

Form 3160-3
(February 2005)

AUG 21 2008

HOBBBS OGD
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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. NMNM 105885 |
| 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 N/A |
| 2. Name of Operator C.O.G. Operating L.L.C. 229137 | | 7. If Unit or CA Agreement, Name and No N/A |
| 3a. Address 550 W. Texas, #1300 Midland, Texas 79701 | | 8. Lease Name and Well No. Hercules Federal Com #20 |
| 3b. Phone No. (include area code) 432-685-9158 | | 9. API Well No 30-005-29049 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 660' FNL & 430' FWL, Unit D At proposed prod zone 660' FNL & 330' FEL, Unit A | | 10. Field and Pool or Exploratory Wildcat |
| 14. Distance in miles and direction from nearest town or post office* Approximately 15 miles North of Maljamar, New Mexico | | 11. Sec., T, R, M or Blk and Survey or Area Section 15, T15S, R31E |
| 15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 330' FEL | 16. No of acres in lease 800 | 17. Spacing Unit dedicated to this well 160 |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1320' | 19. Proposed Depth 13450' MD 8750' TVD | 20. BLM/BIA Bond No on file NMB 000215 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc) 4407' GL | 22. Approximate date work will start* 07/10/2008 | 23. Estimated duration 45 Days |

24. Attachments ROSWELL CONTROLLED WATER BASIN

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 | Name (Printed/Typed) Lee Ann Rollins | Date 5/15/08 |
|---------------|--------------------------------------|--------------|

| | | |
|-------------|--------------------------------------|----------------|
| Title Agent | Name (Printed/Typed) /S/ Angel Mayes | Dz AUG 19 2008 |
|-------------|--------------------------------------|----------------|

| | | |
|---|---|-----------------------------|
| Approved by (Signature) /S/ Angel Mayes | Title Assistant Field Manager, Lands And Minerals | Office ROSWELL 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.

APPROVED FOR 2 YEARS

Title 18 USC Section 1001 and Title 43 USC 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)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

WITNESS
SURFACE & INTERMEDIATE
CASING

BASIN SURVEYS

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Hercules '15' Federal Com # 2H
SL: 660' FNL & 430' FWL
BHL: 660' FNL & 330' FEL
Sec 15, T15S, R31E
Chaves County, NM

1. Proration Unit Spacing: 160 Acres
2. Ground Elevation: 4407'
3. Proposed Depths: Pilot hole TD = 8960', Horizontal TVD = 8750', MD = 13450'
4. Estimated tops of geological markers:

| | |
|------------|---------|
| Quaternary | Surface |
| Yates | 2410' |
| Queen | 3220' |
| San Andres | 3950' |
| Tubb | 6770' |
| Abo | 7460' |
| Wolfcamp | 8660' |

5. Possible mineral bearing formations:

| | | |
|------------|-------|-------------|
| Water sand | 150' | Fresh Water |
| Yates | 2410' | Oil / Gas |
| Queen | 3220' | Oil / Gas |
| San Andres | 3950' | Oil / Gas |
| Tubb | 6770' | Oil / Gas |
| Abo | 7460' | Oil / Gas |
| Wolfcamp | 8660' | Oil / Gas |

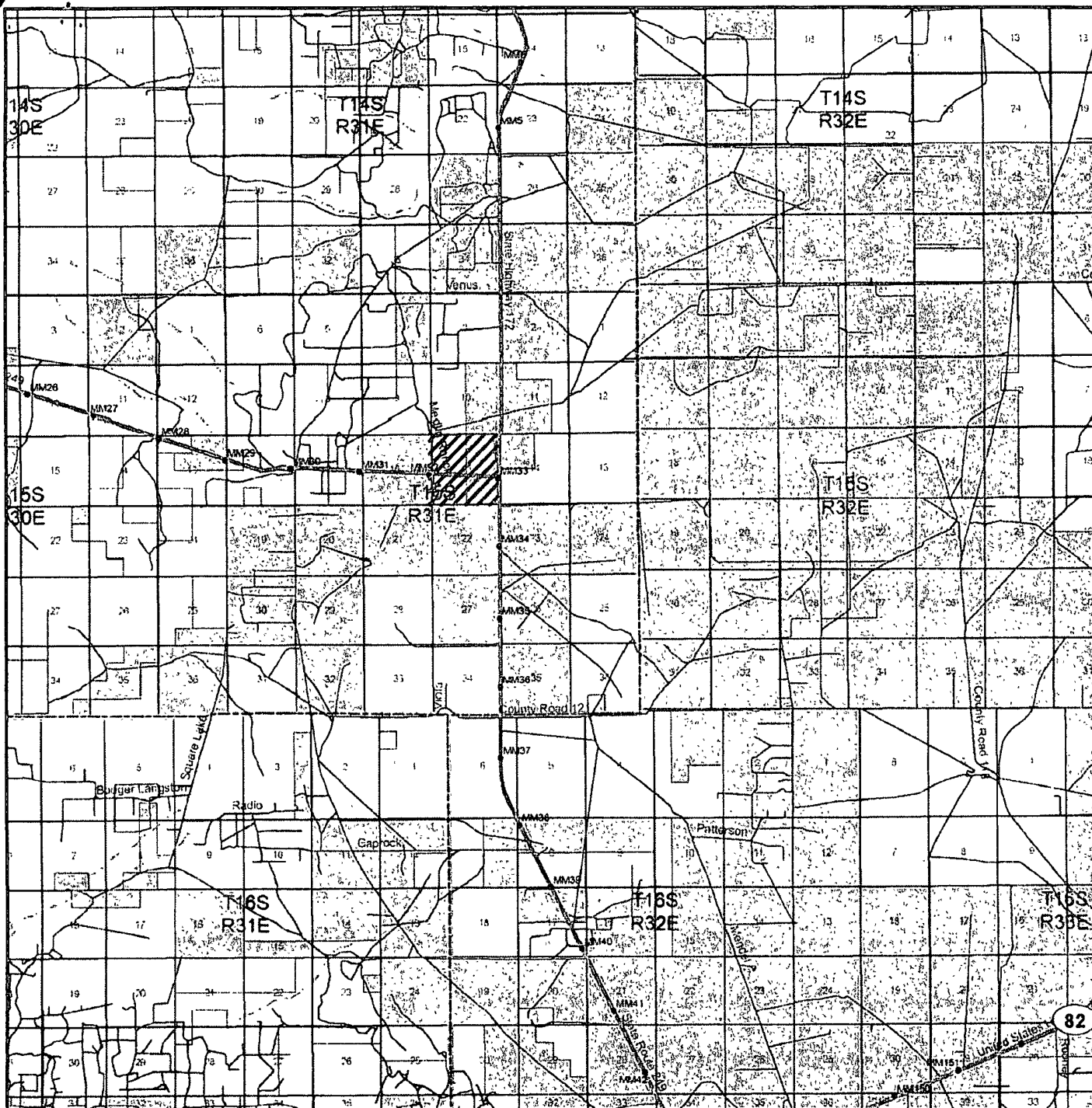
6. Casing Program - Proposed

| <u>Hole size</u> | <u>Interval</u> | <u>OD of Casing</u> | <u>Weight</u> | <u>Cond.</u> | <u>Collar</u> | <u>Grade</u> |
|---|-----------------|---------------------|---------------|--------------|---------------|--------------|
| 17-1/2" | 0' - +/-400' | 13-3/8" | 48# | New | STC | H40 |
| Collapse sf - 3.78, Burst sf - 7.20, Tension sf - 15.72 | | | | | | |
| 12 1/4" | 0' - 4000' | 9-5/8" | 40# | New | STC | J-55 |
| Collapse sf - 1.285, Burst sf - 1.17, Tension sf - 3.25 | | | | | | |
| 8-3/4" | 0' - 8500' | 5-1/2" | 17# | New | LTC | P-110 |
| Collapse sf - 1.75, Burst sf - 2.42, Tension sf - 2.94 | | | | | | |
| 7-7/8" | 8500' - 13450' | 5-1/2" | 17# | New | BTC | P-110 |
| Collapse sf - 1.68, Burst sf - 2.39, Tension sf - 79.28 | | | | | | |

