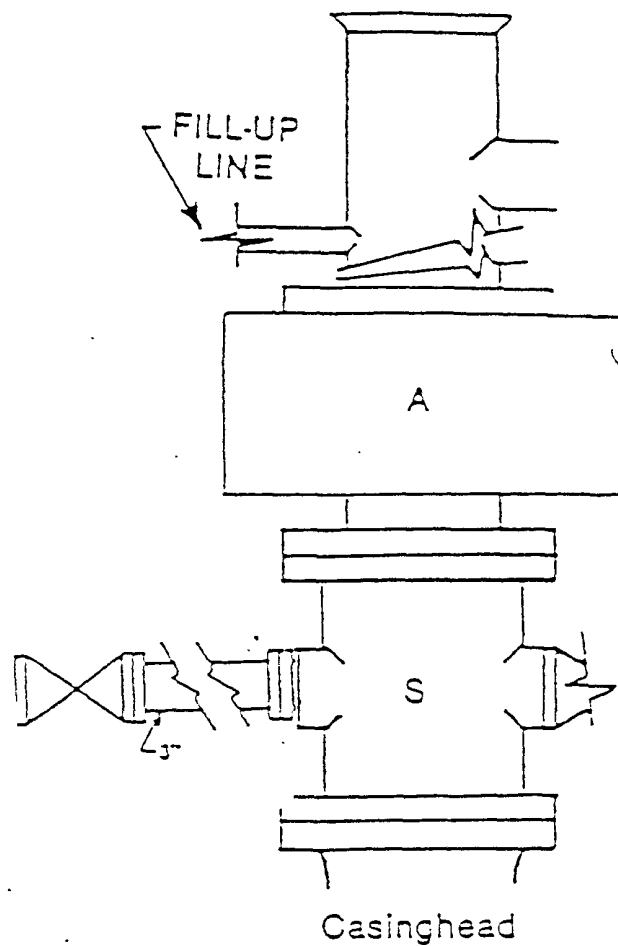


FIGURE K1-1. Recommended IADC Class 2 BOP stack, 2000 psi WP. Either SRd (left) or SA (right) arrangement is acceptable and drilling spool is optional.

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

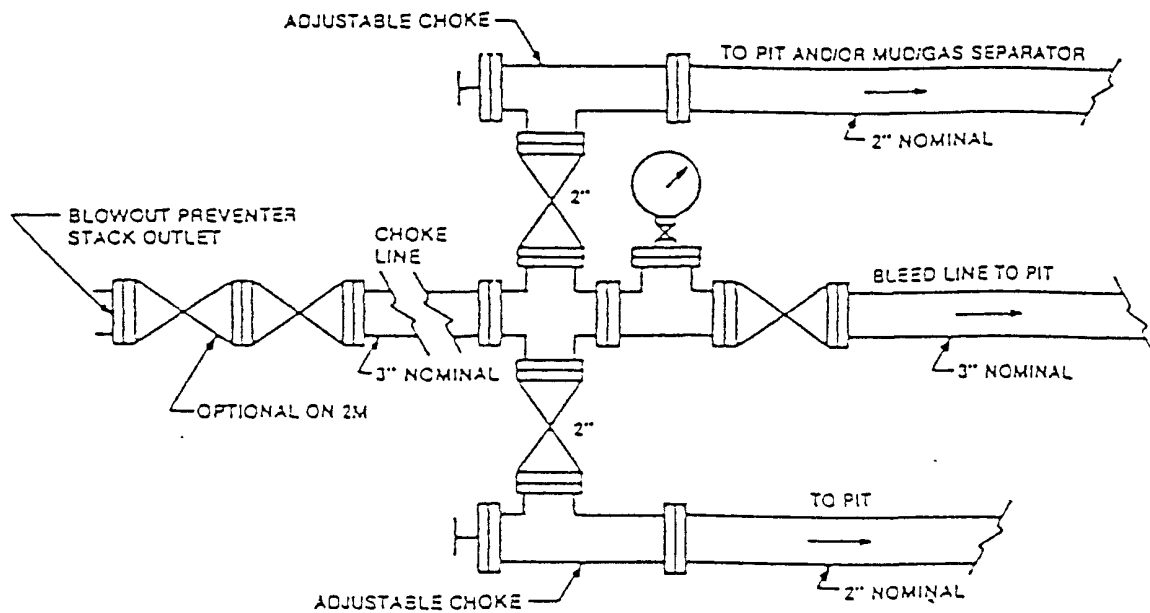


FIGURE K-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

HUDSON OIL COMPANY OF TEXAS
HYDROGEN SULFIDE CONTINGENCY PLAN
FOR DRILLING/WORKOVER/FACILITY

This well and its anticipated facility are not expected to have Hydrogen Sulfide releases. However, there may be Hydrogen Sulfide production in the nearby area. There are no private residences in the area but a contingency plan has been orchestrated. Hudson Oil Company of Texas will have a Company representative available to the rig personnel through out drilling or production operations. If Hydrogen Sulfide is detected or suspected, monitoring equipment will be acquired for monitoring and/or testing.

