ATS-12-733

OCD-ARTESIA

Form 3160-3
(August 2007)

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No. LC-029415-B

6. If Indian, Allotee or Tribe Name: ----------

1a. Type of work: [XX] DRILL [ ] REENTER

7 If Unit or CA Agreement, Name and No. ----------

1b Type of Well: [XX] Oil Well [ ] Gas Well [ ] Other [XX] Single Zone [ ] Multiple Zone

8. Lease Name and Well No. PUCKETT NORTH # 17 (C-35554)

2 Name of Operator: HUDSON OIL COMPANY OF TEXAS (RANDALL HUDSON 817-336-7190) (TONY TUCKER 575-676-2266) 025117

9. API Well No. 30-015-40713

3a. Address: 616 TEXAS STREET, FORT WORTH, TEXAS 76102-4612

3b. Phone No. (include area code): 817-336-7190

10. Field and Pool, or Exploratory: 96836 MALJAMAR GRAYBURG SAN ANDR

4 Location of Well (Report location clearly and in accordance with any State requirements *)

At surface: 660' FNL & 660' FEL SECTION 12 T17S-R31E Eddy CO. NM

At proposed prod. zone: SAME

11. Sec., T. R. M. or Blk and Survey or Area: SECTION 12. T17S-R31E

14 Distance in miles and direction from nearest town or post office*: Approximately 6 miles Northwest of Maljamar New Mexico

12. County or Parish: EDDY CO.

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)	16. No. of acres in lease	17 Spacing Unit dedicated to this well
660'	1920	40 Acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20 BLM/BIA Bond No. on file
1320'	4300'	BLM NM-1055 STATE WIDE
21. Elevations (Show whether DF, KDB, RT, GL etc.)	22 Approximate date work will start*	23. Estimated duration
4007' GL	WHEN APPROVED	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
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name (Printed/Typed)	Date
Joe T. Janica	Joe T. Janica	05/21/12

Title: Permit Eng.

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Don Peterson	/s/ Don Peterson	SEP 14 2012

Title: for 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.

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)

*(Instructions on page 2)

RECEIVED
SEP 18 2012
NMOCD ARTESIA

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 14th 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 (575) 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-
Revised August 1, 2
Submit one copy to appropr
District Of

☐AMENDED REPO

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-40713	43329	MALJAMAR-GRAYBURG-SAN ANDRES

Property Code	Property Name	Well Number
35554	PUCKETT NORTH	17

OGRID No	Operator Name	Elevation
25111	HUDSON OIL COMPANY OF TEXAS	4007'

Surface Location

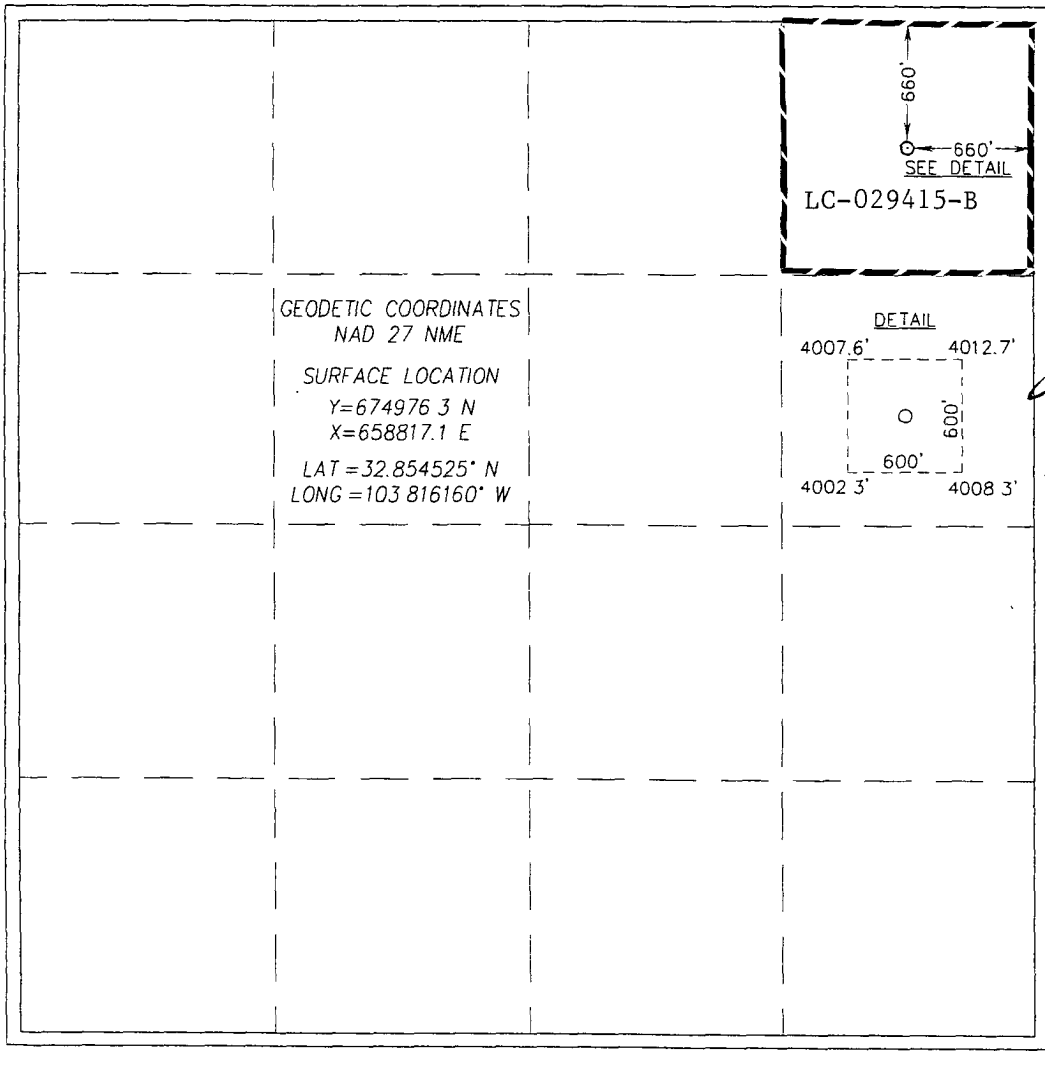
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	12	17-S	31-E		660	NORTH	660	EAST	EDDY

