# HOBBS OCD

MAR 07 2016

## H<sub>2</sub>S Drilling Operations Plan

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- a. All personnel will be trained in  $H_2S$  working conditions as required by Onshore Order 6 at least 500' before drilling into the Yates Formation.
- b. Two briefing areas will be established. Each will be ≥150' from the wellhead, perpendicular from one another, and easily entered and exited. See H<sub>2</sub>S Page 5 for more details.
- c. H<sub>2</sub>S Safety Equipment/Systems:
  - i. Well Control Equipment
  - Flare line will be  $\geq 150$ ' from the wellhead and ignited by a flare gun.
  - Beware of SO<sub>2</sub> created by flaring.
  - Choke manifold will include a remotely operated choke.
  - Mud gas separator
  - ii. Protective Equipment for Personnel
  - Every person will wear a personal  $H_2S$  and  $SO_2$  monitor at all times while on site. Monitors will not be worn on hats. Monitors will be worn on the front of the waist or chest.
  - One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
  - Four work/escape packs will be on the rig floor. Each pack will have a long enough hose to allow unimpaired work activity.
  - Four emergency escape packs will be in the doghouse for emergency evacuation.
  - Hand signals will be used when wearing protective breathing apparatus.
  - Stokes litter or stretcher.
  - Two full OSHA compliant body harnesses
  - A 100 foot long x 5/8 inch OSHA compliant rope
  - One 20 pound ABC fire extinguisher
  - iii. H<sub>2</sub>S Detection & Monitoring Equipment
  - Every person will wear a personal  $H_2S$  and  $SO_2$  monitor at all times while on site. Monitors will not be worn on hats. Monitors will be worn on the front of the waist or chest.
  - A stationary detector with 3 sensors will be in the doghouse.

- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10/ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

## iv. Visual Warning System

- Color-coded H<sub>2</sub>S condition sign will be set at the entrance to the pad.
- Color-coded condition flag will be installed to indicate current H<sub>2</sub>S conditions.
- Two wind socks will be installed that will be visible from all sides.

## v. Mud Program

- A water based mud with a pH of  $\geq 10$  will be maintained to control corrosion,  $H_2S$  gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing  $H_2S$  gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H<sub>2</sub>S where formation pressures are unknown.

## vi. Metallurgy

- All equipment that has the potential to be exposed to  $H_2S$  will be suitable for  $H_2S$  service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packing and seals).

#### vii. Communication

- Cell phones and/or 2-way radios will be used to communicate from the well site.
- d. A remote controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain  $H_2S$ .

## Company (432 687-5100) Personnel to be Notified

Gema Volek, Drilling Engineer Office: (432) 683-8000

Mobile: (785) 312-2092

Local & County Agencies

Eunice\* Fire & Ambulance 911 or (575) 394-3258

Eunice\* Police 911 or (575) 394-2112

\*Well is outside city limits. Eunice is closest (9 miles) city.

