

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

(reverse side)

OMB NO. 1004-0136  
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1A. TYPE OF WORK

DRILL ☒

DEEPEN ☐

B. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER ☐

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

COG OPERATING, LLC.

(ERICK NELSON) (432-683-7443)

3. ADDRESS AND TELEPHONE NO.

550 WEST TEXAS AVENUE SUITE 1300 MIDLAND, TEXAS 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface

990' FNL & 1650' FEL SECTION 14 T22S-R32E LEA CO. NM

At proposed prod. zone SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

Approximately 40 miles Southwest of Hobbs, New Mexico

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

990'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

1320

19. PROPOSED DEPTH

8900'

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

Carlsbad Controlled Water Basin

3704' GR.

22. APPROX. DATE WORK WILL START WHEN APPROVED

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	Conductor	NA	40'	Cement to surface with Redi-mix
17 1/2"	H-40 13 3/8"	48#	950'	900 Sx. circulate cement
11"	HCK/J-55 8 5/8"	32#	4700'	1200 Sx. circulate cement
7 7/8"	N-80 5 1/2"	17#	8900'	500 Sx. Estimate TOC 6000'±

1. Drill 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17 1/2" hole to 950'. Run and set 950' of 13 3/8" 48# H-40 ST&C casing. Cement with 700 Sx. of 35/65 POZ Class "C" cement + additives, tail in with 200 Sx. of Class "C" cement + 2% CaCl<sub>2</sub> + 1/2# Flocele/Sx., circulate cement to surface.
3. Drill 11" hole to 4700'. Run and set 4700' of 8 5/8" 32# J-55/HCK ST&C casing. Cement with 1000 Sx. of Class "C" Light Weight Cement + additives, tail in with 200 Sx. of Class "C" cement + 1% CaCl<sub>2</sub>, circulate cement to surface.
4. Drill 7 7/8" hole to 8900'. Run and set 8900' of 5 1/2" 17# N-80 LT&C casing. Cement with 500 Sx. of Class "H" Premium Plus cement + additives, estimate top of cement 6000'± from surface.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on existing well and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface conditions and measured and true vertical depths.

SIGNED Joel Janina TITLE Agent

DATE 02/02/06

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

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:

/s/ James Stovall

ACTING  
FIELD MANAGER

APR 17 2006

APPROVED BY \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

\*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II  
1301 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 JUNE 10, 2003  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-025-37826</b>	Pool Code 51683	Pool Name RED TANK-BONE SPRING
Property Code 301052 OGRID No. 229137	Property Name PROHIBITION FEDERAL UNIT 14 Operator Name COG OPERATING, LLC	Well Number 8 Elevation 3704'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	14	22-S	32-E		990	NORTH	1650	EAST	LEA

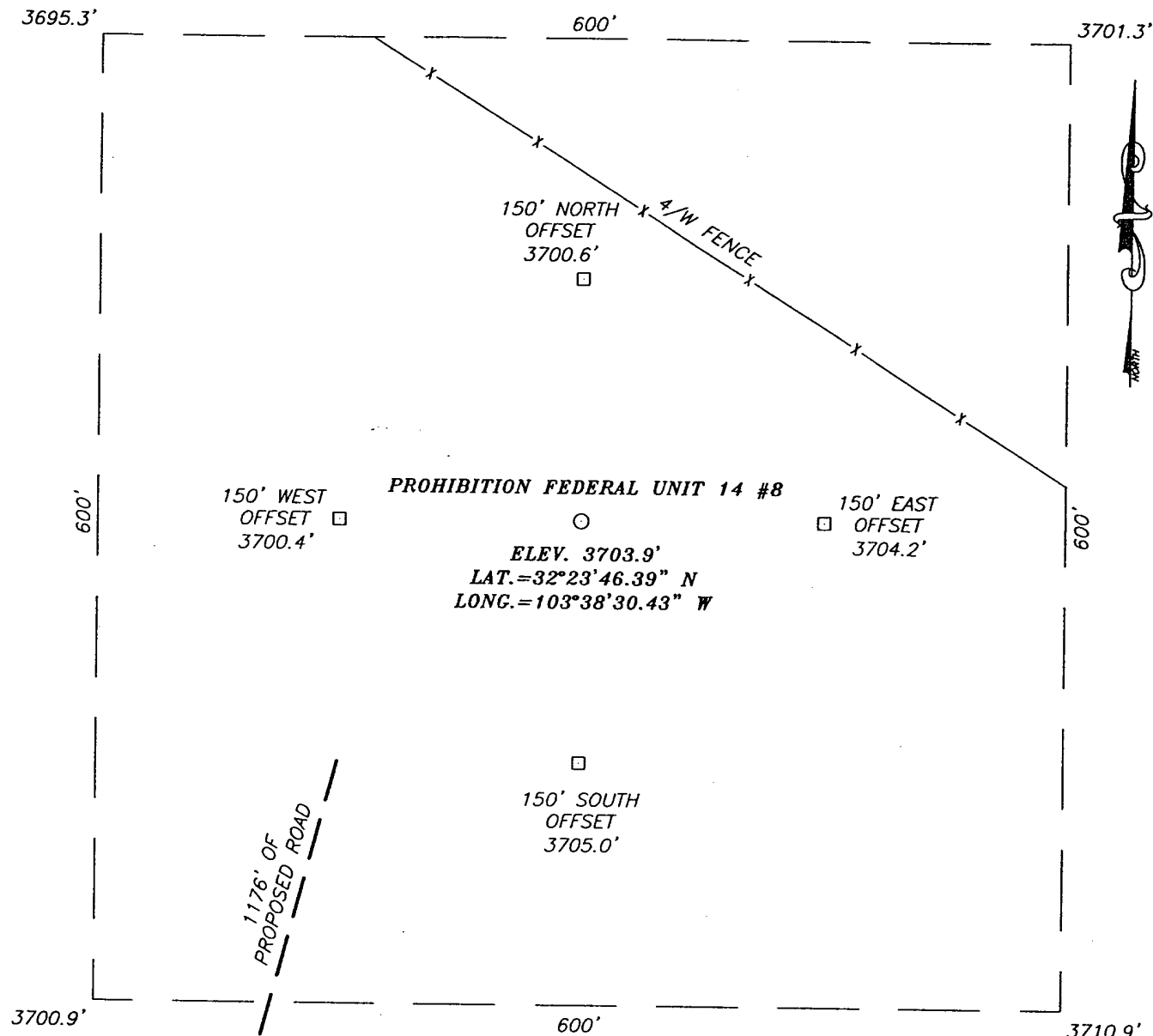
Bottom Hole Location If Different From Surface