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	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

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.

Signature Date

Joe T. Janica
Printed Name

joejanica@valornet.com
E-mail Address

SURVEYOR CERTIFICATION

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

FEBRUARY 03, 2012

Date of Survey

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

02/16/2012

Certificate Number	Gary G. Eidson	12641
	Ronald J. Eidson	3239

ACR JWSC W.O 12.11 0068

APPLICATION TO DRILL

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 17
UNIT "A" SECTION 12
T17S-R31E EDDY CO. NM

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

1. LOCATION: 660' FNL & 660' FEL SECTION 12 T17S-R31E LEA CO. NM

2. ELEVATION ABOVE SEA LEVEL: 4007' GL

3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternery Aeolian Deposits;

4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for the removal of solidsfrom the hole.

5. PROPOSED DRILLING DEPTH: 4300'

6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	685'	Grayburg	3640'
Queen	3135'	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
12¼"	0-725' 810	8 5/8"	24#	8-R	ST&C	J-55	New
7 7/8"	0-4300'	5½"	17#	8-R	ST&C	J-55	New

See COA

Casing Design Factors:

Collapse 1.25 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 # 17
UNIT "A" 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.
8 5/8"	Surface	Run and set ~~725'~~ of 8 5/8" 24# J-55 ST&C casing. Cement with 200 Sx. of Premium Plus Class "C" cement +2% CaCl, + 4% Bentonite, + 0.125# Polyflakes/Sx, Yield 1.35, circulate cement to surface.(100% Excess).
5½"	Production	Run and set 4300' of 5½" 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% LA-1 LAP -1, + 0.4% CFR-3, + 0.25LBMD-AIR 3000, + 1LBM Salt. Yield 1.4 Circulate cement to surface. (100% Excess)

See COA

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 nippled 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 chole maniflod with two adjustible 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' 810	8.4-8.7	29-32	NC	Fresh Water Spud Mud use paper to control seepage.
725-4300'	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 # 17
UNIT "A" 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 H2S in this area. If H2S 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° .

13A. If h2S is encountered in ~~constrations~~ concentrations of less than 10 PPM, fans will be placed in work areas to prevent the accmulations of hazardous amounts of poisonous gas. If higher concentrations of H2S are detcted the well will be shutin and a rotating head, Mud/Gas separator and flare line with igniter will be installed.

See COA

13B. If the concentration of H2S meets the requirements of Onshore Order # 6 a Mud/Gas Separator and other necessary equspment 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 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 potentialed as an oil well.

