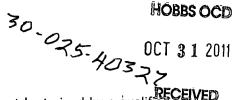
# Hydrogen Sulfide Drilling Operations Plan

### Hanson 26 Federal No. 1

Cimarex Energy Co. of Colorado Unit D, Section 26 T20S-R34E, Lea County, NM



1 All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:

- A. Characteristics of H<sub>2</sub>S
- B. Physical effects and hazards
- C. Proper use of safety equipment and life support systems.
- D. Principle and operation of H<sub>2</sub>S detectors, warning system and briefing areas.
- E. Evacuation procedure, routes and first aid.
- F. Proper use of 30 minute pressure demand air pack.

### 2 H<sub>2</sub>S Detection and Alarm Systems:

A. H₂S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.

# 3 Windsock and/or wind streamers:

- A. Windsock at mudpit area should be high enough to be visible.
- B. Windsock at briefing area should be high enough to be visible.

### 4 Condition Flags and Signs:

- A. Warning sign on access road to location.
- B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H<sub>2</sub>S present in dangerous concentration). Only emergency personnel admitted to location.

### 5 Well control equipment:

A. See exhibit "E"

### 6 Communication:

- A. While working under masks chalkboards will be used for communication.
- B. Hand signals will be used where chalk board is inappropriate.
- C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

### 7 Drillstem Testing:

No DSTs or cores are planned at this time.

- 8 Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
- 9 If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H<sub>2</sub>S scavengers if necessary.

# H<sub>2</sub>S Contingency Plan

### Hanson 26 Federal No. 1

Cimarex Energy Co. of Colorado Unit D, Section 26 T20S-R34E, Lea County, NM

## **Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must:

- ★ Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- ★ Evacuate any public places encompassed by the 100 ppm ROE.
- ★ Be equipped with H<sub>2</sub>S 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:
  - ♦ Detection of H<sub>2</sub>S, 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 become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

Common	Chemical	Specific	Threshold	Hazardous	Lethal
Name	Formula	Gravity	Limit	Limit	Concentration
Hydrogen Sulfide	H₂S	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

## **Contacting Authorities**

Cimarex Energy Co. of Colorado's personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location 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. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

# H₂S Contingency Plan Emergency Contacts

## Hanson 26 Federal No. 1

Cimarex Energy Co. of Colorado Unit D, Section 26 T20S-R34E, Lea County, NM

Cimarex Energy Co. of Colorad	800-969-4789			
Co. Office and After-Hours Me				
Kara Barras and				
Key Personnel Name	Title	Office		Mobile
	P-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	432-620-1934		972-333-1407
Doug Park	Drilling Manager			
Dee Smith Jim Evans	Drilling Super	432-620-1933		972-882-1010
	Drilling Super	432-620-1929		972-465-0564 432-634 <b>-</b> 2136
Roy Shirley	Field Super			432-034-2130
<u>Artesia</u>				
Ambulance		911		
State Police		575-746-2703		
City Police		575-746-2703		
Sheriff's Office	575-746-9888			
Fire Department	575-746-2701			
Local Emergency Planning C	575-746-2122			
New Mexico Oil Conservation	575-748-1283			
Caulahad				
Carlsbad		044		
Ambulance		911		
State Police	575-885-3137			
City Police	575-885-2111			
Sheriff's Office	575-887-7551			
Fire Department	575-887-3798	· · · · · · · · · · · · · · · · · · ·		
Local Emergency Planning C	575-887-6544			
US Bureau of Land Manager	nent	575-887-6544		
Comto Fo	-			
Santa Fe	FOF 47C 0C00			
New Mexico Emergency Res	505-476-9600 505-827-9126			
New Mexico Emergency Res New Mexico State Emergen	505-476-9635			
New Mexico State Emergen	cy Operations Center	303-470-3033		
National				
	se Center (Washington, D.C.)	800-424-8802		
The Benefit Respon	as server (Trasmingrom, Dre.)	000 424 0002		
Medical				
Flight for Life - 4000 24th St	.: Lubbock, TX	806-743-9911		
erocare - R3, Box 49F; Lubbock, TX		806-747-8923		<del></del>
Med Flight Air Amb - 2301 Yale Bivd S.E., #D3; Albuquerque, NM		505-842-4433		
SB Air Med Service - 2505 C	505-842-4949			
Other				
Boots & Coots IWC		800-256-9688	or	281-931-8884
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Cudd Pressure Control		432-699-0139	or	432-563-3356
		432-699-0139 575-746-2757	OI	432-563-3356