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

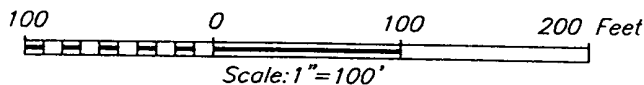
	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>[Signature]</i> Signature JOe T. Janica Printed Name Agent Title 02/03/06 Date</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify 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>JANUARY 4, 2006 Date Surveyed R2B Signature &amp; Seal of Professional Surveyor <i>[Signature]</i> 1/13/06 06.11.0007 Certificate No. GARY EIDSON 12641</p>
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**SECTION 14, TOWNSHIP 22 SOUTH, RANGE 32 EAST, N.M.P.M.,**  
 LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

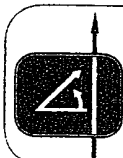
FROM THE INTERSECTION OF CO. RD. #29 AND MILLS RANCH RD. GO EAST AND NE AND BACK EAST ON MILLS RANCH RD. APPROX. 3.8 MILES. ROAD TURNS RIGHT AND GOES SOUTH FOR APPROX. 0.2 MILES. TURN LEFT AND GO EAST AND NORTH AND GO BACK EAST FOR APPROX. 2.6 MILES TO A METER RUN SHED ON RIGHT SIDE OF RD. TURN LEFT (NORTH) AT LEASE RD. AND GO NORTH APPROX. 0.3 MILES. TURN RIGHT (EAST) AND GO APPROX. 0.15 MILES TO COG PROHIBITION WELL #4. THIS LOCATION IS NORTHEAST APPROX. 0.2 MILES.