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General H2S Emergency Actions:

1. All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".
2. If for any reason a person must enter the hazardous area, they must wear a SCBA (Self Contained Breathing Apparatus).
3. Always use the "buddy system"
4. Isolate the well/problem if possible
5. Account for all personnel
6. Display the proper colors warning all unsuspecting personnel of the danger at hand.
7. Contact the Company personnel as soon as possible if not at the location (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of the emergency response agencies and nearby residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S

1. All personnel will don the self contained breathing apparatus
2. Remove all personnel to the "safe area" (always use the buddy system)
3. Contact company personnel if not on location]
4. Set in motion the steps to protect and or remove the general public to and upwind "safe area" Maintain strict security & safety procedures while dealing with the source.
5. No entry to any unauthorized personnel
6. Notify the appropriate agencies: City Police – City Street(s)
State Police – State Rd.
County Sheriff – County Rd.
7. Call the NMOCD

If at this time the supervising person determines the release of H2S cannot be contained to the site location and the general public is in harms way he will take the necessary steps to protect the workers and the public.

EMERGENCY CALL LIST: (Start and continue until ONE of these people has been contacted)

	OFFICE	MOBILE	HOME
JON B. SMITH	575-676-2266	575-365-8064	575-396-4494
RANDELL HUDSON	817-336-7190		

EMERGENCY RESPONSE NUMBERS:

State Police	Eddy County		505-748-9718
State Police	Lea County		505-392-5588
Sheriff	Eddy County		505-746-2701
Sheriff	Lea County		
Emergency Medical Service (Ambulance)	Eddy County		911 or 505-746-2701
	Lea County	Eunice	911 or 505-394-3258
Emergency Response	Eddy County SERC		505-476-9620
	Lea County		
Artesia Police Dept			505-746-5001
Artesia Fire Dept			505-746-5001
Carlsbad Police Dept			505-885-2111
Carlsbad Fire Dept			505-885-3125

EMERGENCY CALL LIST (CONT.)

Loco Hills Police Dept		505-677-2349
Jal Police Dept		505-395-2501
Jal Fire Dept		505-395-2221
Jal Ambulance		505-395-2221
Eunice Police Dept		505-394-0112
Eunice Fire Dept		505-394-3258
Eunice Ambulance		505-394-3258
Hobbs Police Dept		505-397-3365
Hobbs Fire Dept		505-397-9308
NMOCD	District 1 (Lea, Roosevelt, Curry)	505-393-6161
	District 2 (Eddy, Chavez)	505-748-1283
Lea County Information		505-393-8203
Callaway Safety	Eddy/Lea Counties	505-392-2973
BJ Services	Artesia	505-746-3140
	Hobbs	505-392-5556
Halliburton	Artesia	1-800-523-2482
	Hobbs	1-800-523-2482
Wild Well Control	Midland	432-550-6202
	Mobile	432-553-1166

PROTECTION OF THE GENERAL PUBLIC (ROE)

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road with the general public may travel)
- 100 ppm radius of ¼ mile in New Mexico will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H₂S could be present in concentrations greater than 100 ppm in the gas mixture

CALCULATIONS FOR THE 100 PPM (ROE) "PASQUILL-GIFFORD EQUATION"

$X = [(1.589) (\text{mole fraction}) (Q\text{-volume in std cu ft})] \text{ to the power of } (0.6258)$

CALCULATION FOR THE 500 PPM ROE:

$X = [(.4546) (\text{mole fraction}) (Q - \text{volume in std cu ft})] \text{ to the power of } (0.6258)$

Example:

If a well/facility has been determined to have 150 / 500 ppm H₂S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

150 ppm $X = [(1.589) (.00015) (100,000 \text{ cfd})] \text{ to the power of } (.6258)$
 $X = 7 \text{ ft.}$

500 ppm $X = [(.4546) (.0005) (100,000 \text{ cfd})] \text{ to the power of } (.6258)$
 $X = 3.3 \text{ ft.}$

(These calculations will be forwarded to the appropriate District NMOCD office when Applicable)

PUBLIC EVACUATION PLAN:

- Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- A trained person in H₂S safety shall monitor with detection equipment the H₂S concentration, wind and area exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. (All monitoring equipment shall be UL approved, for use in class 1 groups A, B, C & D, Division 1, hazardous locations. All monitor will have a minimum capability of measuring H₂S, oxygen and flammable values.)

- Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:

1. Human life and/or property are in danger.
2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTION FOR IGNITION:

1. Two people are required. They must be equipped with positive pressure, self contained breathing apparatus and a "D" ring style full body, OSHA approved safety harness. Non flammable rope will be attached.
2. One of the people will be qualified safety person who will test the atmosphere for H₂S, oxygen and LFL. The other person will be the company supervisor; he is responsible for igniting the well.
3. Ignite up wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25 mm flare gun shall be used, with a \pm 500 ft. range to ignite the gas.
4. Prior to ignition, make a final check with combustible gases.
5. Following ignition, continue with the emergency actions & procedures as before.

REQUIRED EMERGENCY EQUIPMENT:

1. **Breathing apparatus:**
 - Rescue packs (SCBA) – 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - Work/Escape packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity
 - Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.
2. **Signage & Flagging:**
 - One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - A colored conditioned flag will be on display, reflecting the condition at the site at the time.
3. **Briefing Area:**
 - Two perpendicular areas will be designated by signs and readily accessible.
4. **Wind Socks:**
 - Two windsocks will be placed in strategic locations, visible from all angles.
5. **H2S Detectors & Alarms:**
 - The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible at 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)
 - Rig Floor
 - Bell Nipple
 - End of flow line or where well bore fluid are being discharged.
6. **Auxiliary Rescue Equipment:**
 - Stretcher
 - Two OSHA full body harness
 - 100 ft. 5/8 inch OSHA approved rope.
 - 1 – 20# class ABC fire extinguisher
 - Communication via cell phones on location and vehicles on location.

USING SELF CONTAINED BREATHING AIR EQUIPMENT (SCBA):

- (SCBA) SHOULD BE WORN WHEN ANY OF THE FOLLOWING ARE PERFORMED:
 - Working near the top or on the top of a tank
 - Disconnecting any line where H₂S can reasonably be expected
 - Sampling air in the area to determine if toxic concentration of H₂S can exist.
 - Working in areas where over 10 ppm on H₂S has been detected.
 - At any time there is a doubt as the level of H₂S in the area.
- All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.
- Facial hair and standard eyeglasses are not allowed with SCBA.
- Contact lenses are never allowed with SCBA.
- Air quality shall be continuously checked during the entire operation.
- After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.
- All SCBA shall be inspected monthly.

RESCUE AND FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H₂S) POISONING:

- Do not panic
- Remain calm and think
- Get on the breathing apparatus

- Remove the victim to the safe breathing area as quickly as possible. Up wind and uphill from source or cross wind to achieve upwind.
- Notify emergency response personnel.
- Provide artificial respiration and or CPR, as necessary.
- Remove all contaminated clothing to avoid further exposure.
- A minimum of two personnel on location shall be trained in CPR and First Aid.

H₂S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H₂S is approximately 20% heavier than air (Sp. Gr = 1.19) (Air = 1) and colorless. It forms an explosive mixture with air between 4.3% and 46%. By volume hydrogen sulfide is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

COMMON NAME	CHEMICAL ABBREV.	SPECIFIC GRVTY.	THRESHOLD LIMITS	HAZARDOUS LIMITS	LETHAL CONCENTRATIONS
Hydrogen Sulfide	H ₂ S	1.19	10 ppm 15 ppm	100 ppm/hr	600ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO ₂	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL ₂	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	1.52	5000 ppm	5%	10%
Methane	CH ₄	0.55	90,000	Combustible @ 5%	N/A

Threshold Limit: Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.

Hazardous Limit: Concentrations that may cause death.

Concentrations: Concentrations that will cause death with short term exposure.

