

OCD-ARTESIA

ATS-12-734

# Split Estate

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

SEP 18 2012

NMOC D ARTESIA

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

## 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 <i>tes</i>	
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 <i>9/19</i>	
2. Name of Operator HUDSON OIL COMPANY OF TEXAS (RANDALL HUDSON 817-336-7190) (TONY TUCKER 575-676-2266 <i>225117</i> )		7. If Unit of CA Agreement, Name and No.	
3a. Address 616 TEXAS STREET FORT WORTH, TEXAS 76102-4612		8. Lease Name and Well No. <i>C35554</i> PUCKETT NORTH # 16	
3b. Phone No. (include area code) 817-336-7190		9. API Well No. <i>30-015-40712</i>	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 1980' FNL & 660' FEL SECTION 12 T17S-R31E At proposed prod. zone SAME		10. Field and Pool, or Exploratory <i>43529</i> MALJAMAR-GRAYBURG SAN ANDRI	
11. Sec., T. R. M. or Blk. and Survey or Area SECTION 12 T17S-R31E		12. County or Parish EDDY CO.	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 6 miles Northwest of Maljamar, New Mexico	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of acres in lease 1920	17. Spacing Unit dedicated to this well-- 40	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320'	19. Proposed Depth 4300'	20. BLM/BIA Bond No. on file BLM NM-1055 STATEWIDE	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4000' 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, shall 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 (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 shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Joe T Janica</i>	Name (Printed/Typed) Joe T. Janica	Date 05/21/12
Title Permit Eng.		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 14 2012
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.

\*(Instructions on page 2)

Roswell Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

## OPERATOR CERTIFICATION

I HEREBY CERTIFY THAT I, OR SOMEONE UNDER MY DIRECT SUPERVISION, HAVE INSPECTED THE DRILL SITE AND ACCESS ROUTE PROPOSED HEREIN; THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST; THAT I HAVE FULL KNOWLEDGE OF STATE AND FEDERAL LAWS APPLICABLE TO THIS OPERATION; THAT THE STATEMENTS MADE IN THIS APD PACKAGE ARE TO THE BEST OF MY KNOWLEDGE TRUE AND CORRECT AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED IN CONFORMITY WITH THIS APD PACKAGE AND THE TERMS AND CONDITIONS UNDER WHICH IT IS APPROVED.

I ALSO CERTIFY THAT I, OR THE COMPANY THAT I REPRESENT, AM RESPONSIBLE FOR THE OPERATIONS CONDUCTED UNDER THIS APPLICATION. THESE STATEMENTS ARE SUBJECT TO THE PROVISIONS OF 18 U. S. C. 1001 FOR THE FILING OF A FALSE STATEMENT.

OPERATOR'S REPRESENTATIVES:

### BEFORE CONSTRUCTION:

TIERRA EXPLORATION  
P. O. BOX 2188  
HOBBS, NEW MEXICO 88241  
JOE JANICA  
575-391-8503  
CELL: 575-390-1598

### DURING CONSTRUCTION:

HUDSON OIL COMPANY OF TEXAS  
616 TEXAS STREET  
FORT WORTH TEXAS 76102-4612  
TONY TUCKER  
575-676-2266  
CELL: 575-365-8064

EXECUTED THIS 14<sup>th</sup> DAY OF July, 2012

BY: 