**COG OPERATING, LLC**

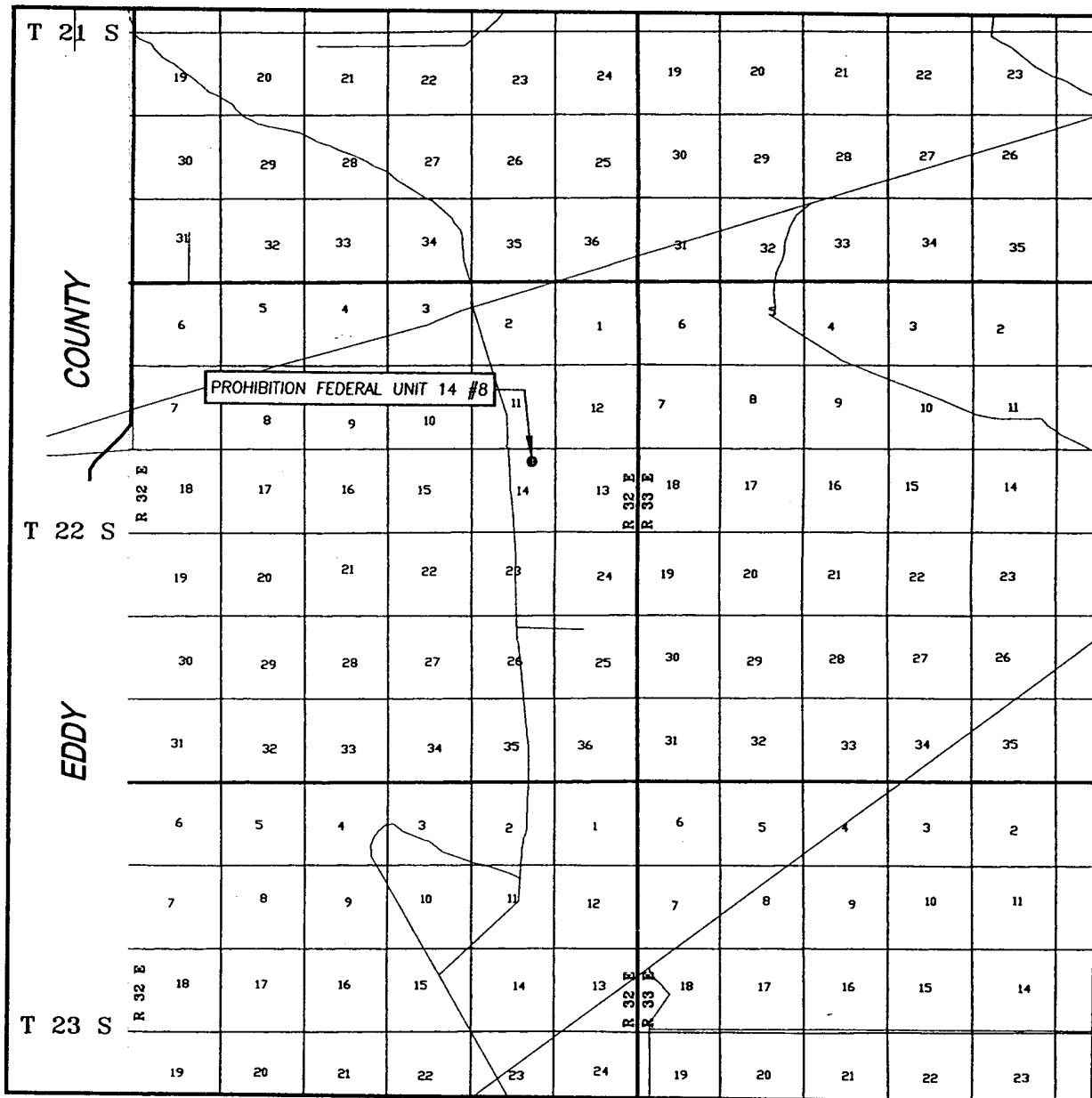
PROHIBITION FEDERAL UNIT 14 #8 WELL  
 LOCATED 990 FEET FROM THE NORTH LINE  
 AND 1650 FEET FROM THE EAST LINE OF SECTION 14,  
 TOWNSHIP 22 SOUTH, RANGE 32 EAST, N.M.P.M.,  
 LEA COUNTY, NEW MEXICO.

Survey Date: 1/4/06	Sheet 1 of 1 Sheets
W.O. Number: 06.11.0007	Dr By: RZB
Date: 1/11/06	Disk: CD#4
06110007	Scale: 1"=100'



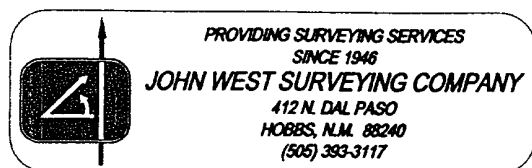
PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117

