

30-025-41759

MAR 27 2014

COG Operating LLC

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Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

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:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

1. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and 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. **The concentrations of H₂S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

APR 01 2014

II. 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 reasonable expected to contain H2S.

1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold with minimum of one remotely operated choke.
- C. Closed Loop Blow Down Tank
- D. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- E. Auxiliary equipment may include if applicable: mud-gas separator, annular preventer & rotating head.

2. Protective equipment for essential personnel:

- A. SCBA (Self contained breathing apparatus) 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. Portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram.
- B. Caution/Danger signs (Exhibit #7) 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.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.
-

6. Metallurgy:

A. ~~All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.~~

B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

A. Radio communications in company vehicles including cellular telephone and 2-way radio.

B. Land line (telephone) communication at Office.

8. Well testing:

A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.

B. There will be no drill stem testing.

EXHIBIT #7

WARNING
YOU ARE ENTERING AN H₂S
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. CHECK WITH COG OPERATING FOREMAN AT

COG OPERATING LLC
1-432-683-7443
1-575-746-2010

EDDY COUNTY EMERGENCY NUMBERS

ARTESIA FIRE DEPT. 575-746-5050

ARTESIA POLICE DEPT. 575-746-5000

EDDY CO. SHERIFF DEPT. 575-746-9888

LEA COUNTY EMERGENCY NUMBERS

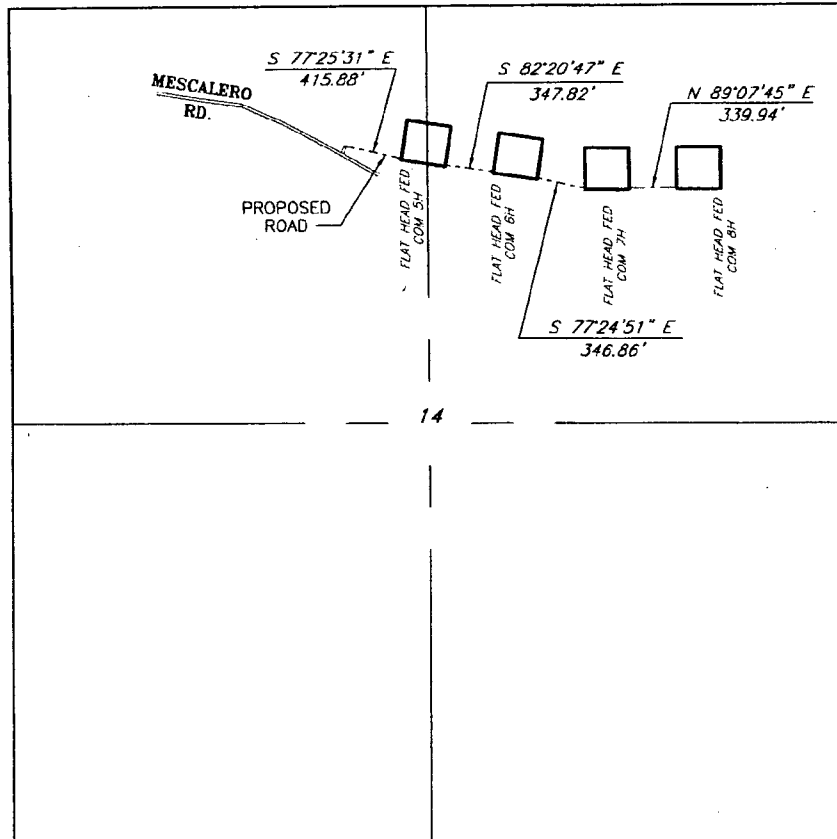
HOBBS FIRE DEPT. 575-397-9308

HOBBS POLICE DEPT. 575-397-9285

LEA CO. SHERIFF DEPT. 575-396-1196

COG OPERATING, LLC

Flat Head Fed. Com. 6H
(1115' FNL & 1650' FEL)
Section 14, T-17-S, R-32-E,
N. M. P. M., Lea Co., New Mexico



SCALE: 1" = 1000'

BEARINGS ARE
MAD 27 - NM EAST
DISTANCES ARE
GROUND.