Threshold Limit: NIOSH guide to chemical hazards
(10 ppm)

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATION	PHYSICAL EFFECTS
.001% 10 ppm	Obvious and unpleasant odor. Safe for 8 hr. exposure
.005% 50 ppm	Can cause some flu like symptoms and can cause pneumonia.
.01% 100 ppm	Kills the sense of smell in 3-15 minutes. May irritate the eyes and throat.
.02% 200 ppm	Kills the sense of smell rapidly. Severely irritates the eyes and throat. Severe flu-like symptoms after 4 or more hours. May cause lung damage and or death.
.06% 600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.

SURFACE USE PLAN

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

1. EXISTING AND PROPOSED ROADS:

- A. Exhibit "B" is a reproduction of a County General Hi-way map showing existing roads. Exhibit "C" is a reproduction of a USGS topographic map showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. All new roads will be constructed to BLM specifications.
- B. Exhibit "A" shows the proposed well site as staked.
- C. Directions to location: From Hobbs New Mexico take U. S. Hi-way 62-180 West 15± miles to the junction with State Hi-way 529 bear Right follow 529 29 miles to the junction with U. S. Hi-way 82 turn Right go 2+ miles turn Left on lease road bo .3 miles, turn Right go .3 miles bear Right go .3 miles bear Left follow lease road North 1.6± miles, turn Right (East) go .85 miles to well # 1J and location is 185' Northwest of # 1J.
- D. Exhibit Shows a topographic map showing lease roads that will be used to drill and service this well.

2. PLANNED ACCESS ROADS:

- A. The access roads will be crowned and sitched to a 14' wide travel surface, within a 30' R-O-W.
- B. Gradient of all roads will be less than 5%.
- C. Turn-outs will be constructed where necessary.
- D. If require new access roads will be surface with a minimum of 4-6" of caliche. this material will be obtained from a local source.
- E. Center line for new roads will be flagged, road construction will be done as field conditions require.
- F. Culverts will be placed in the access road as drainage conditions require. Roads will be constructed to use low water crossings for drainage as required by the topographic conditions.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS: EXHIBIT "A-1"

- A. Water wells - None in the immediate area
- B. Disposal wells - None known
- C. Drilling wells - none known
- D. Producing wells - As shown on Exhibit "A-1"
- E. Abandoned wells - As shown on Exhibit "A-1"

SURFACE USE PLAN

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Exhibit "C" shows proposed roads , flowlines and powerlines.

5. LOCATION & TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the location access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of the drill site, if additional material is required it will be obtained from a local source and transported over the location access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE:

- A. All trash, junk and other waste material will be contained in trash cages or trash bins in order to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill.
- B. Sewage from living quarters will be drained into holding tanks and will be cleaned out periodically. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of well.
- C. Where a closed loop mud system is used to drill a well the drilling fluid that remains after the drilling and casing is run or the well is Plugged and abandoned will be removed from the location and in some cases may be used on another well or transported to a State approve disposal site. The drilling cuttings that result from drilling the well will likewise be transported to a State approved disposal site.
- D. All water produced while completing this well and completion fluids will be treated in the same procedure as the drilling fluids.
- E. Any remaining salts or mud additive that was not used will be removed by the supplier, this includes all broken sacks and containers.

8. ANCILLARY FACILITIES:

- A. No camps or air strips will be constructed on this location.

SURFACE USE PLAN

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 2J
UNIT "K" SECTION 12
T17S-R31E EDDY CO. NM

9. WELL SITE LAYOUT

- A. Exhibit "D" shows the proposed well site layout.
- B. This exhibit indicated proposed location of reserve and sump pits and living facilities.
- C. Mud pits in the active circulating system will be steel pits & the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.
- D. If needed, the reserve pit is to be lined with polyethelene. The pit liner will be 12 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.
- E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

11. OTHER INFORMATION:

- A. Topography consists of limestone hills and shallow canyons with a general dip in a Northeasterly direction. Vegetation consists of sotol, lechiguilla, juniper, prickley pear, creosote, mesquite and native grasses. Soil consists of Stoney loam shallow in thickness, typical Indian Basin topography.
- B. The surface is owned by The U. S. Department of Interior and is administered By The Bureau of Land Management. The surface is used for the grazing of livestock and the production of Oil & Gas.
- C. An Archaeological survey will be conducted or has been conducted and will be filed with The Bureau of Land Management at the Carlsbad Field office.
- D. There are no dwellings located within 2 miles of location. Roads will be constructed as shown on Exhibits within this APD.