**Tony Tucker**

Field Superintendent  
Hudson Oil Company of Texas

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720  
DISTRICT II  
811 S. First St., Artesia, NM 88210  
Phone: (505) 748-1283 Fax: (575) 748-9720  
DISTRICT III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015-40712</b>	Pool Code 43329	Pool Name MALJAMAR-GRAYBURG-SAN ANDRES.
Property Code <b>35554</b>	Property Name PUCKETT NORTH	Well Number 16
OGRID No 25111	Operator Name HUDSON OIL COMPANY OF TEXAS	Elevation 4000'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	12	17-S	31-E		1980	NORTH	660	EAST	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 40	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>SURFACE LOCATION Y=673656.8 N X=658824.7 E LAT.=32.850898° N LONG.=103.816157° W</p> <p>DETAIL</p>	<p><b>OPERATOR CERTIFICATION</b></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>Joe T. Janica</i> Signature Date Joe T. Janica 05/21/12 Printed Name joejanica@valornet.com E-mail Address</p>
	<p><b>SURVEYOR CERTIFICATION</b></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>FEBRUARY 03, 2012</p> <p>Date of Survey Signature &amp; Seal of Professional Surveyor: <i>Ronald J. Eidson</i> Certificate Number... Gary O. Eidson 12641 Ronald J. Eidson 3239 ACR JWSC W O 12 11 0067</p>

EXHIBIT "A"

## APPLICATION TO DRILL

HUDSON OIL COMPANY OF TEXAS  
 PUCKETT NORTH # 16  
 UNIT "H" SECTION 12  
 T17S-R31E EDDY CO. NM

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

1. LOCATION: 1980' FNL & 660' FEL SECTION 12 T17S-R31E EDDY CO. NM
2. ELEVATION ABOVE SEA LEVEL: 4000' 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 the removal of solids from the hole.
5. PROPOSED DRILLING DEPTH: 4300'
6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	685'	Base of Yates/7Rivers	2980'
Top Salt	850'	Queen	3135'
Base of Salt	1850'	Grayburg	3640'
Top Yates/7Rivers		San Andres	3950'
7. POSSIBLE MINERAL BEARING FORMATIONS:

Queen	Oil, Gas, Water	Possible Fresh Water 200'
Grayburg	Oil, Gas, Water	
San Andres	Oil, Gas, Water	
8. CASING PROGRAM:

HOLE SIZE	INTERVAL	CASING OD	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
26"	0-40	20"	NA	NA	NA	Conductor	New
12 1/4"	0- <del>725'</del> 800	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	1.25	Burst	1.0	Body Yield	1.5	Joint Strength	8-R
						Buttress	

## APPLICATION TO DRILL

HUDSON OIL COMPANY OF TEXAS  
 PUCKETT NORTH # 16  
 UNIT "H" SECTION 12  
 T17S-R31E EDDY CO. NM

9. CASING CEMENTING AND SETTING DEPTHS:

20" Conductor Drill 26" hole to 40'. set 40' of 20" conductor pipe and cement to surface with Redi-mix.

See  
COA 8 5/8" Surface Run and set ~~725'~~<sup>860</sup> of 8 5/8" 24# J-55 ST&C casing. Cement with 400 Sx. of Premium Plus Class "C" cement + 2% CaCl, + 4% Bentonite, + 0.125# Polyflakes/Sx, Yield 1.35, circulate cement to surface. (100% Excess).

5 1/2" Production Run and set 4300' of 5 1/2" 17# J-55 ST&C casing. Cement with 600 Sx. of Halliburton Light Premium Plus cement, + 0.125 Cello Flakes/Sx., Yield 1.87, tail in with 350 Sx. of Premium Plus Class "C" POZ cement + 0.4% LAP -1, + 0.4% CFR-3, + 0.25LBMD-AIR 3000, + 1LBM Salt. Yield 1.4 Circulate cement to surface. (100% Excess)

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" surface casing. The B.O.P. will be tested to the pressures acceptable to the BLM. Exhibit "E-1" shows a 2-3 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
<del>40-725'</del> <sup>800</sup>	8.4-8.7	29-32	NC	Fresh Water Spud Mud use paper to control seepage.
<del>725-4300'</del>	10.1-10.2	29-38	NC	Brine Water add Salt Water Gel if native mud does not have the require viscosity clean the hole. 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 open hole 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 # 16  
UNIT "H" SECTION 12  
T17S-R31E EDDY CO. NM

12. LOGGING, COREING, AND TESTING PROGRAM: *See COA*

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

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected while drilling this well. There is no known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order # 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°.

