

30-015-39022

**Hydrogen Sulfide Drilling Operations Plans  
Nearburg Producing Company  
Huber Federal #4H**

**1. HYDROGEN SULFIDE TRAINING**

- A. All regularly assigned personnel, contracted or employed by Nearburg Producing Company will receive training from a qualified instructor in the following areas prior to commencing drilling potential hydrogen sulfide bearing formations in this well:
  - 1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S).
  - 2. The proper use and maintenance of personal protective equipment and life support systems.
  - 3. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
  - 4. The proper techniques for first aid and rescue procedures.
- B. In addition, supervisory personnel will be trained in the following areas:
  - 1. The effects of H<sub>2</sub>S on metal components. If high tensile tubular 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 H<sub>2</sub>S Drilling Operations Plan.
- C. Initial training session prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500') and weekly H<sub>2</sub>S and well control drills for all personnel on each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations 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. H<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

Note: All H<sub>2</sub>S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500' above, or three days prior to penetrating the first zone containing or reasonably expected to contain H<sub>2</sub>S.

- A. Well Control Equipment
  - 1. Flare line with continuous pilot.
  - 2. Choke manifold with a minimum of one remote choke.
  - 3. Blind rams and pipe rams to accommodate all sizes with properly sized closing unit.
  - 4. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head and flare gun, and flares as needed.
- B. Protective Equipment for Essential Personnel:
  - 1. Mark II Surviveair 30 minute units located in the dog house and at briefing areas, as indicated on well site diagram.

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### C. H2S Detection and Monitoring Equipment

1. Two portable H2S monitors positioned and located for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
2. One portable SO2 monitor positioned near flare line.

### D. Visual Warning Systems

1. Wind direction indicators as shown on well site diagram.
2. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted yellow for high visibility, and black lettering of sufficient size to be legible from a reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

**Nearburg Producing Company  
H2S Contingency Plan Emergency Contacts  
(Name & Phone Numbers must be verified)**

NPC OFFICE	432-686-8235
EMERGENCY PHONE NUMBER	432-686-8235 X500
NPC Contact Personnel	
Wes Stinson, Drilling	575-365-6500
Matt Lee, Drilling Manager	575-365-6662
Roger King, Production Foreman	575-361-3605
Artesia	
Ambulance	911
NM State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
Fire Department	575-746-2701
Local Emergency Planning Committee	575-746-2122
NMOCD	575-748-1283
Carlsbad	
Ambulance	911
NM State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
BLM	575-887-6544
NM Emergency Response Commission (Santa Fe)	
24 Hour	505-476-9600
	505-827-9126
NM State Emergency Operations Center	505-476-9635
National Emergency Response Center (Washington DC)	800-424-8802
Other	
Boots & Coots IWD	800-256-9688 or 281-934-8884
Cudd Pressure Control	432-699-0139 or 432-563-3356
Halliburton	575-746-2757
BJ Services	575-746-3569
Flight for Life – 4000 24 <sup>th</sup> St, Lubbock Tx	806-746-9911
Aerocare – R3, Box 49F, Lubbock, Tx	806-747-8923
Med Flight Air Ambulance-2301 Yale blvd SE #d, Albuq, NM	505-842-4433
SB Aid Med Serv – 2505 Clark Carr Loop SE, Albuq, NM	505-842-4949

## **Nearburg Producing Company H2S Contingency Plan**

**Assumed 100 ppm ROE = 3000'**  
**100 ppm H2S concentration shall trigger activation of this plan**

### **Emergency Procedures**

In the event of a release of gas containing H2S, the first responder(s) must:

- Isolate the area and prevent entry by other persons into the 1000 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm BOE.
- Be equipped with H2S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response.
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached
- Have received training in the following:
  - Detection of H2S and
  - Measures for protection against the gas
  - Equipment used for protection and emergency response.

### **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may be involved. NM State Police shall be the Incident Command on the scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

### **Characteristics of H2S and SO<sub>2</sub>**

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air =1	2 ppm	n/a	1000 ppm

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### **Contacting Authorities**

Nearburg Producing Company's personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the NMOCD must be notified of the release as soon as possible and no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, locate of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Nearburg Producing Company's response must be in coordination with the State of NM's "Hazardous Materials Emergency Response Plan" (HMER).