Hobbs Fire Marshal (575) 391-8185

Lea County Sheriff (Lovington) 911 or (575) 396-3611

Lea County Emergency Management (Lovington) (575) 396-8602

Lea Regional Medical Center Hospital (Hobbs) (575) 492-5000

State Agencies

NM State Police (Hobbs) (575) 392-5588

NM Oil Conservation (Hobbs) (575) 370-3186

NM Oil Conservation (Santa Fe) (505) 476-3440

NM Department of Transportation (Roswell) (575) 637-7201

Federal Agencies

BLM Carlsbad Field Office (575) 234-5972

BLM Hobbs Field Station (575) 393-3612

National Response Center (800) 424-8802

US EPA Region 6 (Dallas) (800) 887-6063

(214) 665-6444

# **Veterinarians**

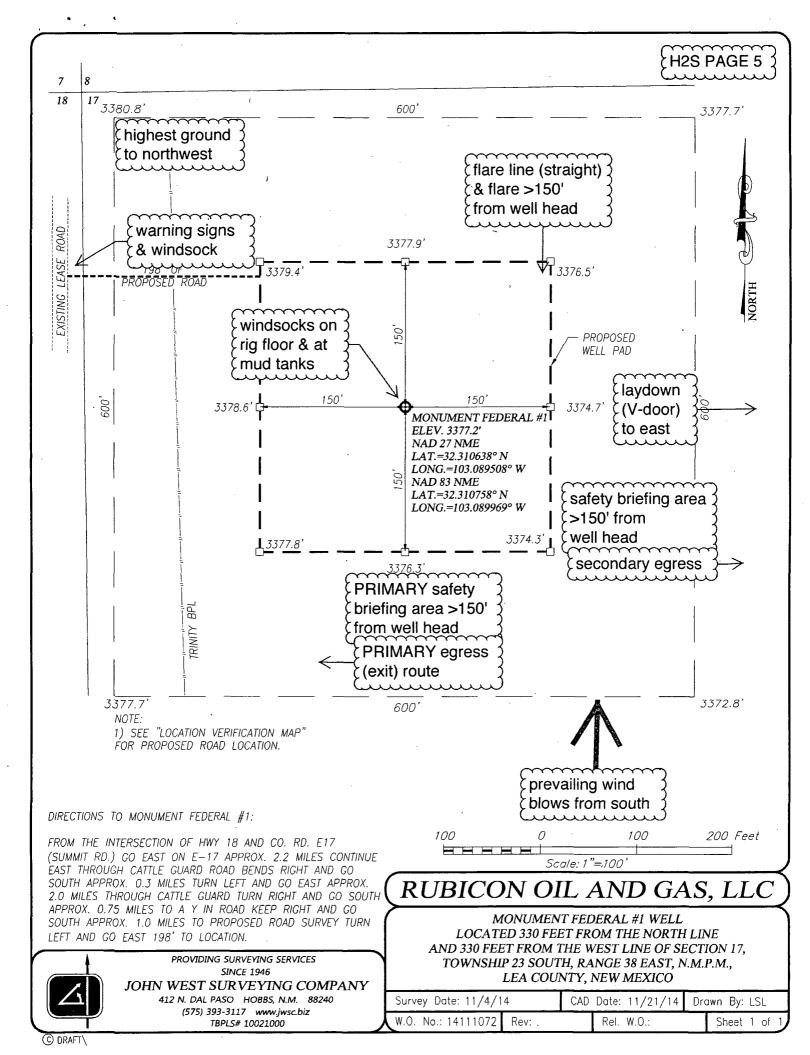
Double J Animal Hospital (Hobbs)	(575) 738-0143
Hobbs Animal Clinic & Pet Care (Hobbs)	(575) 392-5563
Dal Paso Animal Hospital (Hobbs)	(575) 397-2286

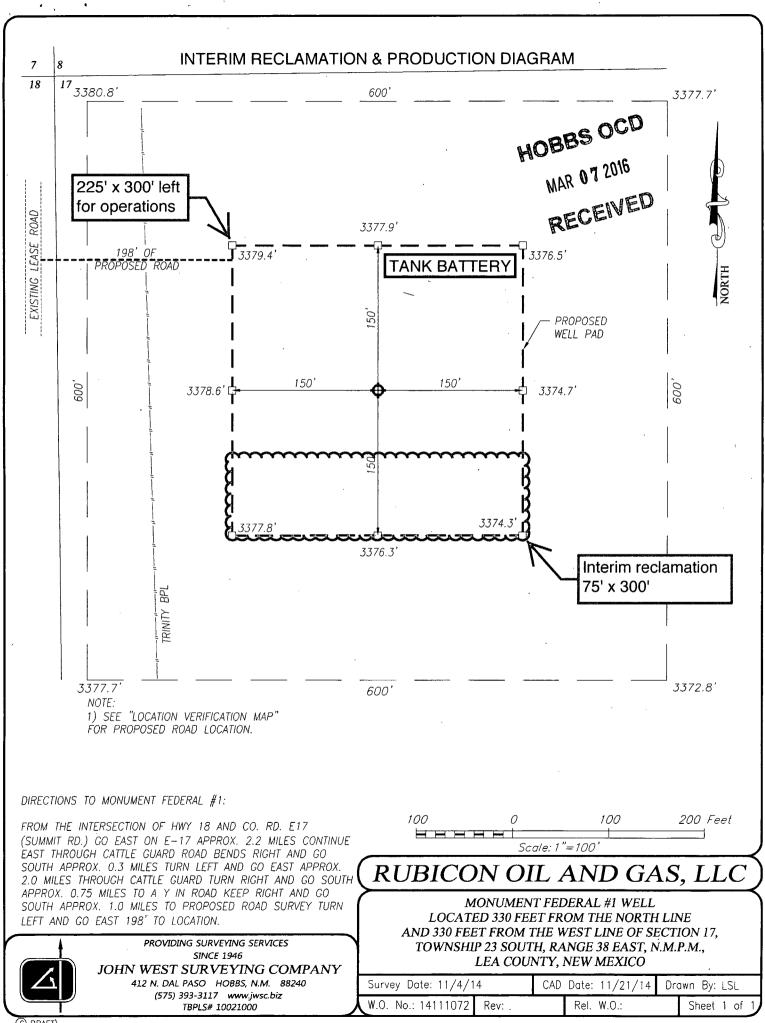
# Residents within 2 miles

D. K. Boyd (432 686-9110) has a house that is 5,500' NE of the well.

# Air Evacuation

Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256
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Safety Contractors (Hobbs)	
Callaway Safety Equipment Company	(575) 392-4990
DXP Safety	(575) 393-9188
Indian Fire & Safety	(575) 393-3093
Legacy Safety & Consulting	(575) 393-7233
Total Safety	(575) 392-2973





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