WITNESS

WITNESS

EXHIBIT "B"



HERCULES FEDERAL COM #2H
 Located at 660' FNL and 430 FWL
 Section 15, Township 15 South, Range 31 East,
 N.M.P.M., Chaves County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number: JMS 18906TR

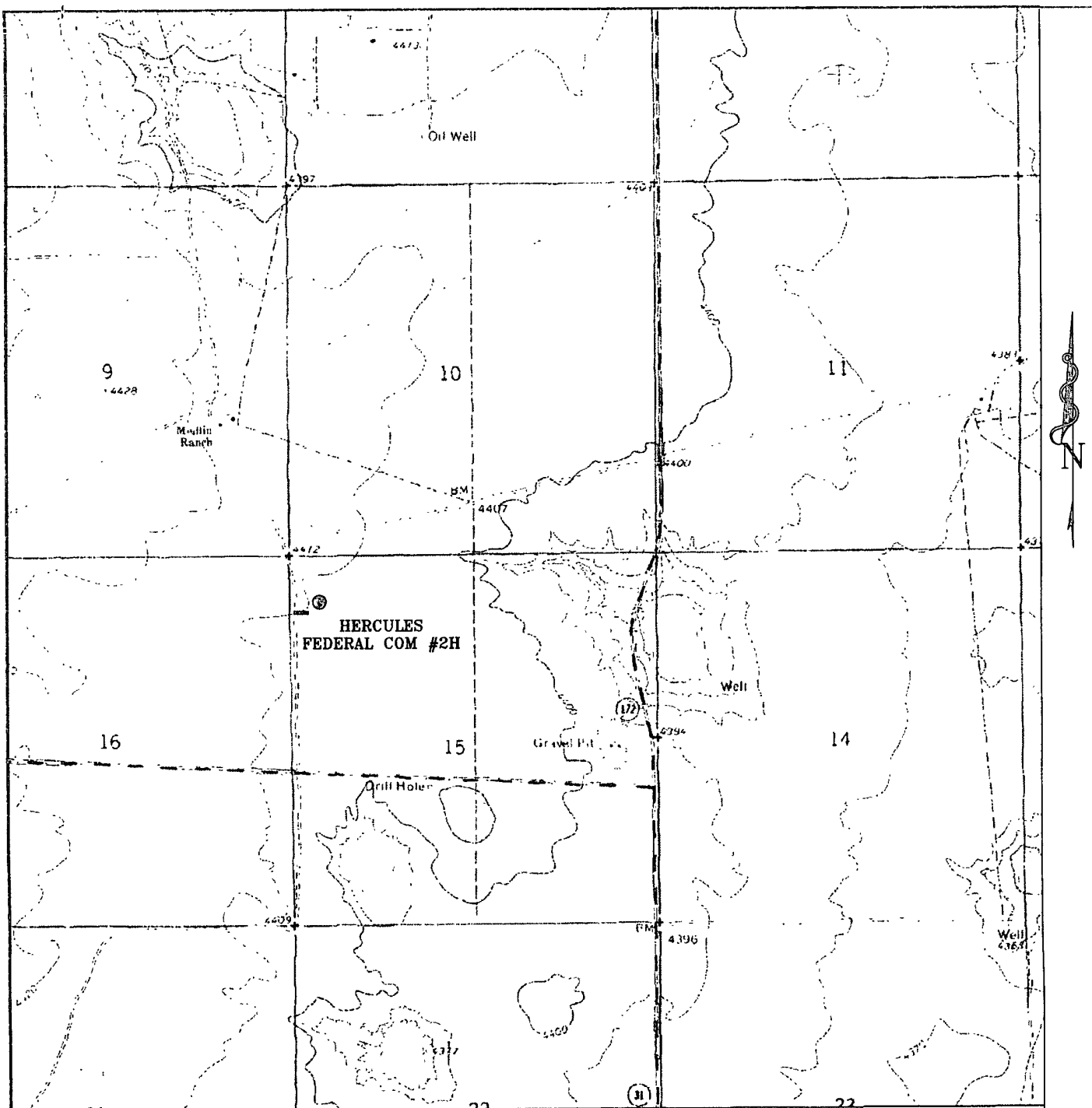
Survey Date: 12-11-2007

Scale: 1" = 2 MILES

Date: 12-12-2007

C.O.G.
 OPERATING
 L.L.C.

EXHIBIT "D"



HERCULES FEDERAL COM #2H

Located at 660' FNL and 430' FWL

Section 15, Township 15 South, Range 31 East,
N.M.P.M., Chaves County, New Mexico.



P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number: JMS 18906T

Survey Date: 12-11-2007

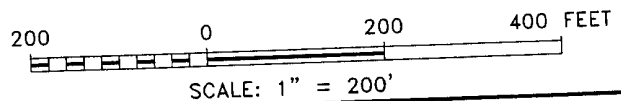
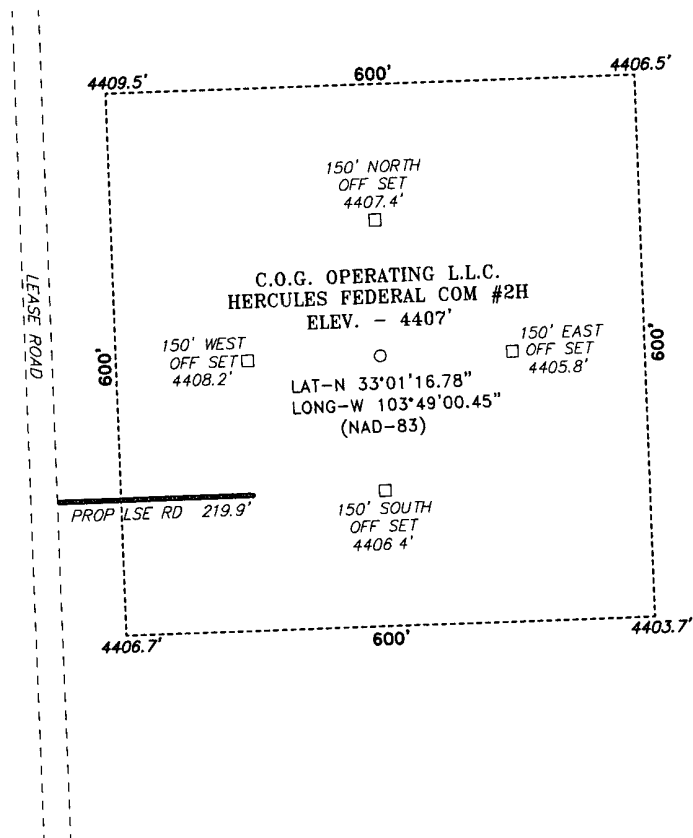
Scale: 1" = 2000'

Date: 12-12-2007

**C.O.G.
OPERATING
L.L.C.**

EXHIBIT "E"

SECTION 15, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM MILE MARKER 32 OF HWY 249, GO EAST 243.0'
TO LEASE ROAD, ON LEASE ROAD GO NORTH 0.4
MILES TO PROPOSED LEASE ROAD.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O Number: 18906

Drawn By: J. M. SMALL

Date: 12-12-2007

Disk: JMS 18906W

C.O.G. OPERATING L.L.C.