# VICINITY MAP

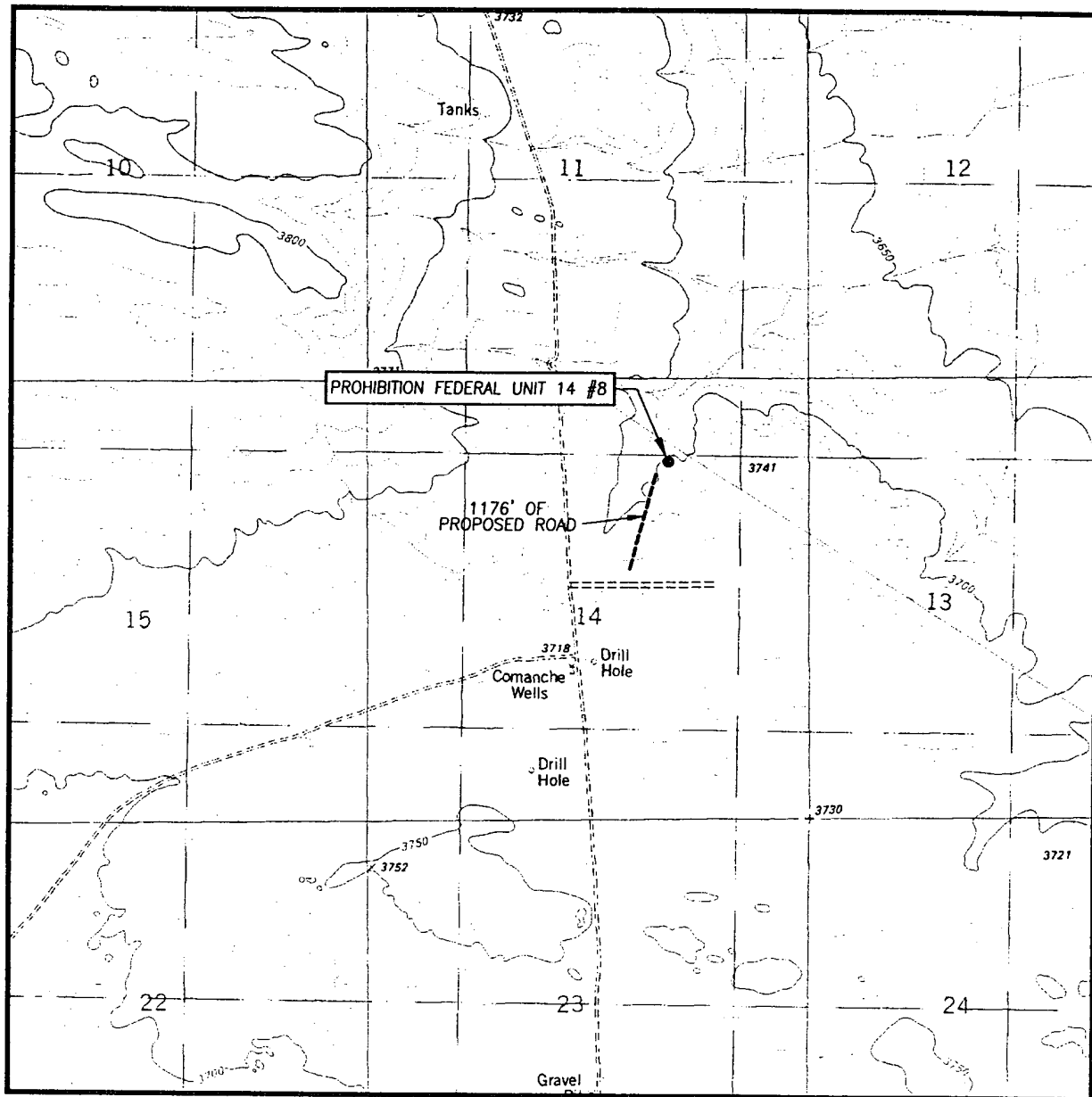


SCALE: 1" = 2 MILES

SEC. 14 TWP. 22-S RGE. 32-E  
 SURVEY N.M.P.M.  
 COUNTY LEA  
 DESCRIPTION 990' FNL & 1650' FEL  
 ELEVATION 3704'  
 OPERATOR COG OPERATING, LLC  
 LEASE PROHIBITION FEDERAL UNIT 14



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
THE DIVIDE, N.M. - 10'

SEC. 14 TWP. 22-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

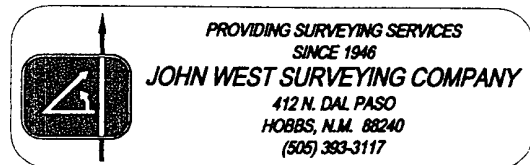
DESCRIPTION 990' FNL & 1650' FEL

ELEVATION 3704'

OPERATOR COG OPERATING, LLC

LEASE PROHIBITION FEDERAL UNIT 14

U.S.G.S. TOPOGRAPHIC MAP  
THE DIVIDE, N.M.



# APPLICATION TO DRILL

COG OPERATING, LLC.  
PROHIBITION FEDERAL UNIT # 8  
UNIT "B" SECTION 14  
T22S-R32E LEA CO. NM

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is provided for your consideration.

1. Location of well: 990' FNL & 1650' FEL SECTION 14 T22S-R32E LEA CO. NM
2. Ground Elevation above Sea Level: 3704' GR.
3. Geological age of surface formation: Quaternary Deposits:
4. Drilling tools and associated equipment: Conventional rotary drilling rig using drilling mud as a circulating medium to remove solids from hole.
5. Proposed drilling depth: 8900'
6. Estimated tops of geological markers:

Rustler Anhydrite	930'	Delaware	4850'
Salt	1220'	Bone Spring	8700'

7. Possible mineral bearing formations:

Bone Spring	Oil
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8. Casing Program:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade
26"	0-40'	20"	NA	NA	NA	Conductor
17½"	0-950'	13 3/8"	48#	8-R	ST&C	H-40
11"	0-4700'	8 5/8"	32#	8-R	ST&C	J-55/HCK
7 7/8"	0-8900'	5½"	17#	8-R	LT&C	N-80

