HOBBS OCD

MAR 07 2016

H₂S 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 H₂S Page 5 for more details.
- c. H₂S Safety Equipment/Systems:
 - i. Well Control Equipment
 - Flare line will be \geq 150' from the wellhead and ignited by a flare gun.
 - Beware of SO₂ 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.

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- Two full OSHA compliant body harnesses
- A 100 foot long x 5/8 inch OSHA compliant rope
- One 20 pound ABC fire extinguisher
- iii. H₂S 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^c 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_2S condition sign will be set at the entrance to the pad.
- Color-coded condition flag will be installed to indicate current $\rm H_2S$ 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 ≥ 10 will be maintained to control corrosion, H₂S 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_2S 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 .

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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 & Ambulance911 or (575) 394-3258Eunice* Police911 or (575) 394-2112*Well is outside city limits. Eunice is closest (9 miles) city.Hobbs Fire Marshal(575) 391-8185Lea County Sheriff (Lovington)911 or (575) 396-3611Lea County Emergency Management (Lovington)(575) 396-8602Lea 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

<u>Veterinarians</u>

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

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Residents within 2 miles

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

Air Evacuation

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Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

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