REF: HERCULES FEDERAL COM #2H / Well Pad Topo

THE HERCULES FEDERAL COM #2H LOCATED 660' FROM
THE NORTH LINE AND 430' FROM THE WEST LINE OF
SECTION 15, TOWNSHIP 15 SOUTH, RANGE 31 EAST,

N.M.P.M., CHAVES COUNTY, NEW MEXICO.

Survey Date: 12-11-2007

Sheet 1 of 1 Sheets

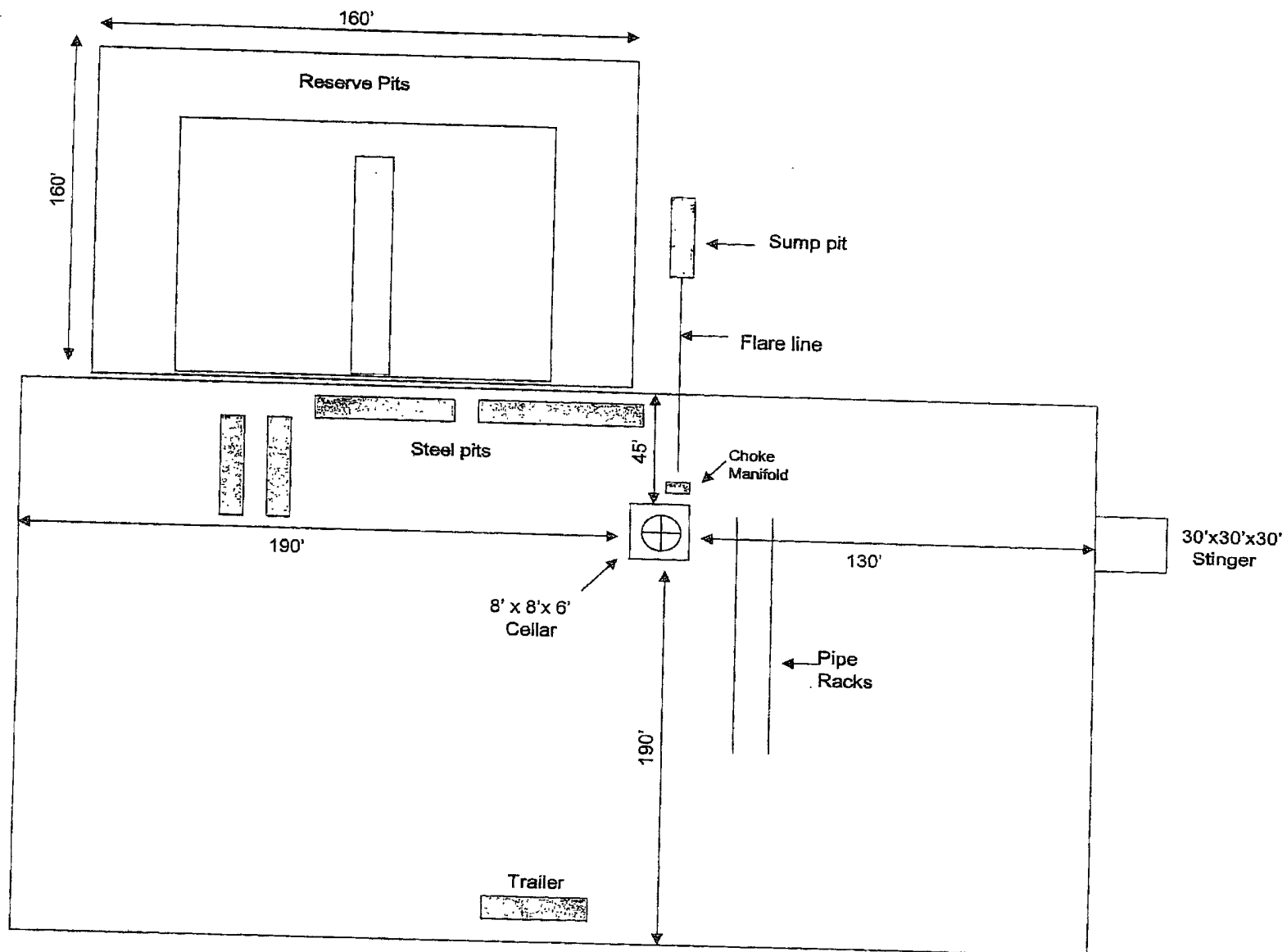


EXHIBIT "F"

EXHIBIT "G"