## APPLICATION TO DRILL

COG OPERATING, LLC.  
 PROHIBITION FEDERAL UNIT # 8  
 UNIT "B" SECTION 14  
 T22S-R32E LEA CO. NM

9. CEMENTING & SETTING DEPTH:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface Redi-mix.
13 3/8"	Surface	Set 950' of 13 3/8" 48# H-40 ST&C casing. Cement with 700 Sx. of 35/65 Class "C" POZ + additives, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement to surface.
8 5/8"	Intermediate	Set 4700' of 8 5/8" 32# HCK/J-55 ST&C casing. Cement 1000 Sx. of Class "C" Light Cement + additives, tail in with 200 Sx. of Class "C" cement + 1% CaCl, circulate cement to surface.
5 1/2"	Production	Set 8900' of 5 1/2" 17# N-80 LT&C casing. Cement with 500 Sx. of Class "H" Premium Plus cement + additives estimate top of cement 6000' from surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams and bottom pipe rams. The B.O.P. will be nipples up on the 8 5/8" casing and tested to API specifications. The B.O.P. will be operated at least once in each 24 hour period and the blind rams will be operated when drill pipe is out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. Exhibit "E-1" shows a hydraulically operated closing unit and a 2" 3000 PSI choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-950'	8.4-9.0	28-35	NC	Fresh water Spud mud add paper to control seepage.
950-4700'	10.0-10.2	28-35	NC	Brine water mud system add paper for seepage add lime for PH control use high viscosity sweeps to clean hole.
4700-8400'	8.5-8.7	29-38	NC	Fresh water use paper to control seepage and high viscosity sweeps to clean hole.
8400-8900'	8.5-8.7	32-34	25 cc or less	Same as above add starch to reduce water loss, use high viscosity sweeps to clean hole.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing viscosity and/or water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

COG OPERATING, LLC.  
PROHIBITION FEDERAL UNIT # 8  
UNIT "B" SECTION 14  
T22S-R32E LEA CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Induction, SNP, LDT, MSFL, Gamma Ray, and Caliper from TD back to 4700'. (8 5/8" casing shoe), run Gamma Ray, Neutron from 8 5/8" casing shoe back to surface.
- B. No DST's or cores are planned at this time.
- C. Mud logger may be rigged up on hole at 4700' and remain on hole to TD.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H<sup>2</sup>S in this area. If H<sup>2</sup>S 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 4250 PSI, and Estimated BHT 175°.

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 28 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 Bone Spring formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as an oil well.