- See COA*
- 13A. If h<sub>2</sub>S is encountered in ~~constrations~~ <sup>concentrations</sup> of less than 10 PPM, fans will be placed in work areas to prevent the accumulations of hazardous amounts of poisonous gas. If higher concentrations of H<sub>2</sub>S are detected the well will be shut in and a rotating head, Mud/Gas separator and flare line with igniter will be installed.
  - 13B. If the concentration of H<sub>2</sub>S meets the requirements of Onshore Order # 6 a Mud/Gas Separator and other necessary equipment will be rented and rigged up on location.

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. 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.

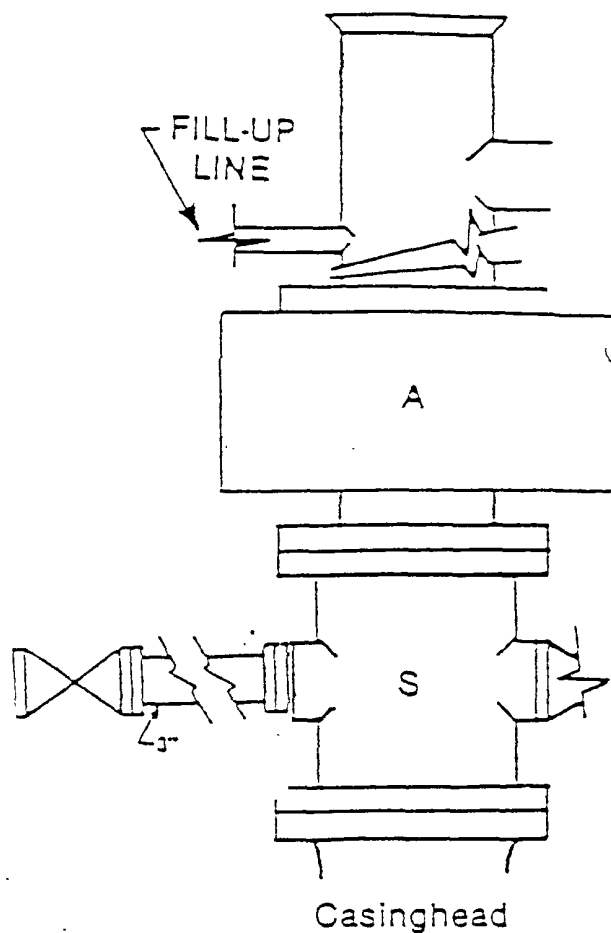


FIGURE K1-1. Recommended IADC Class 2 BOP stack, 2000 psi WP. Either SRd (left) or SA (right) arrangement is acceptable and drilling spool is optional.