BOPE SCHEMATIC

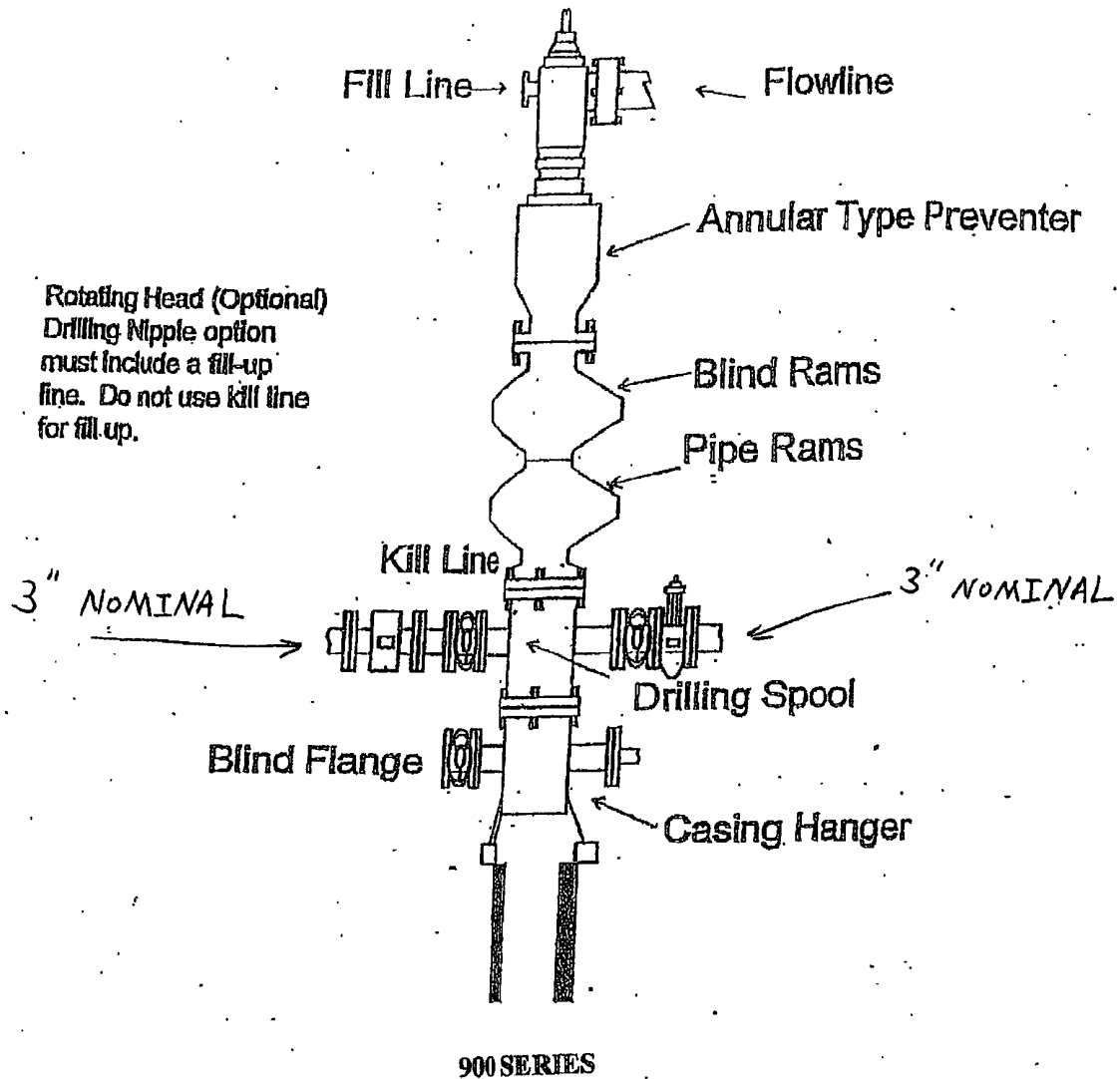
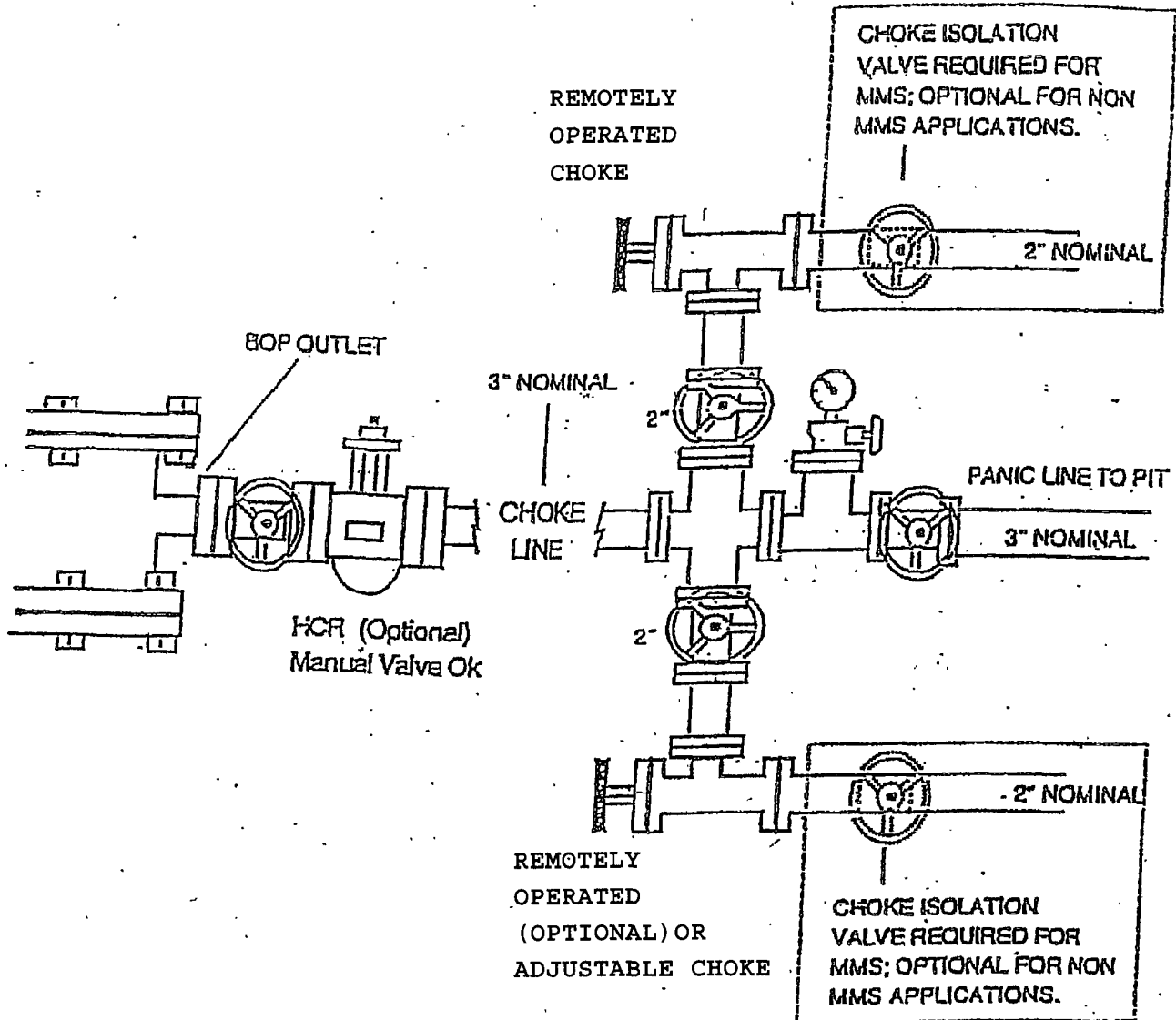


EXHIBIT "H"

CHOKE MANIFOLD 3M SERVICE



STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

C.O.G. Operating, LLC (229137)
550 W. Texas Avenue, Ste. 1300
Midland, TX 79701

The undersigned accepts all applicable terms, conditions, stipulations and restrictions covering operations conducted on the leased land or portion thereof, as described below:

Lease No – Surface Location: NMNM #105885
Lease No – Bottom Hole Location: State of New Mexico

Well Name: Hercules Federal Com #2H

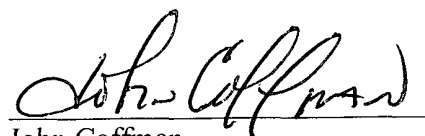
Legal Description of Land: SL: 660' FNL & 430' FWL, Unit D
BHL: 660' FNL & 330' FEL, Unit A
Sec 15, T15S, R31E
Chaves County, New Mexico

Formation(s) (if applicable): Wolfcamp

Bond Coverage: \$25,000 statewide bond of C.O.G. Operating, LLC

BLM Bond File No: NMB 000215

5/23/08
Date


John Coffman
C.O.G. Operating, LLC

CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by the C.O.G. Operating, LLC Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

5/23/08
Date

John Coffman
John Coffman
C.O.G. Operating, LLC

COG OPERATING, LLC

HYDROGEN SULFIDE (H₂S) CONTINGENCY PLAN FOR DRILLING / COMPLETING / WORKOVER / FACILITY WITH THE EXPECTATION OF H₂S IN EXCESS OF 100 PPM

**C.O.G. Operating, LLC
NEW DRILL
Hercules Federal Com #2H
SL: 660' FNL & 430' FWL, Unit D
BHL: 660' FNL & 330' FEL, Unit A
Sec 15, T15S, R31E
Chaves County, New Mexico**

This well / facility is not expected to have H₂S, but the following is submitted as requested.



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GENERAL H2S EMERGENCY ACTIONS

In the event of any evidence of 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 representative 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 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 representative if not on location.
4. Set in motion the steps to protect and / or remove the general public to any upwind "safe are". Maintain strict security and safety procedures while dealing with the source.
5. No entry to any unauthorized personnel.
6. Notify the appropriate agencies:
City Police - City streets
State Police - State Roads
County Sheriff - County Roads
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 immediately notify public safety personnel.