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NO.	REVISION	DATE

PROSPERITY CONSULTANTS, LLC



SCALE: 1" = 1000'
DATE: 6/14/13
SURVEYED BY: GB/SM
DRAWN BY: LWB
APPROVED BY: LWB
SHEET : 2 OF 2

DWG. NO.: 130118PAD2

2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 f (512) 251-2518

COG Operating LLC

Drilling Location - H2S Safety Equipment Diagram

EXHIBIT 8-

Road Access
with H2S
sign

Secondary
Egress &
Briefing

Fluid
Storage
Tanks

Roll Off Cutting
Containers on
Tracks

Mud House

Steel pits

Mud Pumps

Water Tanks

Water Tanks

N

Prevailing Wind
Direction

Centrifuge or
Solids Sep.

Shakers

Flow line

Substructure

Dog House

Cellar

Trailer

Primary

2" choke
line to
gas
buster

Steel Half Pit w/
mounted "Gas Buster"

Automatic Ignition

4" "Panic Line " to gas buster 150' f/wellhead
(buried under Closed-Loop Equipment)

2" choke line to
pit

Transfer Pump

2" Choke Line 150' f/ wellhead
(buried under Closed Loop Equipment)

*If necessary will add a
remote operated choke

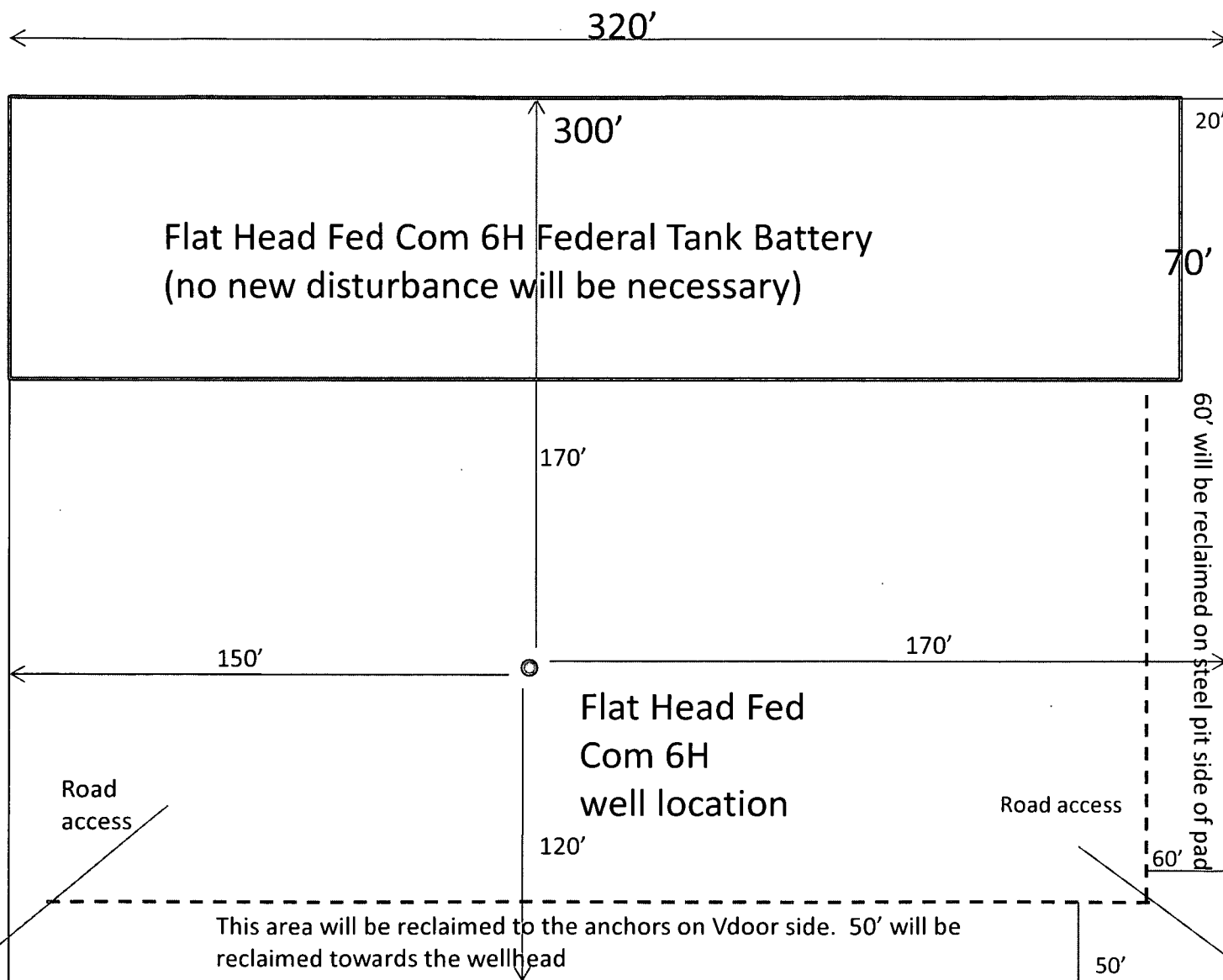
Choke
Manifold *

Pipe
Racks

N

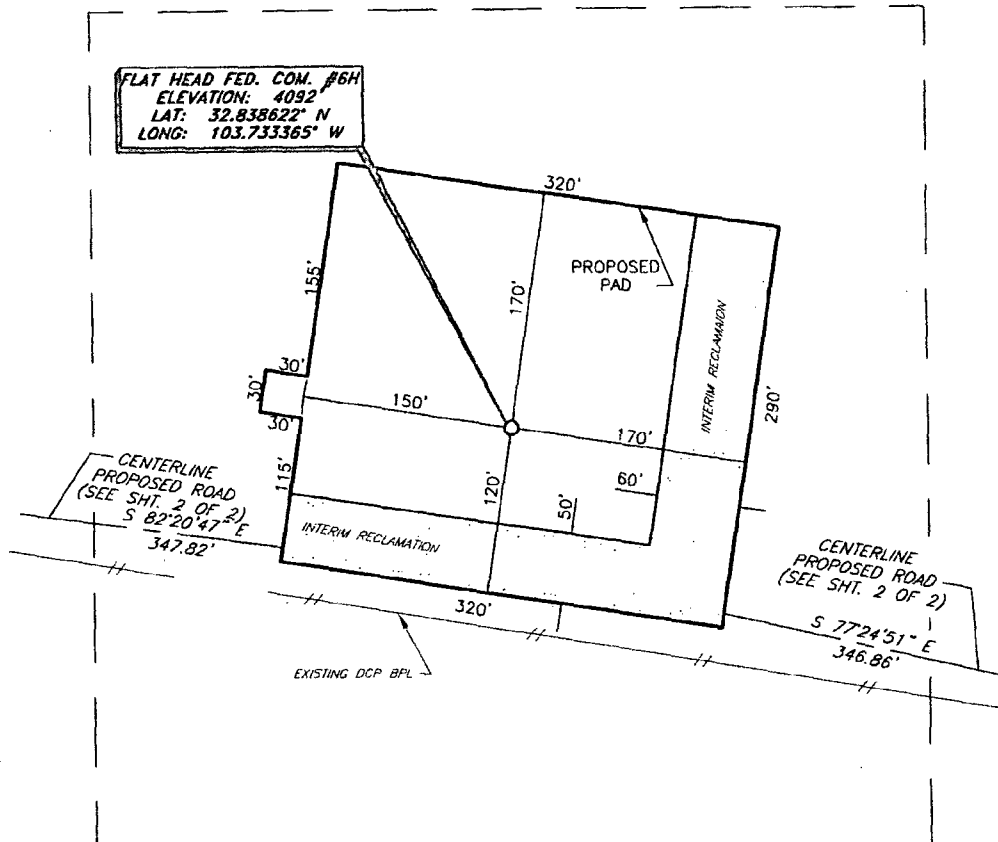
Pad Orientation

- Wind Direction Indicators
- H2S Monitor with alarm at the bell nipple
- Safe Briefing Area with caution signs and breathing equipment



Not to Scale

COG OPERATING, LLC
Interim Reclamation
Flat Head Fed. Com. #6H
(1115' FNL & 1650' FEL)
Section 14, T-17-S, R-32-E,
N. M. P. M., Lea Co., New Mexico



DIRECTIONS TO LOCATION

From the intersection of Lease Rd. 126 (Maljamar Rd.) and Lease Rd. 125 (Mescalero):

Go Southeast on Mescalero Rd. approx. 1.5 mi;

Turn Left and go North thru the gate to the proposed road;

Follow road survey approx. 0.2 mi East to this location.



SCALE: 1" = 100'
0 50 100

BEARINGS ARE
NAD 27 - NM EAST
DISTANCES ARE
GROUND.