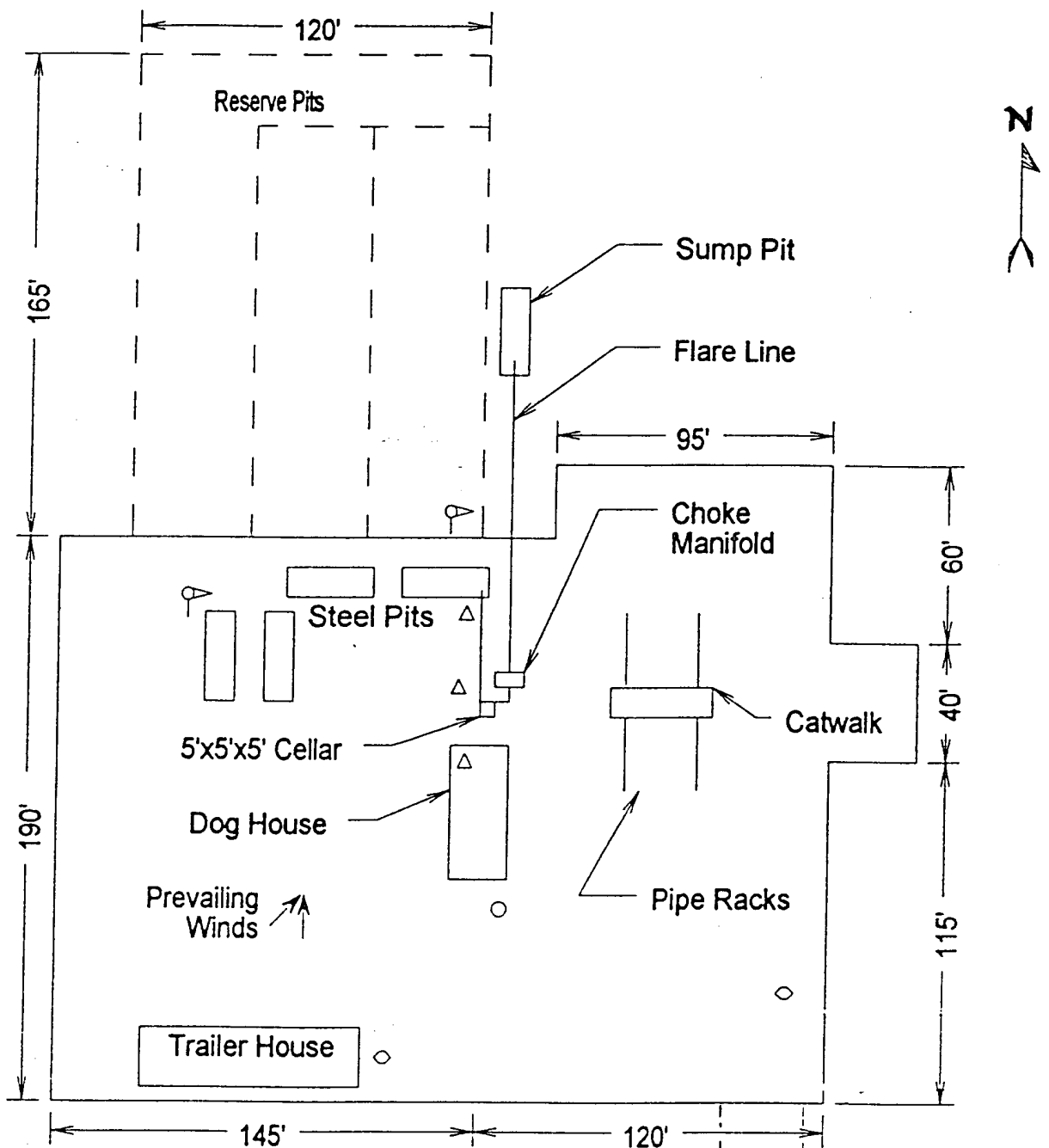


## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H<sub>2</sub>S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid.
  - F. Proper use of 30 minute pressure demand air pack.
2. H<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at bell nipple, end of bloopie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
  - C. There should be a windsock at entrance to location.
4. Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H<sub>2</sub>S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
  - A. See exhibit "E"
6. Communication
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
7. Drillstem Testing
  - A. Exhausts will be watered.
  - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
  - C. If location is near any dwelling a closed D.S.T. will be performed.

## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

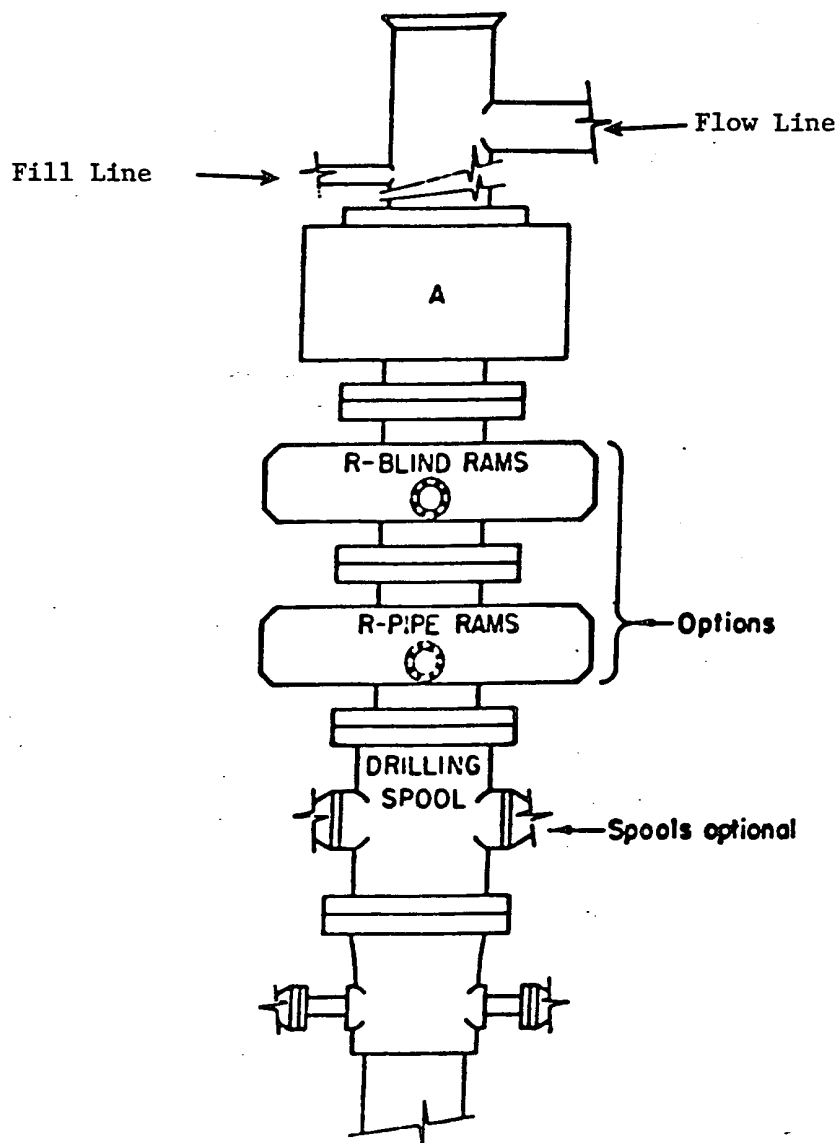
8. Drilling contractor supervisor will be required to be familiar with the effects  $H_2S$  has on tubular goods and other mechanical equipment.
9. If  $H_2S$  is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with  $H_2S$  scavengers if necessary.