EMERGENCY CALL LIST

| | <u>Office</u> | <u>Cell</u> | <u>Home</u> |
|--------------|---------------|--------------|--------------|
| John Coffman | 432-683-7443 | 432-631-9762 | 432-699-5552 |
| Erick Nelson | 432-683-7443 | 432-238-7591 | |
| Matt Corser | 432-683-7443 | 432-413-0071 | |

EMERGENCY RESPONSE NUMBERS
Chaves County, New Mexico

| | |
|---|----------------------------|
| State Police | 505-748-9718 |
| Chaves County Sheriff | 505-624-6500 |
| Emergency Medical Services (Ambulance) | 911 or 505-624-6500 |
| Chaves County Emergency Management | 505-476-9600 |
| State Emergency Response Center (SERC) | 505-476-9620 |
| New Mexico Oil Conservation Division | 505-748-1283 |
| Callaway Safety Equipment, Inc. | 505-392-2973 |

PROTECTION OF THE GENERAL (ROE) RADIUS OF EXPOSURE

In the event greater than 100 ppg H₂S is present, the ROE 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:

(H₂S concentrations in decimal form)

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

$$10,000 \text{ ppm} + = .01$$

$$1,000 \text{ ppm} + = .001$$

Calculation for the 500 ppm ROE:

$$100 \text{ ppm} + = .0001$$

$$10 \text{ ppm} + = .00001$$

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

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 200 MCFD then:

$$\begin{aligned} \text{ROE for 100 ppm} \quad X &= [(1.589)(.00010)(200,000)] (0.6258) \\ X &= 8.8' \end{aligned}$$

$$\begin{aligned} \text{ROE for 500 ppm} \quad X &= [(0.4546)(.00050)(200,000)] (0.6258) \\ X &= 10.9' \end{aligned}$$

These calculations will be forwarded to the appropriate NMOCD district 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. 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, oxygen, and flammable 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 representative shall stay in communication with all agencies throughout the duration of the situation and inform such agencies when the situation has been contained and the effected area 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 endangered.
2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

Instructions for Igniting the Well:

1. Two people are required. They must be equipped with positive pressure, self-contained breathing apparatus and "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 and LFL. The other person will be the company representative.
3. Ignite upwind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun with a range of approximately +/- 500 feet shall be used to ignite the gas.
4. Before igniting, check for the presence of combustible gases.
5. After igniting, continue emergency actions and 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 and 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. Windssocks

- * Two windssocks will be placed in strategic locations, visible from all angles.

5. H2S Detectors and Alarms

* 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 alarm @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The three 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 is being discharged

6. Auxiliary Rescue Equipment

- * Stretcher
- * Two OSHA full body harnesses
- * 100' of 5/8" OSHA approved rope
- * One 20 lb. Class ABC fire extinguisher
- * Communication via cell phones on location and vehicles on location

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA)

1. 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 of H₂S has been detected.
 - * At any time there is a doubt of the level of H₂S in the area.
2. All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.
3. Facial hair and standard eyeglasses are not allowed with SCBA.
4. Contact lenses are never allowed with SCBA.
5. When breaking out any line where H₂S can reasonably be expected.
6. After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.
7. All SCBA shall be inspected monthly.

RESCUE & FIRST AID FOR VICTIMS OF 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, upwind and uphill from source or crosswind 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.

Toxic Effects of H2S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity-1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen sulfide and other gasses are compared below in Table 1. toxicity table for H2S and physical effects are shown in Table II.

Table 1
Permissible Exposure Limits of Various Gasses

| Common Name | Symbol | Sp. Gravity | TLV | STEL | IDLH |
|------------------|--------|-------------|----------|------------|---------|
| Hydrogen Cyanide | HCN | .94 | 4.7 ppm | C | |
| Hydrogen Sulfide | H2S | 1.192 | 10 ppm | 15 ppm | 100 ppm |
| Sulfide Dioxide | SO2 | 2.21 | 2 ppm | 5 ppm | |
| Chlorine | CL | 2.45 | .5 ppm | 1 ppm | |
| Carbon Monoxide | CO | .97 | 25 ppm | 200 ppm | |
| Carbon Dioxide | CO2 | 1.52 | 5000 ppm | 30,000 ppm | |
| Methane | CH4 | .55 | 4.7% LEL | 14% UEL | |

Definitions

- A. TLV – Threshold Limit Value is the concentration employees may be exposed to based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists and regulated by OSHA.
- B. STEL – Short Term Exposure Limit is the 15 minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H2S is 19 PPM.
- C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H2S is 100 PPM.
- D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed to based on an TWA.

TABLE II
Toxicity Table of H₂S

| Percent % | PPM | Physical Effects |
|-----------|------|---|
| .0001 | 1 | Can smell less than 1 ppm. |
| .001 | 10 | TLV for 8 hours of exposure |
| .0015 | 15 | STEL for 15 minutes of exposure |
| .01 | 100 | Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes. |
| .02 | 200 | Kills sense of smell quickly, may burn eyes and throat. |
| .05 | 500 | Dizziness, cessation of breathing begins in a few minutes. |
| .07 | 700 | Unconscious quickly, death will result if not rescued promptly. |
| .10 | 1000 | Death will result unless rescued promptly. Artificial resuscitation may be necessary. |

PHYSICAL PROPERTIES OF H₂S

The properties of all gasses are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence, a fact that makes the gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs". For this reason it earned its common name "sour gas". However, H₂S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H₂S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.3% TO 46%

Mixed with the right proportion of air or oxygen, H₂S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO₂), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H₂S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H₂S may release the gas into the air.

BOILING POINT – (-76 degrees Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

| | | |
|--|---|--|
| 1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other | | 5. Lease Serial No. NMNM 105885 |
| 2. Name of Operator COG Operating, LLC | | 6. If Indian, Allottee or Tribe Name N/A |
| 3a. Address 550 W. Texas Ave., Suite 1300, Midland, TX 79701 | 3b. Phone No. (include area code) 432-685-9158 | 7. If Unit or CA/Agreement, Name and/or No. N/A |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 660' FNL & 430' FWL, Unit D 660' FNL & 330' FEL, Unit A | | 8. Well Name and No. Hercules Federal Com #2H |
| | | 9. API Well No. |
| | | 10. Field and Pool, or Exploratory Area (Wolfcamp) |
| | | 11. County or Parish, State Chaves Co., NM |

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|--|---|
| <input 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 checked="" 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 type="checkbox"/> Other <u>directions to</u> |
| | <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | <u>proposed well</u> |
| | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> Water Disposal | |

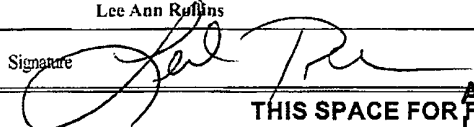
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating, LLC respectfully requests to change the directions for the roadway accessing the Hercules Federal Com #2H. Please note that off of U.S. Highway 82, route will go north on Highway 249 (approximately 11.0 miles) to Highway 172 (in Section 15, T15S, R31E, Chaves Co.,) and continue north on Highway 172 for an approximately 0.9 miles, into the SE/4 of Section 10, T15S, R31E, thence will follow existing lease road (Ranch Road) traveling west for approximately 0.9 miles to the Tarus Federal #1 H.