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

HUDSON OIL COMPANY OF TEXAS  
PUCKETT NORTH # 16  
UNIT "H" SECTION 12  
T17S-R31E EDDY CO. NM

BLOWOUT PREVENTION  
EQUIPMENT  
Choke Manifolds

# DRILLING MANUAL

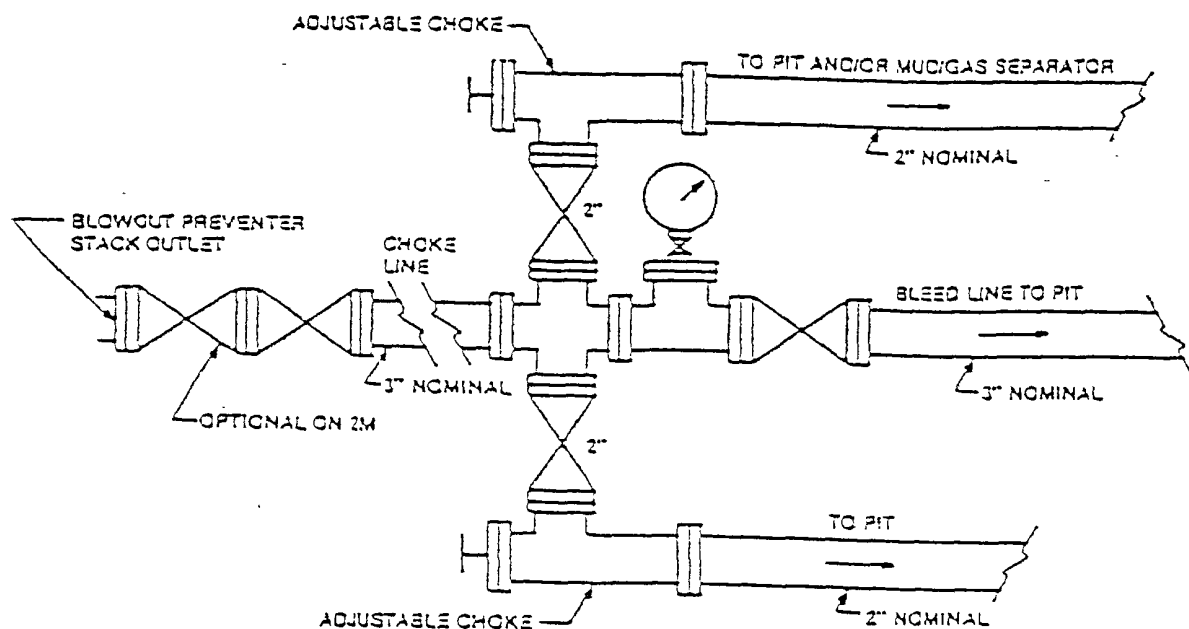
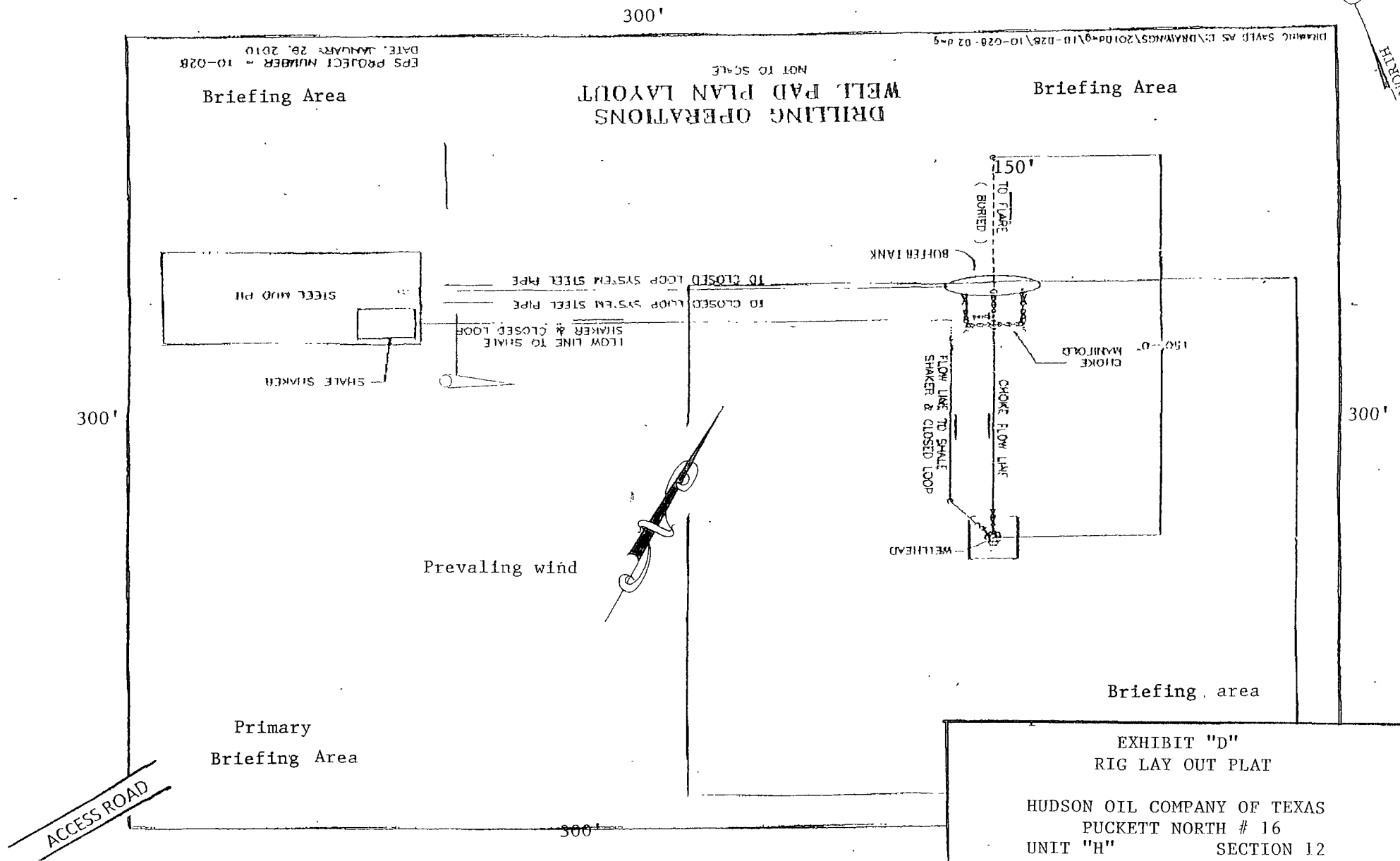