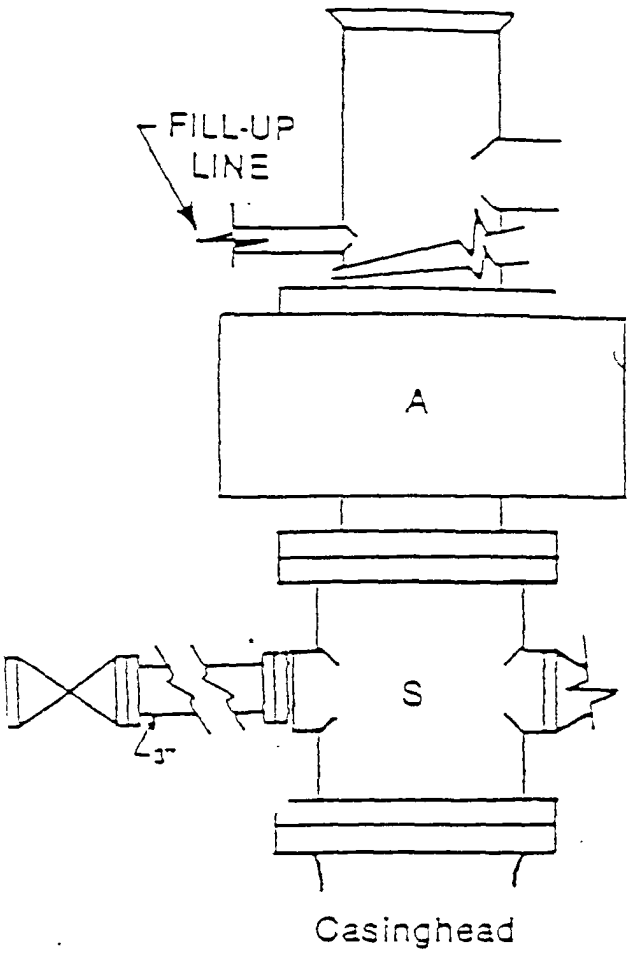


FIGURE K1-1. Recommended IADC Class 2 BOP stack, 2000 psi WP. Either SRd (left) or SA (right) arrangement is acceptable and drilling spool is optional.