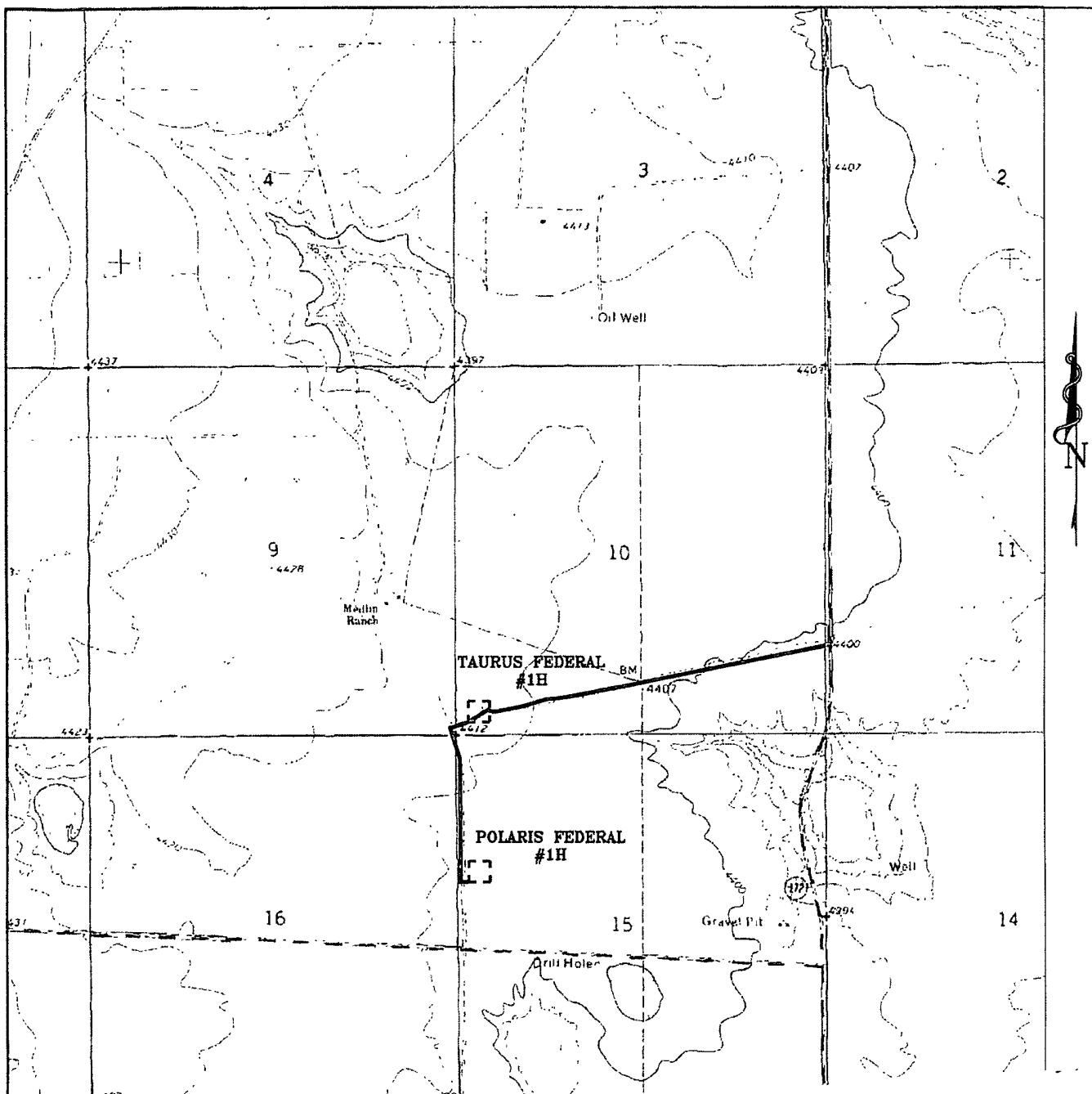
Existing lease road then travels (for approximately 0.4 miles) north into Section 9, T15S, R31E, and then back south in to the NE/4NE/4 of Section 16, T15S, R31E. Road then goes into Section 15 (on lease) and follows section line to proposed lease road for the Hercules Federal Com #2H. Proposed lease road to well location is approximately 219.9'.

State Road Right-of-Way for portion on state lands has been obtained. RW 30760

(see attached maps)

| | | |
|--|-------------------|------------------------------------|
| 14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Lee Ann Ruffins | | Title Agent for COG Operating, LLC |
| Signature  | Date 7/28/2008 | |
| THIS SPACE FOR FEDERAL LAND MANAGEMENT USE | | |
| Approved by /s/ Angel Mayes | | Date AUG 19 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 ROSWELL 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)



Hercules Fed Com #1H

PROPOSED LEASE ROAD TO THE POLARIS FEDERAL #1H
 Section 15, Township 15 South, Range 31 East,
 N.M.P.M., Chaves County, New Mexico.

basin
surveys

focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number: JMS 1B423T

Survey Date: VARIES

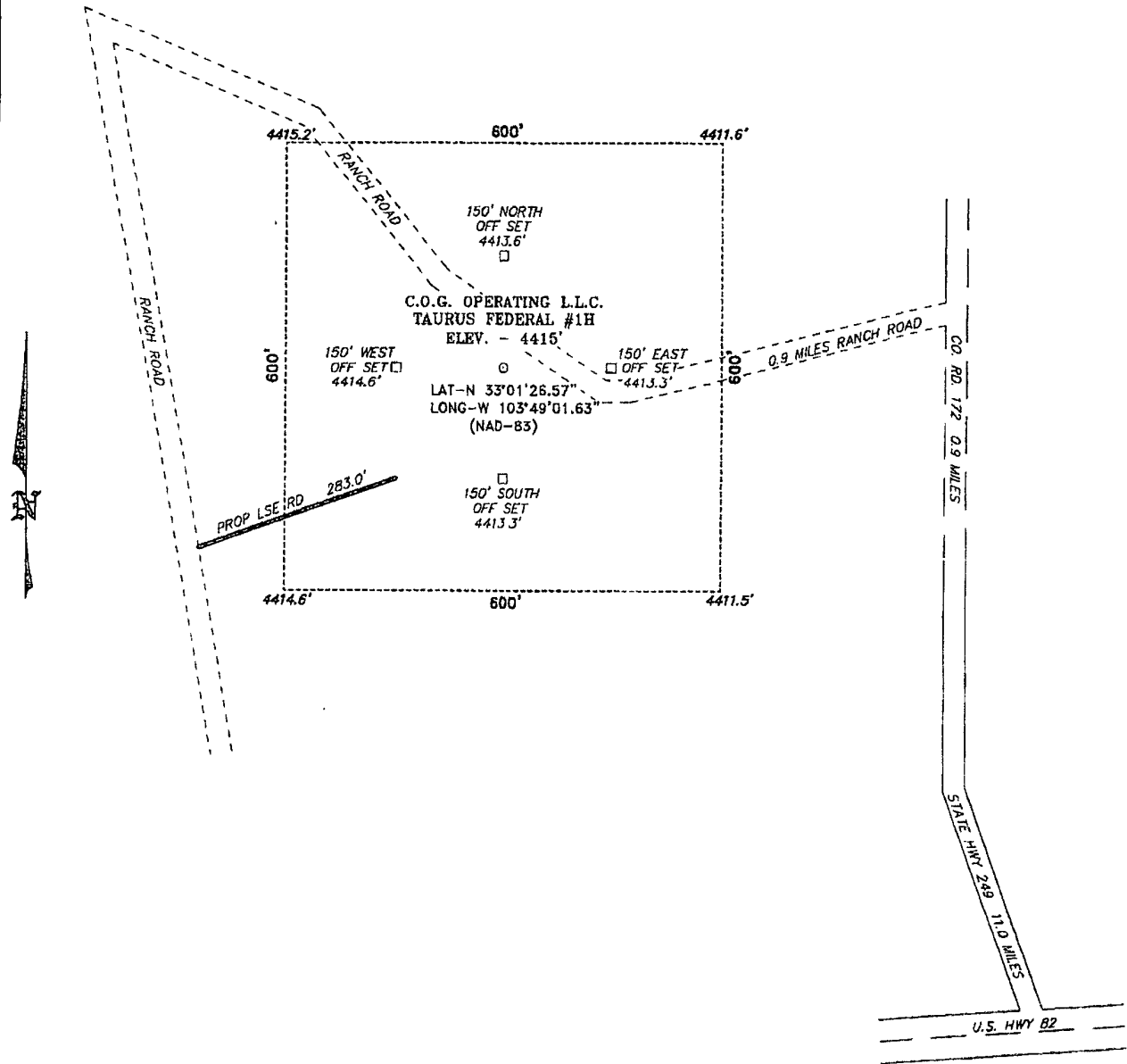
Scale: 1" = 2000'

Date: 08-07-2007

C.O.G.
OPERATING
L.L.C.