FIGURE K-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

EXHIBIT "E-1"  
CHOKE MANIFOLD TO BE USED ON

HUDSON OIL COMPANY OF TEXAS  
PUCKETT NORTH # 16  
UNIT "H" 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.

## Hydrogen Sulfide Drilling Plan Summary For Drilling/Workover Facility

- A. All personnel shall receive proper H<sub>2</sub>S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:

- Well control equipment
  - a. Flare line 150' from wellhead to be ignited by flare gun.
  - b. Choke manifold with a remotely operated choke.
  - c. Mud/gas separator

- Protective equipment for essential personnel.

### Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

### Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

- H<sub>2</sub>S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  - c. Two wind socks will be placed in strategic locations, visible from all angles.

■ Mud program:

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H<sub>2</sub>S bearing zones.

■ Metallurgy:

- a. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.
- b. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

■ Communication:

Communication will be via two way radio in emergency and company vehicles. Cell phones and land lines where available.

#### GENERAL H2S EMERGENCY ACTIONS:

In the event of an H2S emergency, the following plan will be initiated.

- 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 co-ordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and 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 an 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.  
(will assist in general public evacuation/safety while maintaining roadblocks)
- 7) Call the NMOCD & or BLM

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 necessary steps to contact the following:

EMERGENCY CALL LIST: (Start and continue until ONE of these people have been reached)

	<u>OFFICE</u>	<u>MOBILE</u>	<u>HOME</u>
TONY TUCKER	575-676-2266	575-365-8064	
RANDALL HUDSON	817-336-7109		

EMERGENCY RESPONSE NUMBERS: Lea County, New Mexico

State Police	575-392-5588
Lea County Sheriff	575-396-3611
Emergency Medical Service (Ambulance)	911 or 575-393-2677
State Emergency Response Center (SERC)	575-476-9620
Hobbs Police Department	575-397-9265
Hobbs Fire Department	575-393-2677
Lovington Police Department	575-396-3144
Lovington Fire Department	575-396-2359
Loco Hills Fire Department	575-677-2349
Maljamar Fire Department	575-676-4100
(NMOCD) New Mexico Oil Conservation Division, District I (Lea, Roosevelt, Chaves, Curry)	575-393-6161
District II (Eddy, Chaves)	575-748-1283
American Safety	575-746-1096
Indian Fire & Safety	575-746-4660 or 800-530-8693
Callaway Safety	575-746-2847
BJ Services	575-746-3589

### PROTECTION OF THE GENERAL PUBLIC/ROE:

In the event greater than 100 ppm H2S is present, the ROE (Radius Of Exposure) calculations will be done to determine if the following is warranted:

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the general public may travel)
- 100 ppm radius of 3000' 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.

