

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

HOBBS OCD

1. HYDROGEN SULFIDE TRAINING

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All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

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- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- a. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- c. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

JUL 31 2013

- b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

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W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED**
- 2. HARD HATS REQUIRED**
- 3. SMOKING IN DESIGNATED AREAS ONLY**
- 4. BE WIND CONSCIOUS AT ALL TIMES**
- 5. CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE**

COG OPERATING LLC

1-575-748-6940

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EMERGENCY CALL LIST

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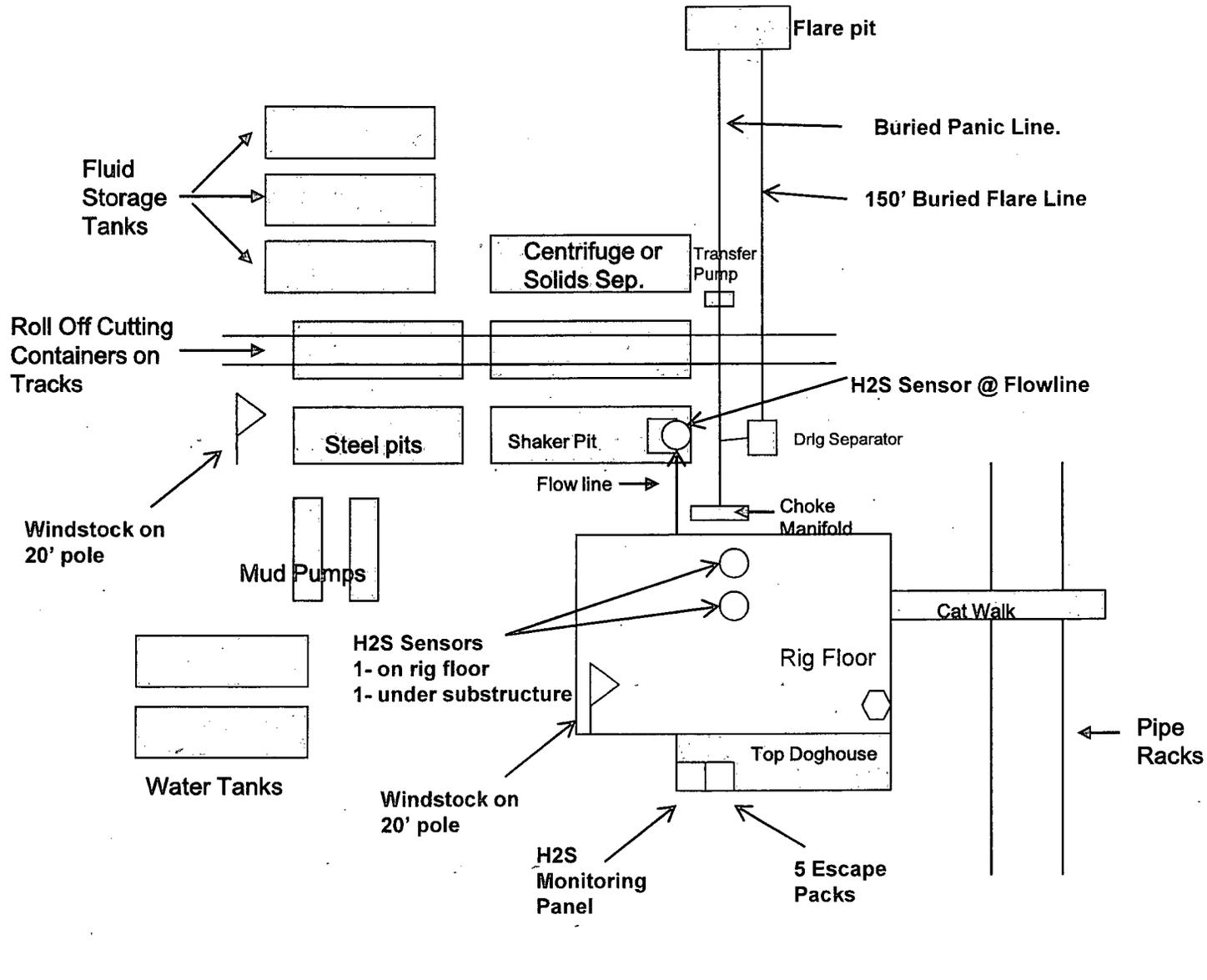
	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
SHERYL BAKER	575-748-6940	432-934-1873
KENT GREENWAY	575-746-2010	432-557-1694
SETH WILD	575-748-6940	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

EMERGENCY RESPONSE NUMBERS

	<u>OFFICE</u>
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

COG Operating LLC
 H₂S Equipment Schematic
 Terrain: Shinnery sand hills.

Well pad will be 340' X 340'
 with cellar in center of pad



□ Location
 Entry
 Condition
 Sign

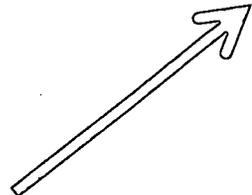


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□ Briefing Area
 w/SCBA

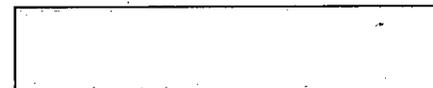


Prevailing Wind
 Direction in SENM

Secondary egress.