Exhibit "E-1"

SECTION 10, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF U.S. HWY 82 AND STATE
HWY 249, GO NORTH 11 MILES TO CO. RD. 172,
CONTINUE NORTH ON CO. RD. 172 FOR 0.9 MILES TO
RANCH ROAD, FOLLOW RANCH ROAD WESTERLY 0.9
MILES TO PROPOSED LOCATION.



SCALE: 1" = 200'

C.O.G. OPERATING L.L.C.

REF: TAURUS FEDERAL #1H / Well Pad Topo

THE TAURUS FEDERAL #1H LOCATED 330' FROM
THE SOUTH LINE AND 330' FROM THE WEST LINE OF
SECTION 10, TOWNSHIP 15 SOUTH, RANGE 31 EAST,
N.M.P.M., CHAVES COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 18370

Drawn By: J. M. SMALL

Date: 07-30-2007

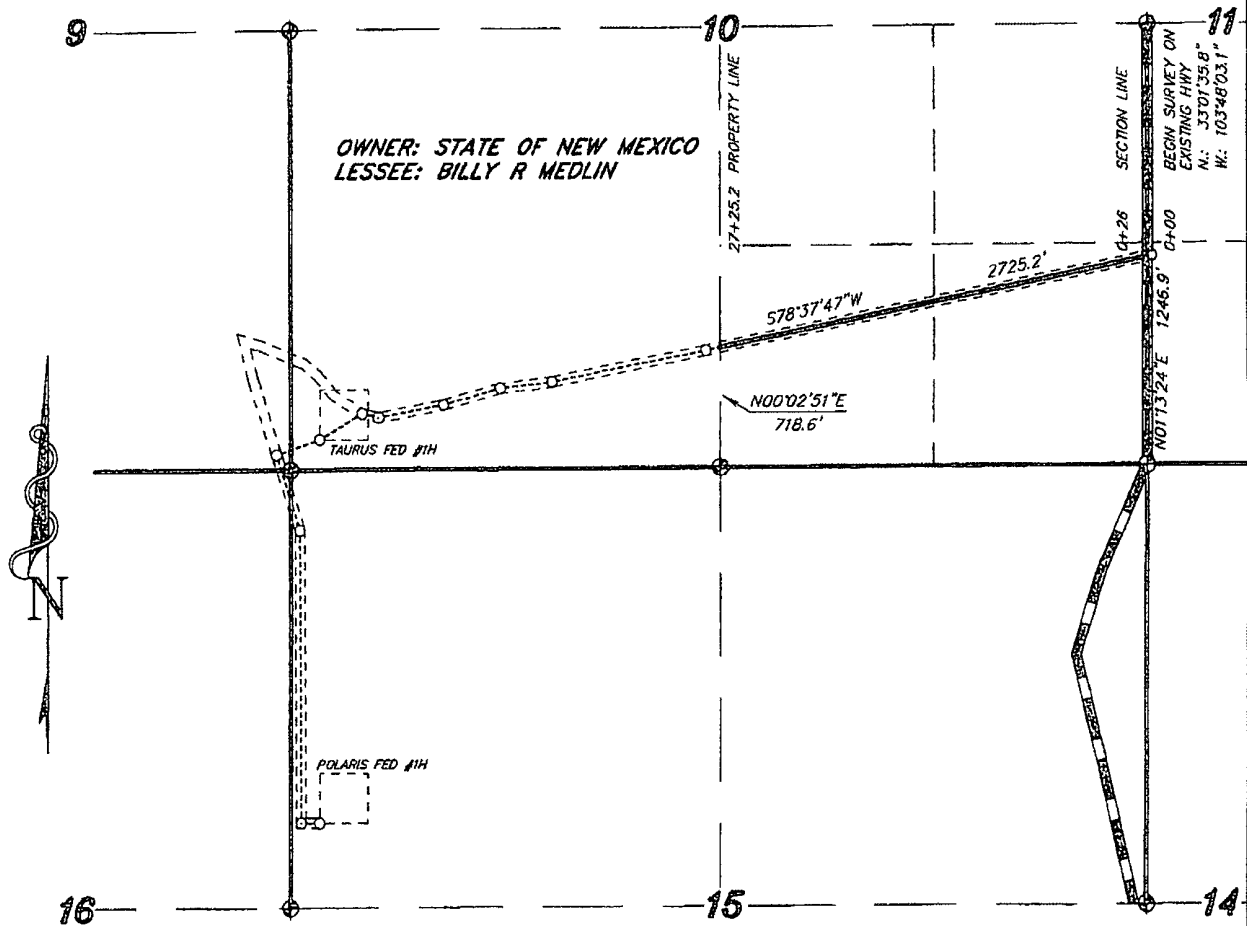
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Survey Date: 07-27-2007

Sheet 1 of 1 Sheets

Exhibit "E-2"

SECTIONS 10&11, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTIONS 10&11, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M., CHAVES COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT WHICH LIES N.01°13'24"E., 1246.9 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 11; THENCE S.78°37'47"W., 2725.2 FEET TO A POINT ON THE WEST PROPERTY LINE WHICH LIES N.00°02'51"E., 718.6 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 10. SAID STRIP OF LAND BEING 2725.2 FEET OR 165.16 RODS IN LENGTH AND CONTAINING 1.25 ACRES, MORE OR LESS, AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SW/4 (SEC 11) = 1.58 RODS = 0.01 ACRES SE/4 SE/4 (SEC 10) = 81.79 RODS = 0.62 ACRES
SW/4 SE/4 (SEC 10) = 81.79 RODS = 0.62 ACRES

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF A SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES
TEXAS P.L.S.
No. 7977
No. 5074

1000 0 1000 2000 FEET

C.O.G. OPERATING L.L.C.