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NO.	REVISION	DATE
JOB NO.:	LS130118	
DWG. NO.:	130118REC	

PROSPERITY CONSULTANTS, LLC



2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 i (512) 251-2518

SCALE: 1" = 100'
DATE: 6/14/13
SURVEYED BY: GB/SM
DRAWN BY: LWB
APPROVED BY: LWB
SHEET : 1 OF 1

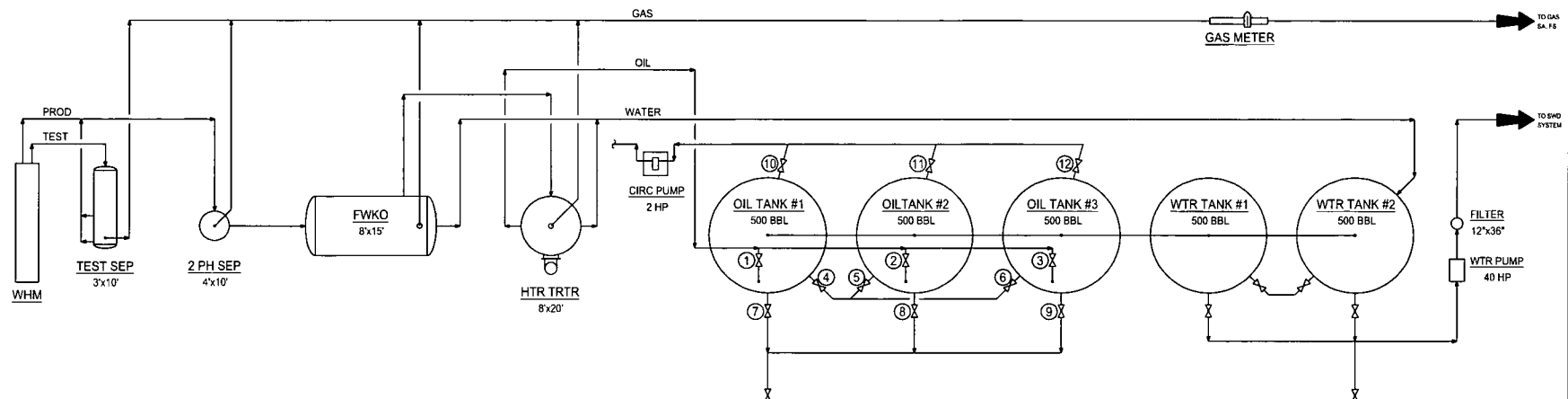


Production Phase - Oil Tank #1

- Valve 1 open
- Valves 2 and 3 closed
- Valves 4, 5, and 6 open
- Valves 7, 8, and 9 closed
- Valves 10, 11, and 12 closed

Sales Phase - Oil Tank #1

- Valve 1 closed
- Valves 2 or 3 open
- Valve 4 closed
- Valves 5 and 6 open
- Valve 7 open
- Valves 8 and 9 closed
- Valves 10, 11, and 12 closed



NOTES: Flat Head Fed Com #6H Tank Battery	CONFIDENTIALITY NOTICE THIS DRAWING IS PROPERTY OF COG OPERATING LLC AND IS LOANED TO THE BORROWER FOR CONFIDENTIAL USE ONLY AND IS SUBJECT TO RETURN UPON REQUEST AND SHALL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN THAT WHICH IT IS SPECIFICALLY FURNISHED.	REFERENCE DRAWINGS		REVISIONS				ENGINEERING RECORD			
		NO.	TITLE	NO.	DATE	DESCRIPTION	BY	CHK.	APP.	BY	DATE
				A	06/01/12	ISSUE FOR SITE PERMITTING	CRB			DRN: CRB	06/01/12
										DES: CRB	06/01/12
										CHK:	
										APP:	
										ATE NO:	
										FACI DWR: C. BLEDSOE	
										OPER DWR: VANDER	
										SCALE: NONE	
										ESD COUNTY: EDDY COUNTY	
										TOWNSHIP/RANGE: MULTIPLE	
										DWG NO. D-1700-81-005	
										NEW MEXICO	



NEW MEXICO SHELF ASSET
PRODUCTION FACILITIES
SITE FACILITY DIAGRAM
STANDARD TANK BATTERY "A"

REV
A