□ Primary Briefing
 Area w/SCBA

Company Representative's Trailer

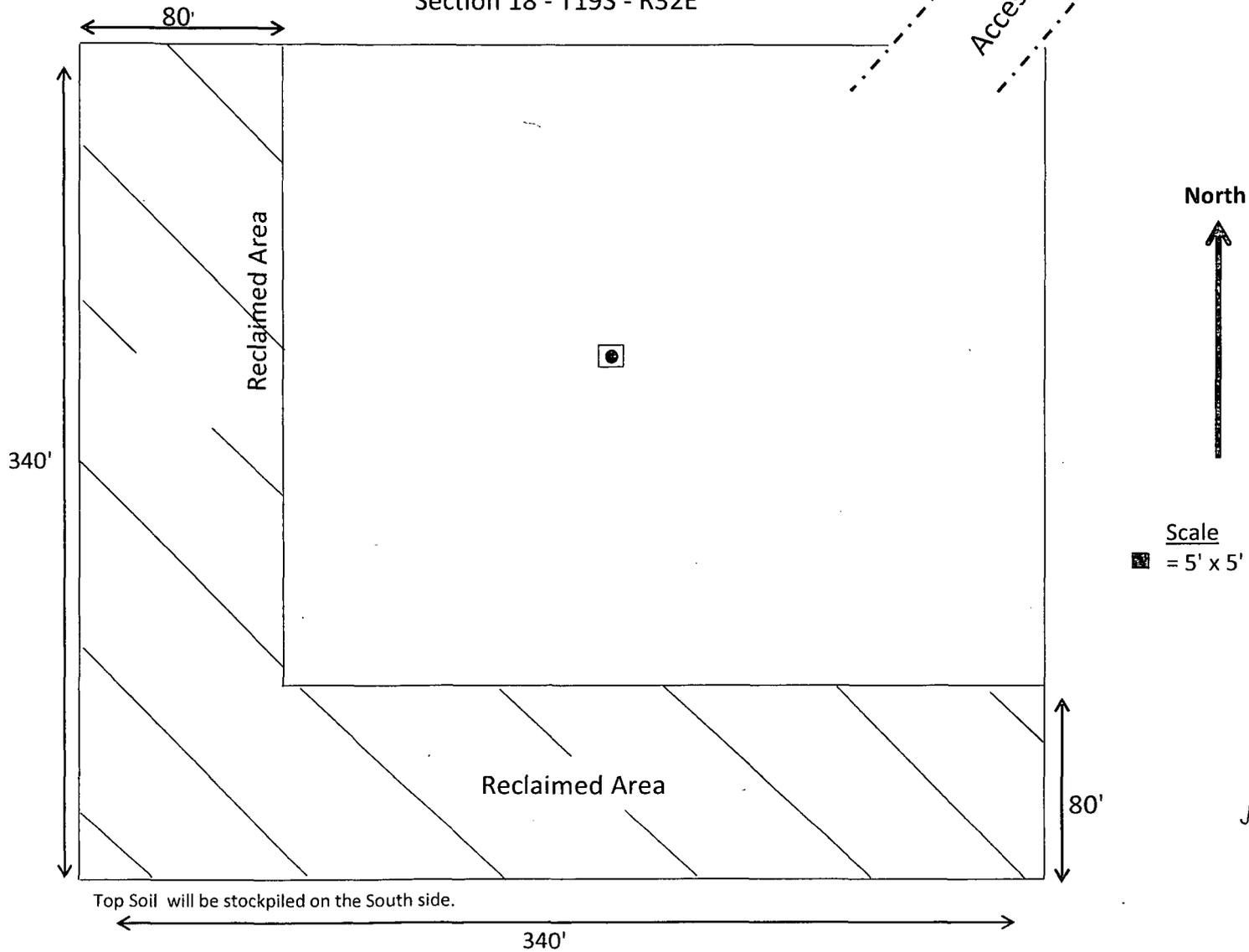




COG Operating LLC
2208 West Main
Artesia, NM 88210

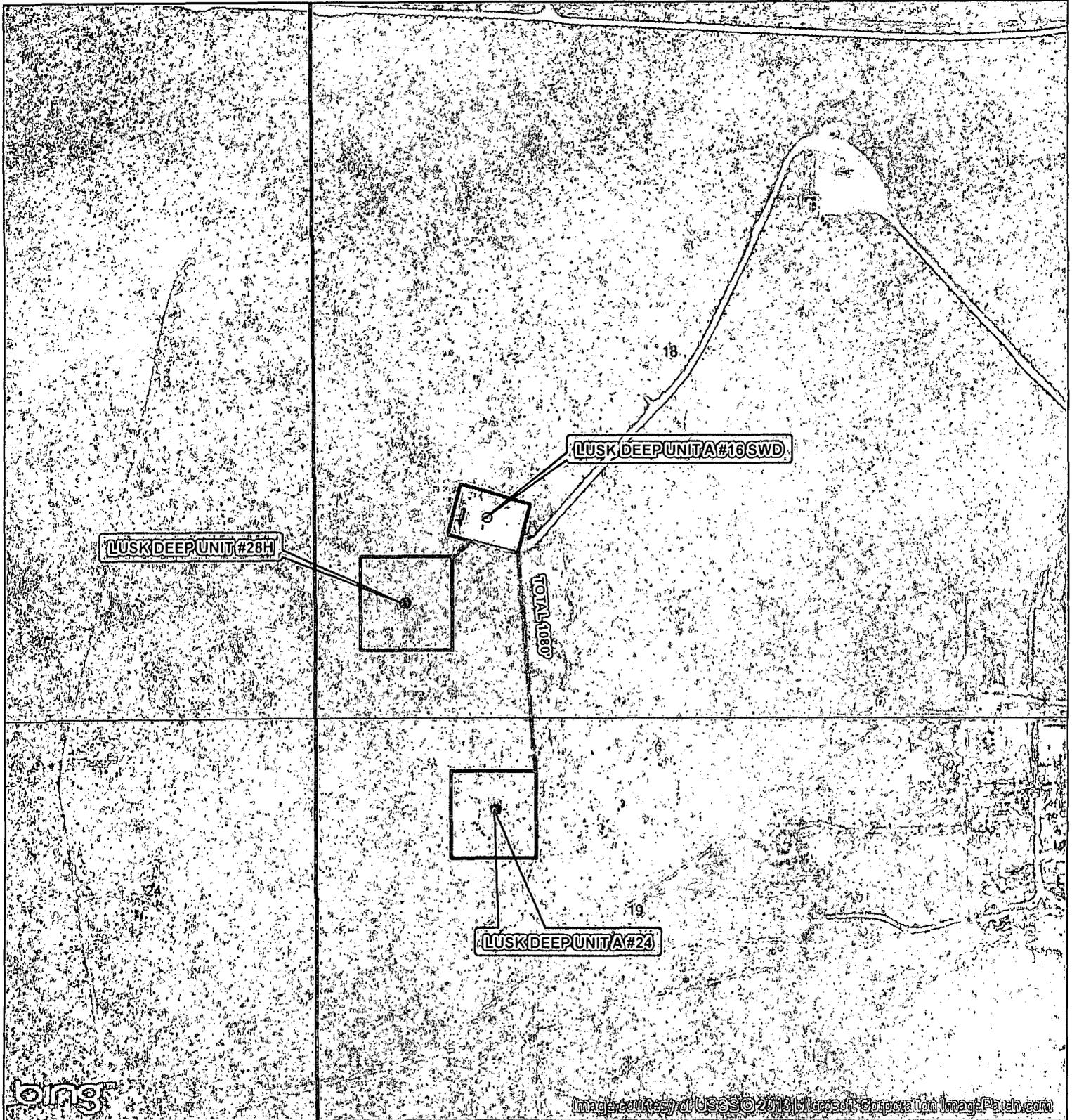
Exhibit 3 Production Facility Layout

Lusk Deep Unit A #28H
Section 18 - T19S - R32E



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LOCATION VERIFICATION MAP



SEC. 18, 19, TWP. 19S, RGE. 32E
 SURVEY: N.M.P.M
 COUNTY: LEA STATE: NEW MEXICO
 DESCRIPTION: FLOWLINE OF LUSK
 DEEP UNIT #28H, A #16 SWD, A #24

1 IN = 500 FT

— FLOWLINE
 ○ WELL
 — WELL PAD **HOBBS OCD**

OPERATOR: COG OPERATING LLC
 LEASE: LUSK DEEP UNIT

W.O. # 13-280



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HARCROW SURVEYING, LLC
 1107 WATSON, ARTESIA N.M. 88210
 PH: (575) 513-2570 FAX: (575) 746-2158
 chad_harcrow77@yahoo.com



MAP DATE: 5/9/2013

Surface Use Plan
COG Operating, LLC
Lusk Deep Unit A #28H
SL: 430' FSL & 330' FWL UL M (Lot 4)
Section 18, T19S, R32E
BHL: 380' FSL & 330' FEL UL P
Section 18, T19S, R32E
Lea County, New Mexico

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Surface Use & Operating Plan

Lusk Deep Unit A #28H

- Surface Tenant: Kenneth Smith, Inc.
- New Road: Approximately 86'
- Flow Line: Approximately 1080' of 2 7/8" steel surface line
- Facilities: No facility will be installed on this well pad. Production will go by flow line to the Lusk Deep Unit #24H facility.

Well Site Information

V Door: East

Topsoil: South

Interim Reclamation: South and West

Notes

Onsite: On-site was done by Amanda Lynch (BLM); Rand French, Gerald Herrera & Eric Conklin (COG) on March 21, 2013. Did on-site for Lusk Deep Unit A #28H, #29H and #30H at same time.