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

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH #17
UNIT "A" SECTION 12

BLOWOUT PREVENTION
EQUIPMENT
Choke Manifolds

DRILLING MANUAL

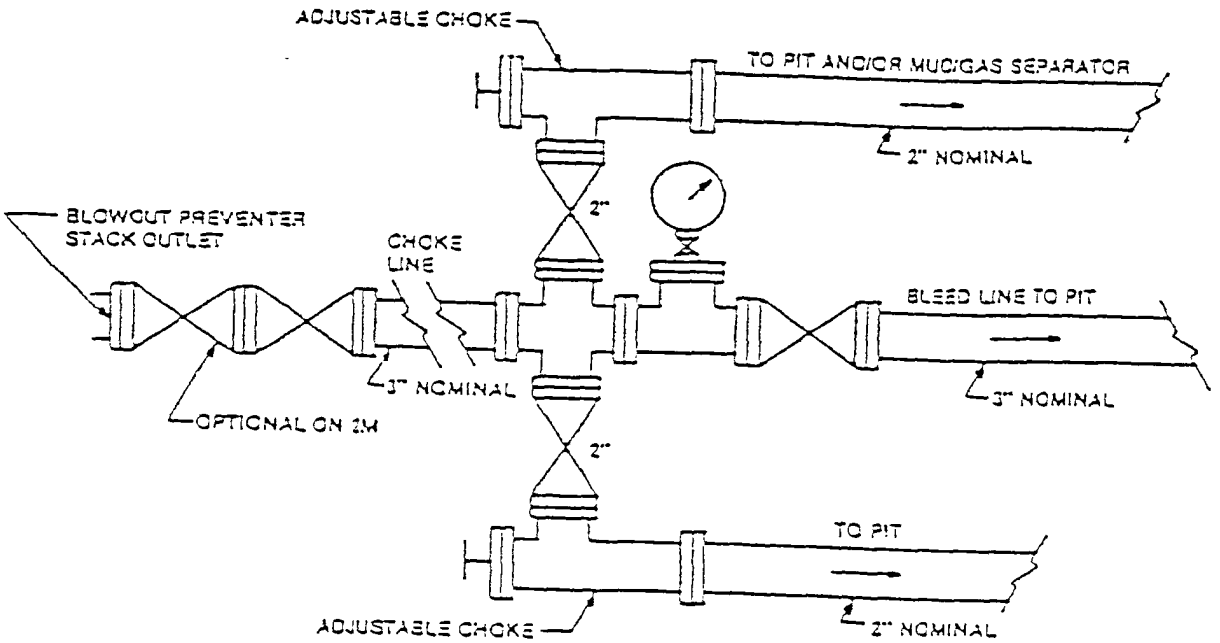


FIGURE K-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

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

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH #17
UNIT "A" SECTION 18

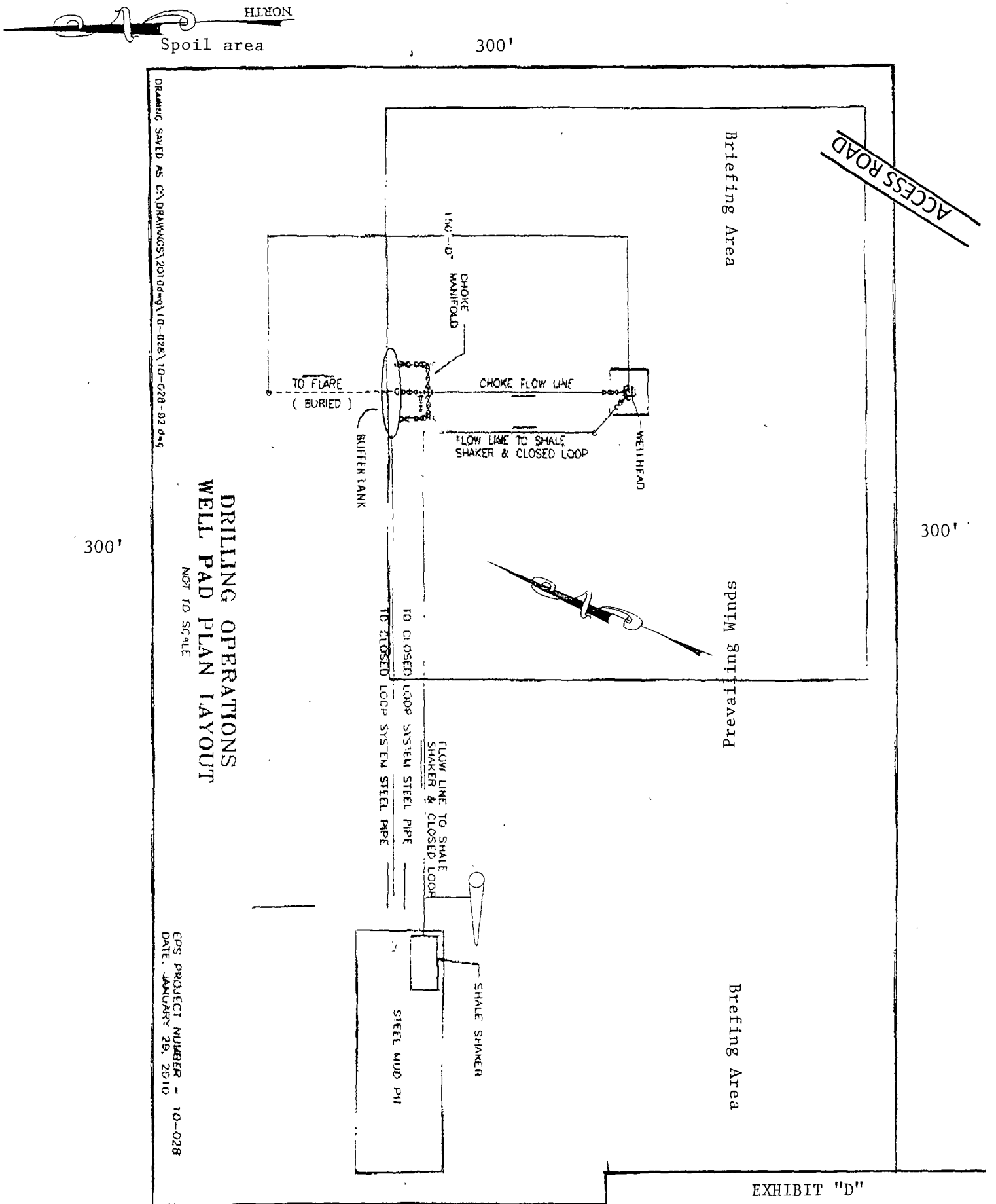


EXHIBIT "D"
RIG LAY OUT PLAT

HUDSON OIL COMPANY OF TEXAS
PUCKETT NORTH # 17
UNIT "A" 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 (H2S) CONTINGENCY PLAN FOR DRILLING/COMPLETING/WORKOVER/FACILITY WITH THE EXPECTATION OF H2S IN EXCESS OF 100 PPM

TABLE OF CONTENTS

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)

	OFFICE	MOBILE	HOME
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	575-746-3569

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:

$X = [(0.4546)\ (\text{concentration})\ (Q)]^{(.06258)}$

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:

100 PPM $X=[(1.589)(150/1{,}000{,}000)(100{,}000)]^{0\ 6258}$
$X= 7'$

500 PPM $X=[(.4546)(150/1{,}000{,}000)(100{,}000)]^{0.6258}$
$X= 3'$

(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 UNCONTROLABLE 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 H2S, 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 ±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 (H2S) 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.