REF: PROP. LEASE ROAD TO THE TAURUS FEDERAL #1H

A LEASE ROAD CROSSING STATE LAND IN
SECTIONS 10&11, TOWNSHIP 15 SOUTH, RANGE 31 EAST,
N.M.P.M., CHAVES COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 18423

Drawn By: J. M. SMALL

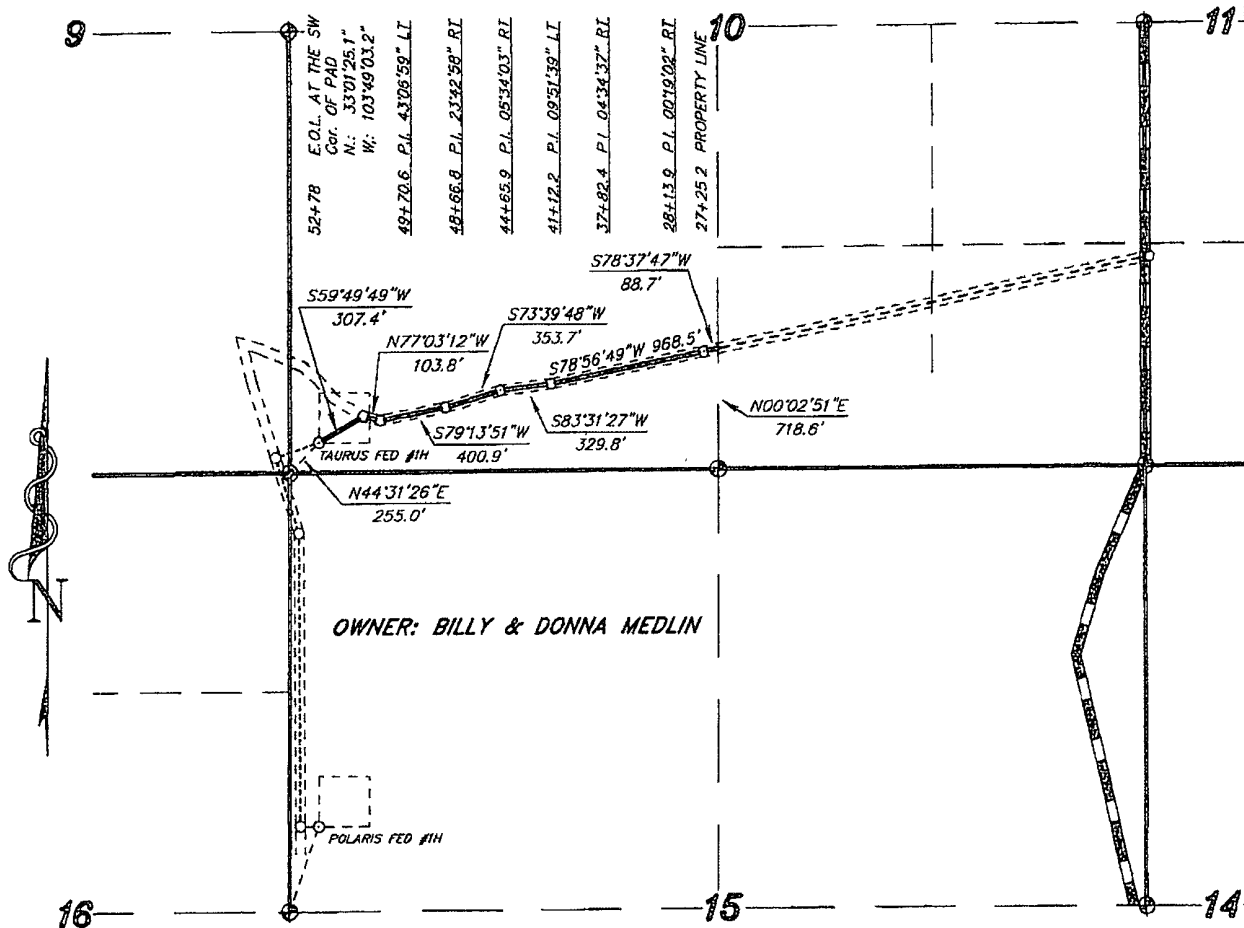
Date: 08-07-2007

Disk: JMS 18423R

Survey Date: VARIES

Sheet 1 of 2 Sheets

SECTION 10, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTION 10, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M., CHAVES COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY. BEGINNING AT A POINT ON THE EAST PROPERTY LINE WHICH LIES N.00°02'51"E., 718.6 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 10; THENCE S.78°37'47"W., 88.7 FEET; THENCE S.78°56'49"W., 968.5 FEET; THENCE S.73°39'48"W., 353.7 FEET; THENCE S.79°13'51"W., 400.9 FEET; THENCE N.77°03'12"W., 103.8 FEET; THENCE S.59°49'49"W., 307.4 FEET TO THE END OF THIS LINE WHICH LIES N.44°31'26"E., 255.0 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 10. SAID STRIP OF LAND BEING 255.2 FEET OR 154.72 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ADJUDICATED SURVEY AND MEETS OR EXCEEDS THE REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES

No. 7977
No. 5074

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 18423

Drawn By: J. M. SMALL

Date: 08-06-2007

Disk: JMS 18423R

Survey Date: VARIES

Sheet 2 of 2 Sheets

1000 0 1000 2000 FEET

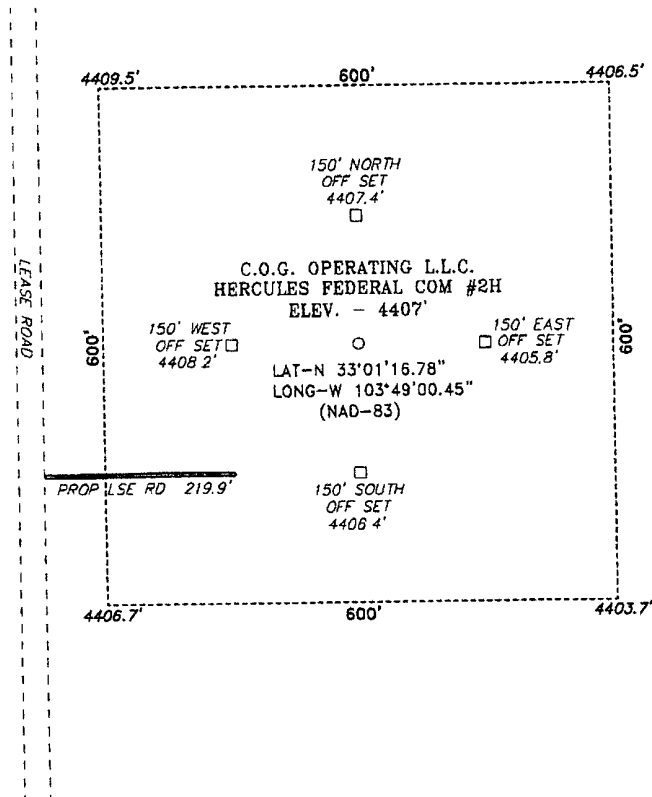
C.O.G. OPERATING L.L.C.

REF: PROP. LEASE ROAD TO THE TAURUS FEDERAL #1H

A LEASE ROAD CROSSING FEE LAND IN
SECTION 10, TOWNSHIP 15 SOUTH, RANGE 31 EAST,
N.M.P.M., CHAVES COUNTY, NEW MEXICO.

EXHIBIT "E"

SECTION 15, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.



SCALE: 1" = 200'

DIRECTIONS TO LOCATION:

FROM MILE MARKER 32 OF HWY 249, GO EAST 243.0'
TO LEASE ROAD, ON LEASE ROAD GO NORTH 0.4
MILES TO PROPOSED LEASE ROAD.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 18906

Drawn By: J. M. SMALL

Date: 12-12-2007

Disk: JMS 18906W

C.O.G. OPERATING L.L.C.

REF: HERCULES FEDERAL COM #2H / Well Pad Topo

THE HERCULES FEDERAL COM #2H LOCATED 660' FROM

THE NORTH LINE AND 430' FROM THE WEST LINE OF

SECTION 15, TOWNSHIP 15 SOUTH, RANGE 31 EAST,

N.M.P.M., CHAVES COUNTY, NEW MEXICO.

Survey Date: 12-11-2007

Sheet 1 of 1 Sheets