#### **Calculation for the 100 ppm ROE:**

$$X = [(1.589) (\text{concentration}) (Q)]^{(0.6258)}$$

#### **Calculation for the 500 ppm ROE:**

$$X = [(0.4546) (\text{concentration}) (Q)]^{(0.6258)}$$

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

$$\begin{aligned} 100 \text{ PPM} \quad X &= [(1.589)(150/1,000,000)(100,000)]^{0.6258} \\ X &= 7' \end{aligned}$$

$$\begin{aligned} 500 \text{ PPM} \quad X &= [(0.4546)(150/1,000,000)(100,000)]^{0.6258} \\ X &= 3' \end{aligned}$$

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

### PUBLIC EVACUATION PLAN:

(When the supervisor has determined that the General Public will be involved, the following plan will be implemented)

- 1) Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- 2) A trained person in H2S safety, shall monitor with detection equipment the H2S concentration, wind and area of 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 I groups A,B,C, & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H2S values.)**
- 3) 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.
- 4) The company supervising personnel shall stay in communications 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 UNCONTROLLABLE CONDITION:

The decision to ignite a well should be a last resort and one if not both of the following pertain.

- 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.

#### INSTRUCTIONS 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 a qualified safety person who will test the atmosphere for H<sub>2</sub>S, Oxygen, & 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 25mm flare gun shall be used, with a  $\pm 500'$  range to ignite the gas.
- 4) Prior to ignition, make a final check for 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 Condition flag will be on display, reflecting the condition at the site at that 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 and Alarm: The stationary detector with three (3) sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The 3 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' of 5/8" 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 top of a tank.
- Disconnecting any line where H2S can reasonably be expected.
- Sampling air in the area to determine if toxic concentrations of H2S 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 continuously be 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 & FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H<sub>2</sub>S) POISONING

Do not panic.

Remain calm & think.

Get on the breathing apparatus.

Remove the victim to the safe breathing area as quickly as possible. Upwind an uphill from source of 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 (2) personnel on location shall be trained in CPR and First Aid.

### H2S TOXIC EFFECTS:

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 46.0%. By volume hydrogen sulfide (H2S) is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