CERTIFICATION

I HEREBY CERTIFY THAT I OR PERSONS UNDER MY DIRECT SUPERVISION HAVE INSPECTED THE PROPOSED DRILL SITE AND THE ACCESS ROAD ROUTES, THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST, AND THAT THE STATEMENTS MADE IN THIS PLAN ARE TO THE BEST OF MY KNOWLEDGE ARE TRUE AND CORRECT, AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY HUDSON OIL COMPANY OF TEXAS ITS CONTRACTORS AND/OR ITS SUB-CONTRACTORS AND IS IN CONFORMANCE WITH THIS PLAN AND THE TERMS AND THE CONDITIONS UNDER WHICH IT IS APPROVED. THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF U.S.C. 1001 FOR FILING OF A FALSE REPORT.

OPERATOR'S REPRESENTATIVES

BEFORE CONSTRUCTION

TIERRA EXPLORATION, INC
HOBBS, NEW MEXICO 88241
HOBBS, NEW MEXICO 88241
JOE T. JANICA
CELL 505-390-1598
OFFICE PHONE 505-391-8503

DURING & AFTER CONSTRUCTION

HUDSON OIL COMPANY OF TEXAS
616 TEXAS STREET
FORT WORTH, TEXAS
JON SMITH
OFFICE 575-676-2266
CELL 575-365-8064

NAME Joe T. Janica

DATE: 07/29/08

TITLE Permit Eng.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	HUDSON OIL COMPANY OF TEXAS
LEASE NO.:	LC-029415B
WELL NAME & NO.:	PUCKETT NORTH #2J
SURFACE HOLE FOOTAGE:	1936' FSL & 1850' FWL
BOTTOM HOLE FOOTAGE:	Same
LOCATION:	Section 12, T. 17 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
 - ☐ **Permit Expiration**
 - ☒ **Archaeology, Paleontology, and Historical Sites**
 - ☐ **Noxious Weeds**
 - ☒ **Special Requirements**
 - Lesser Prairie Chicken
 - Sand Dune Lizard
 - Cultural
 - ☒ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit – Closed-loop system
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
 - ☐ **Road Section Diagram**
 - ☒ **Drilling**
 - ☐ **Production (Post Drilling)**
 - ☐ **Reserve Pit Closure/Interim Reclamation**
 - ☐ **Final Abandonment/Reclamation**
-

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1 through June 15 annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

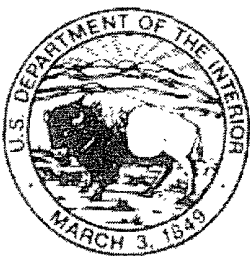


EXHIBIT NO. 1

Date of Issue:
9/11/2008

Bureau of Land Management, Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220