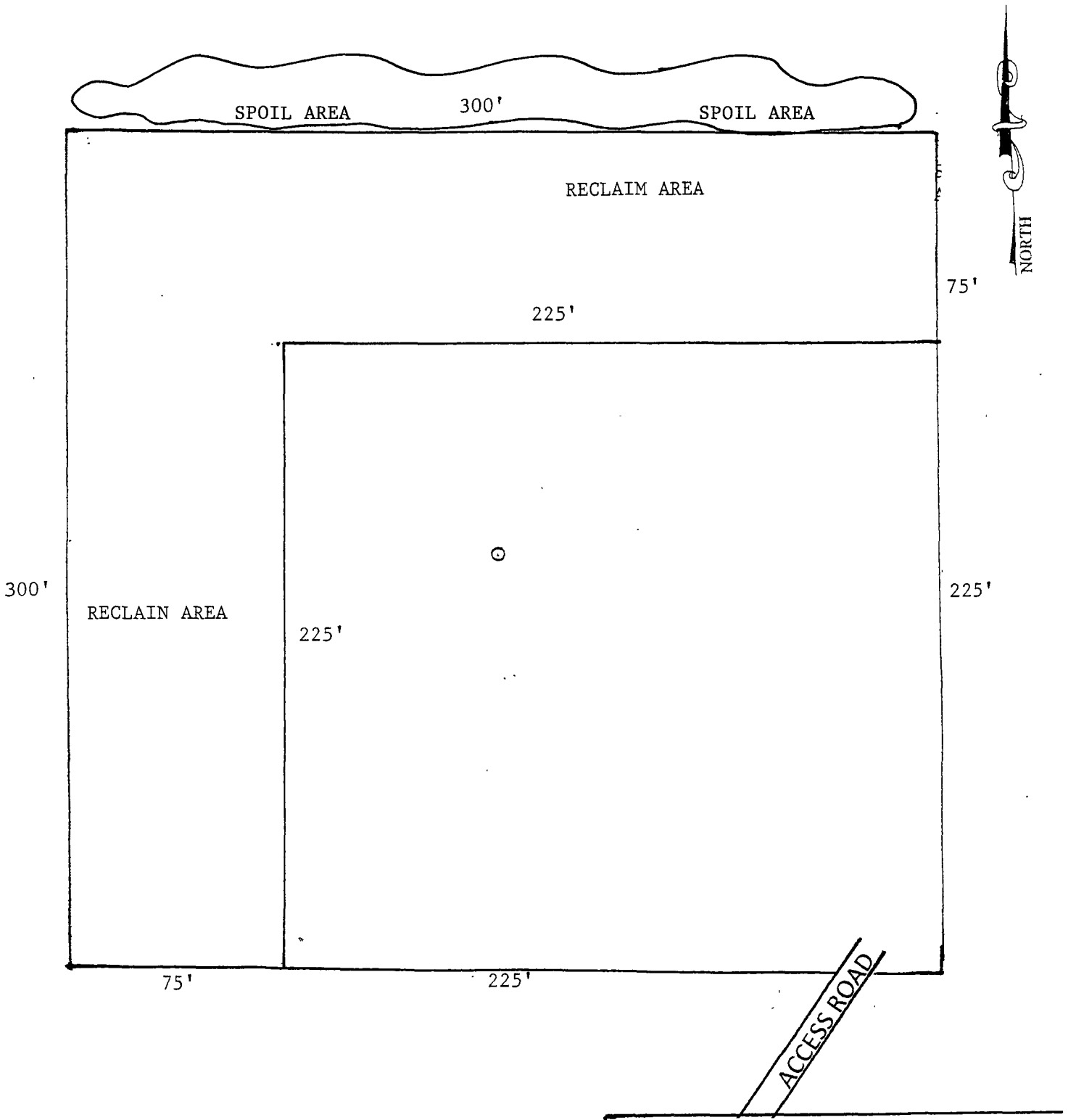
Various Gases

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 #17
UNIT "A" SECTION 12
T17S-R31E EDDY CO. NM

TN
6/28/12

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Hudson Oil Co of Texas
LEASE NO.:	LC029415B
WELL NAME & NO.:	17 Puckett North
SURFACE HOLE FOOTAGE:	660' 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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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.