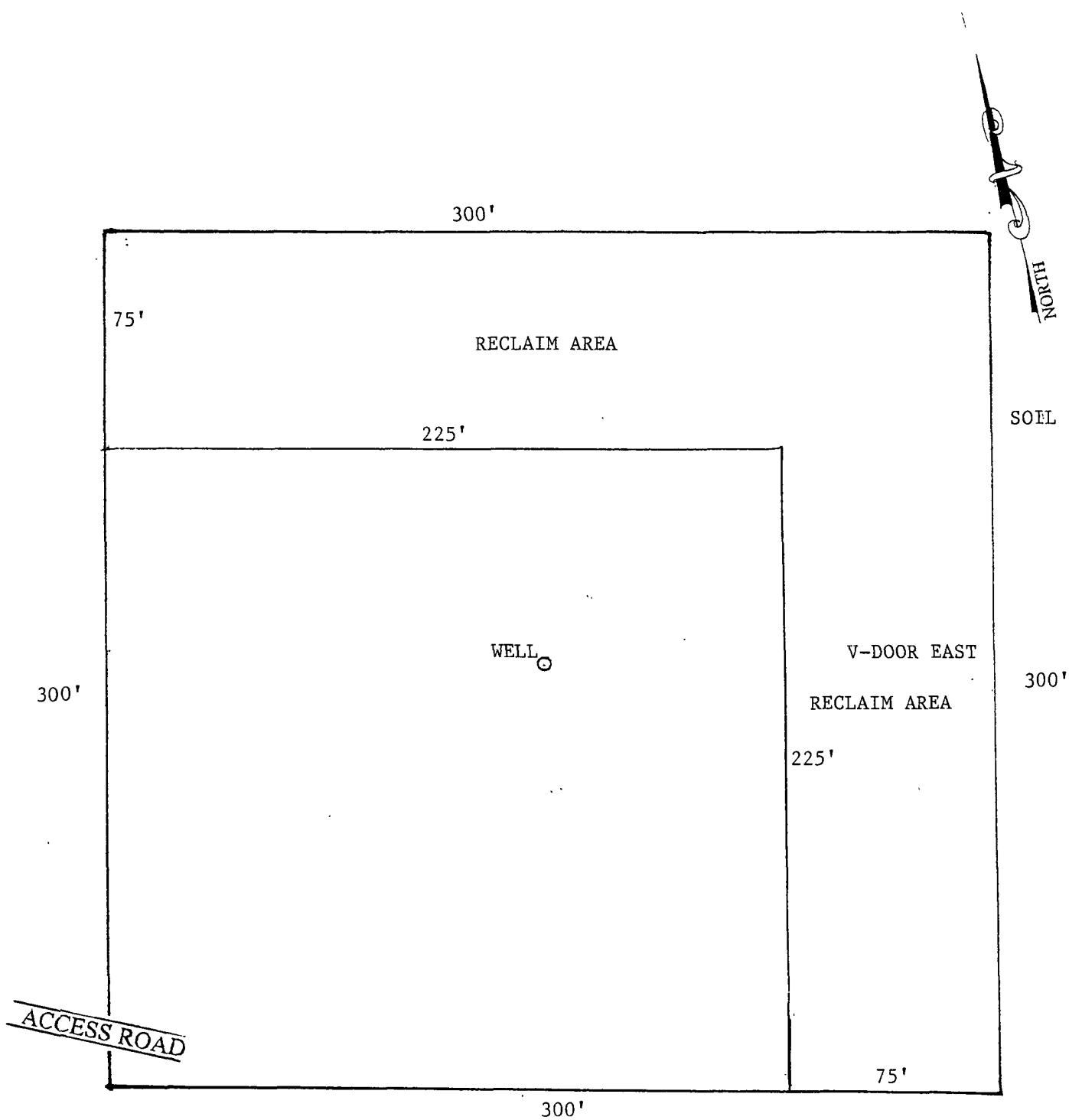
#### Various Gases

Common Name	Chemical Abbrev.	Sp. Gr.	Threshold Limits	Hazardous Limits	Lethal Concentration
Hydrogen Sulfide	H2S	1.19	10 ppm 15 ppm	100 ppm/hr	600 ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO2	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5%	10%
Methane	CH4	0.55	90,000	Combustible @ 5%	N/A

1. Threshold limit – Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.
2. Hazardous limit – Concentration that may cause death.
3. Lethal concentration – Concentration that will cause death with short-term exposure.
4. Threshold limit – 10 ppm – NIOSH guide to chemical hazards.
5. Short-term threshold limit.

### PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATIONS		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 eyes and throat.
.02%	200 ppm	Kills the sense of smell rapidly. Severely irritates 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.



PROPOSED AREA TO BE RECLAIMED

HUDSON OIL COMPANY OF TEXAS  
PUCKETT NORTH #16  
UNIT "H" SECTION 12  
T17S-R31E EDDY CO. NM

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Hudson Oil Co of Texas
LEASE NO.:	LC029415B
WELL NAME & NO.:	Puckett North 16
SURFACE HOLE FOOTAGE:	1980' FNL & 660' FEL
BOTTOM HOLE FOOTAGE	' FL & ' FL
LOCATION:	Section 12, T.17 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

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