Cultural and Archaeological Resources

BLM Report No.
08-NM-523-1001

NOTICE OF STIPULATIONS

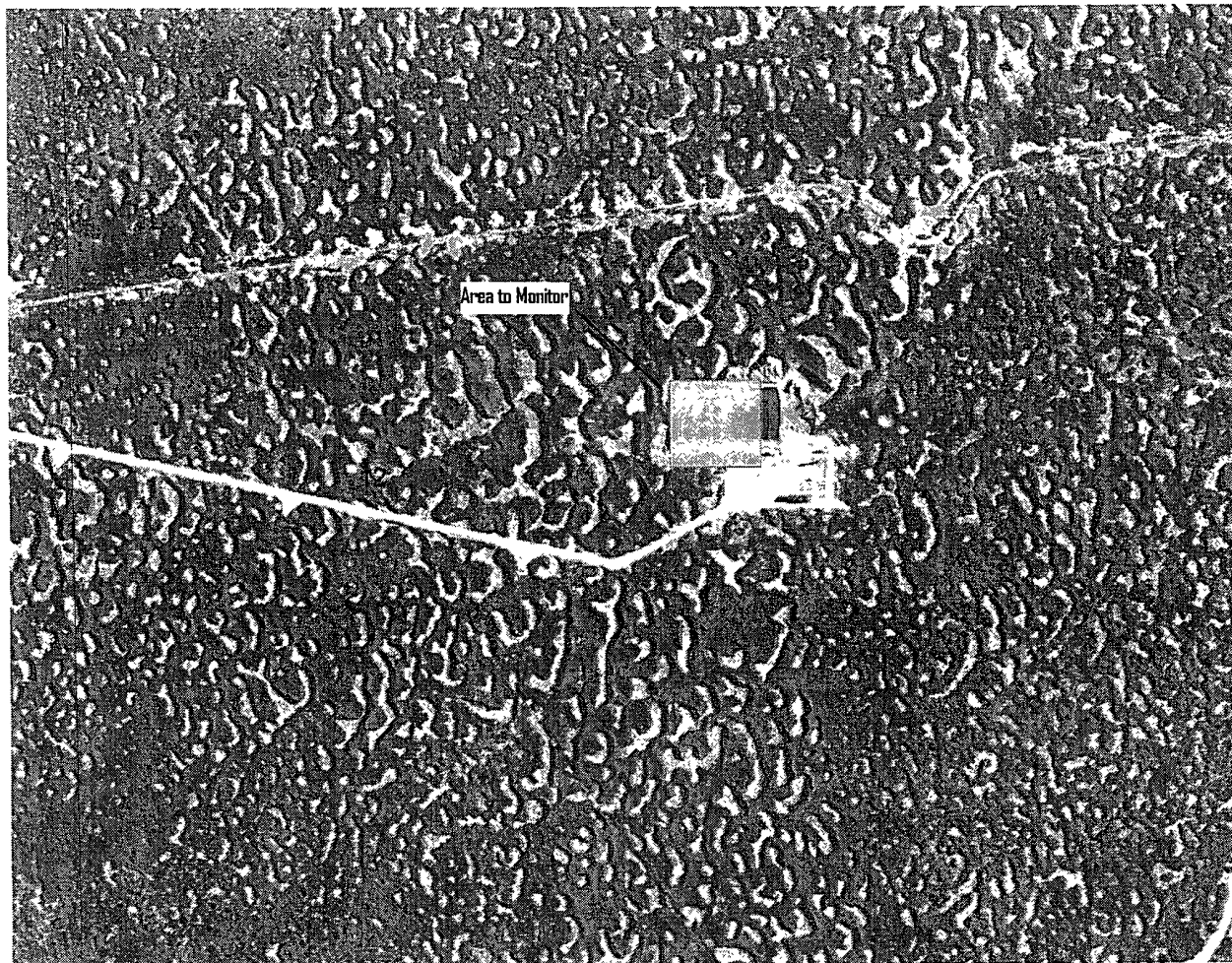
Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Project Name:	Puckett North Number 2J Well
REQUIRED	1). A 3-day preconstruction call-in notification. Contact BLM Inspection and Enforcement at (505) 234-5977, 5909, or 5995, to establish a construction start date.
REQUIRED	2. Professional archaeological monitoring. Contact your project archaeologist, or BLM's Cultural Resources Section at (505) 234-5980, 5917, or 5986, for assistance.
A. <input checked="" type="checkbox"/>	These stipulations must be given to your monitor at least 5 days prior to the start of construction.
B. <input type="checkbox"/>	No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
	3. Cultural site barrier fencing. (Your monitor will assist you).
A. <input type="checkbox"/>	A temporary site protection barrier(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time.
B. <input type="checkbox"/>	A permanent, 4-strand barbed wire fence strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
	4. The archaeological monitor shall:
A. <input type="checkbox"/>	Ensure that all site protection barriers are located as indicated on the attached map(s).
B. <input checked="" type="checkbox"/>	Observe all ground-disturbing activities within 100 feet of cultural site no. (s) LA144584 and LA160676, as shown on the attached map(s).
C. <input type="checkbox"/>	Ensure that all reroutes are adhered to avoid cultural site no.(s) LA
D. <input type="checkbox"/>	Ensure the proposed is/are located as shown on the attached map(s).
E. <input checked="" type="checkbox"/>	Submit a brief monitoring report within 30 days of completion of monitoring.
Other:	

Site Protection and Employee Education: It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

For assistance, contact Martin Stein (575) 234-5980 Bruce Boeke (575) 234-5917 James Smith (575) 234-5986

Exhibit 2 – Area to Monitor



VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. RESERVE PITS

The operator has applied for a closed-loop system. The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Queen** formation. **Gas stream measurements are between 1000-3000 ppm and in STVs 16-5000 ppm. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Grayburg and San Andres formations.

Possible water and brine flows in the Salado and Artesia Groups.

Possible high pressure air pockets in the Rustler and Salado formations.

1. The 8-5/8 inch surface casing shall be set **at approximately 725 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 5-1/2 inch production casing is:
☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
 2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**.
-
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.

- c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

NOTE – area code for Eddy county is 575 with effective date 10/05/2008 according to Windstream. H2S plan still has 505 numbers.

WWI 090408

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

**Four-winged Saltbush 5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.