- Wind Direction Indicators (wind sock or streamers)
- △ H2S Monitors (alarms at bell nipple and shale shaker)
- ◇ Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT "D"  
RIG LAY OUT PLAT

COG OPERATING, LLC.  
PROHIBITION FEDERAL UNIT # 8  
UNIT "B" SECTION 14  
T22S-R32E LEA CO. NM

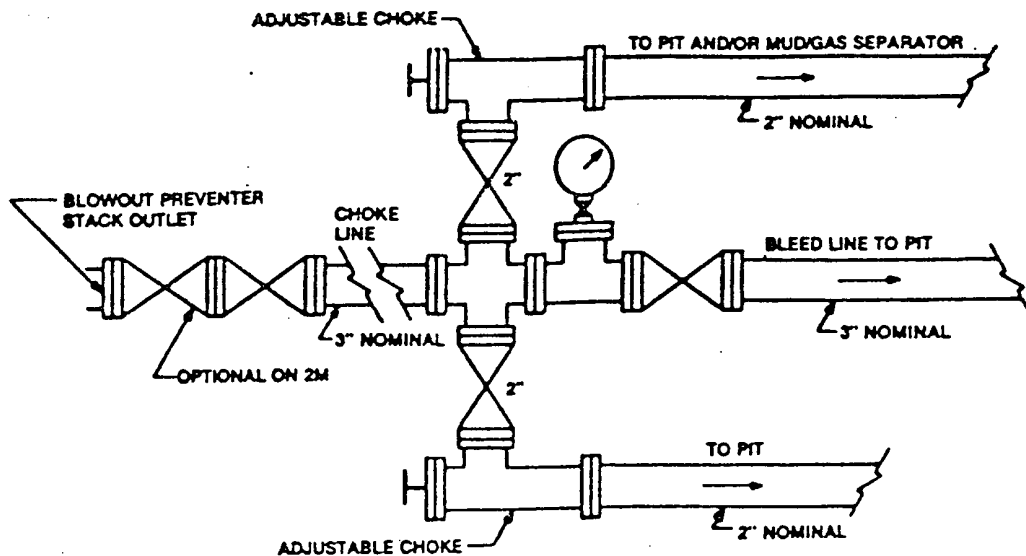


# **ARRANGEMENT SRRA**

SERIES 900 3000 PSI WP

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

COG OPERATING , LLC.  
PROHIBITION FEDERAL UNIT # 8  
UNIT "B" SECTION 14  
T22S-R32E LEA CO. NM



Typical choke manifold assembly for 3M WP system

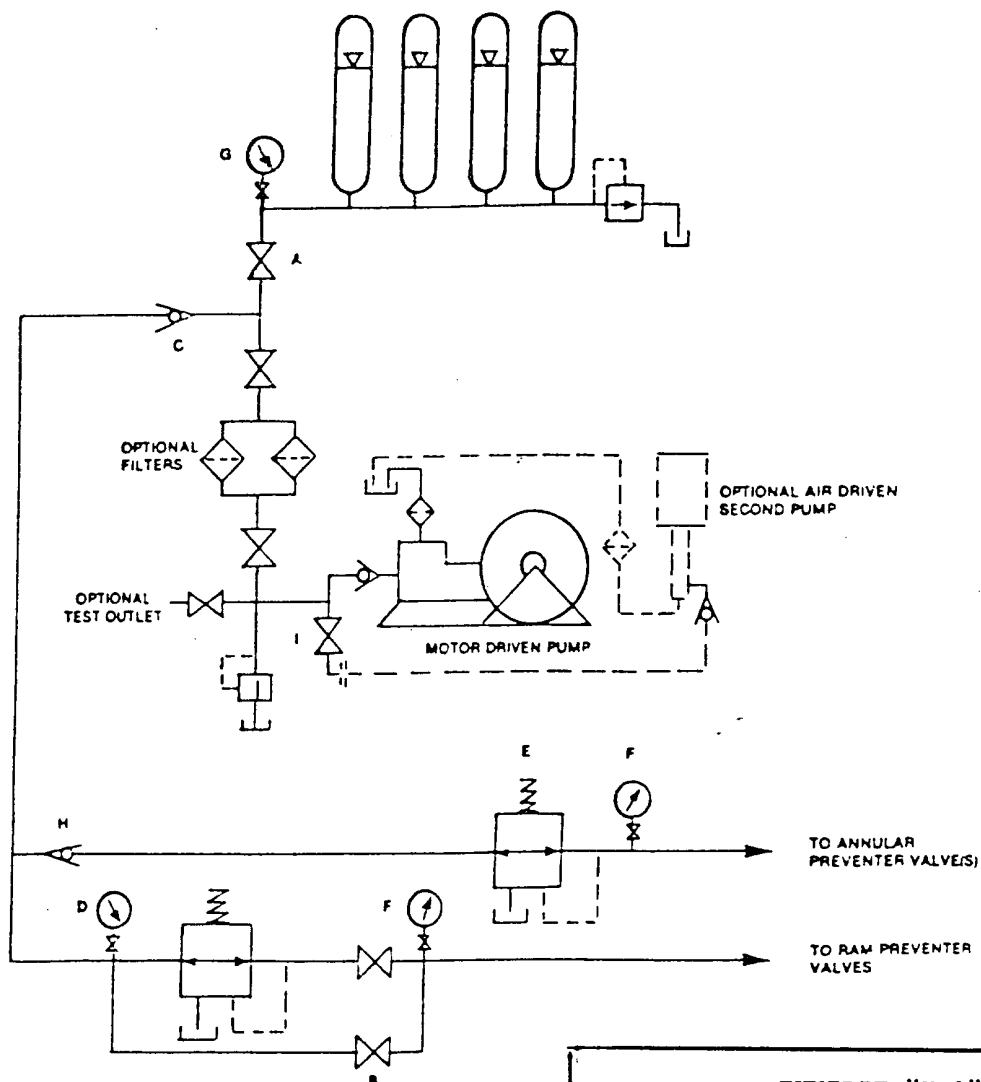


EXHIBIT "E-1"  
CHOKE MANIFOLD & CLOSING UNIT

COG OPERATING, LLC.  
PROHIBITION FEDERAL UNIT # 8  
UNIT "B" SECTION 14  
T22S-R32E LEA CO. NM

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-144  
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: COG OPERATING, LLC. Telephone: 432-685-4342 e-mail address: \_\_\_\_\_  
Address: 550 WEST TEXAS AVENUE SUITE 1300 MIDLAND, TEXAS 79701  
Facility or well name: PROHIBITION FED. UNIT # 30-025-37826 U/L or Qtr/Qtr. B Sec 14 T 22S R 32E  
County: Lea Latitude 32°23'46.4" Longitude 103°38'30.4" NAD: 1927 ☐ 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐

WELL # 8

<b>Pit</b> Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input type="checkbox"/> Thickness <u>12</u> mil Clay <input type="checkbox"/> Volume <u>15M</u> bbl	<b>Below-grade tank</b> Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not. _____
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) <u>100+</u>	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more 0 (0 points) 0
