Hydrogen Sulfide Drilling Operations Plan

Triste Draw 25 Federal 2

HOBBS OCD

Cimarex Energy Co. of Colorado Unit N, Section 30

APR 2 6 2013

T23S-R32E; Lea County, NM

1 All Company and Contract personnel admitted on location must be trained by a qualified **RECENTED** Safety instructor to the following:

- A. Characteristics of H₂S
- B. Physical effects and hazards
- C. Proper use of safety equipment and life support systems.
- D. Principle and operation of H₂S detectors, warning system and briefing areas.
- E. Evacuation procedure, routes and first aid.
- F. Proper use of 30 minute pressure demand air pack.

2 H₂S 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 (H₂S 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 H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S 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 H₂S scavengers if necessary.

H₂S Contingency Plan

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Cimarex Energy Co. of Colorado Unit N, Section 30 T23S-R32E; Lea County, NM

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 100 ppm ROE.
- ★ Evacuate any public places encompassed by the 100 ppm ROE.
- \star 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:
 - 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 (SO₂). 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 H₂S and SO₂

| 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 ₂ | 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).

H_2S Contingency Plan Emergency Contacts

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Cimarex Energy Co. of Colorado Unit N, Section 30 T23S-R32E; Lea County, NM

| Cimarex Energy Co. of Colorado | 800-969-4789 | | | |
|--------------------------------------|--|---|--------------------|---------------------------------------|
| Co. Office and After-Hours Menu | | | | |
| Vay Darsannal | | | | |
| Key Personnel Name | Title | Office | | Mobile |
| Larry Seigrist | Drilling Manager | 432-620-1934 | | 580-243-848! |
| Scott Lucas | Drilling Superintendent | 432 020 1334 | | 432-894-5572 |
| Roy Shirley | Construction Superintendent | | - | 432-634-337 |
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| Artesia | 1 15 18518 J. 12703 A. HANNES OR HANNES OF ACCOUNT OF COURSE OF CO | MACON IN SCIENCE OF SCIENCE OF SALVAN DE ROUGE DE SE | | |
| 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 Comm | 575-746-2122 | | | |
| New Mexico Oil Conservation Div | 575-748-1283 | | | |
| <u>Carlsbad</u> | | • | | |
| 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 Comm | 575-887-6544 | | | |
| US Bureau of Land Management | | 575-887-6544 | | |
| <u>Santa Fe</u> | | | | |
| New Mexico Emergency Respons | se Commission (Santa Fe) | 505-476-9600 | | |
| New Mexico Emergency Respons | se Commission (Santa Fe) 24 Hrs | 505-827-9126 | | |
| New Mexico State Emergency Op | perations Center | 505-476-9635 | | |
| <u>National</u> | | | | |
| National Emergency Response Co | enter (Washington, D.C.) | 800-424-8802 | | |
| <u>Medical</u> | | | | |
| Flight for Life - 4000 24th St.; Luk | | 806-743-9911 | | |
| Aerocare - R3, Box 49F; Lubbock, | | 806-747-8923 | | |
| Med Flight Air Amb - 2301 Yale B | | 505-842-4433 | | |
| SB Air Med Service - 2505 Clark C | Carr Loop S.E.; Albuquerque, NM | 505-842-4949 | | · · · · · · · · · · · · · · · · · · · |
| Other | | | | |
| Boots & Coots IWC | | 800-256-9688 | or | 281-931-8884 |
| Cudd Pressure Control | | 432-699-0139 | or | 432-563-3356 |
| Halliburton | | 575-746-2757 | _ | |
| B.J. Services | | 575-746-3569 | | |