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No 0 (0 points) 0
Distance to surface water: (horizontal distance to all wetlands, playns, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more 0 (0 points) 0
	Ranking Score (Total Points) 0

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite ☐ offsite ☐ If offsite, name of facility: \_\_\_\_\_ (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface \_\_\_\_\_ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 03/06/06

Printed Name/Title: Joe T. Janica/ Agent

Signature: Joe T. Janica

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and or regulations.


Approval: APR 20 2006

Date: \_\_\_\_\_

Printed Name/Title: APR 20 2006

ENGINEER  
PETROLEUM

Signature: [Signature]

 The sender of this message has requested a read receipt. [Click here to send a receipt.](#)

**Mull, Donna, EMNRD**

**From:** Phillips, Dorothy, EMNRD  
**To:** Mull, Donna, EMNRD  
**Cc:**  
**Subject:** RE: Financial Assurance Requirement  
**Attachments:**

**Sent:** Thu 4/20/2006 8:25 AM

All have blanket and none appear on Jane's list.

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**From:** Mull, Donna, EMNRD  
**Sent:** Thursday, April 20, 2006 8:15 AM  
**To:** Phillips, Dorothy, EMNRD  
**Cc:** Macquesten, Gail, EMNRD; Sanchez, Daniel J., EMNRD  
**Subject:** Financial Assurance Requirement

Dorothy,

Is the Financial Assurance Requirement for these Operators OK?

Petrohawk Operating Co (194849)  
Pride Energy Co (151323)  
COG Operating LLC ( 229137)  
OXY USA WTP Limited Partnership (192463)  
Chevron USA Inc (4323)  
John H Hendrix Corp (12024)  
Latigo Petroleum Inc (227001)

Please let me know. Thanks and have a nice day. Donna