## Hydrogen Sulfide Drilling Operations Plan **Fuggles 14 Federal 2H** Cimarex Energy Co. UL: O, Sec. 14, 255, 32E Lea Co., NM

HOBBS OCD DEC 03 2014

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- 1 All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Principal and operation of H2S detectors, warning system and briefing areas.
  - D. Evacuation procedure, routes and first aid.
  - E. Proper use of safety equipment & life support systems
  - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.
- 2 H<sub>2</sub>S Detection and Alarm Systems:
  - A. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may play placed as deemed necessary.
  - Β. An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
  - A. Windsock at mudpit area should be high enough to be visible.
  - B.
    - Windsock on the rig floor and / or top doghouse 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 H2S trained and certified personnel admitted to location.
- 5 Well control equipment:
  - A. See exhibit "E-1"
- 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 r 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.

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### H<sub>2</sub>S Contingency Plan Fuggles 14 Federal 2H Cimarex Energy Co. UL: O, Sec. 14, 25S, 32E Lea Co., 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

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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>

Please see attached International Chemical Safety Cards.

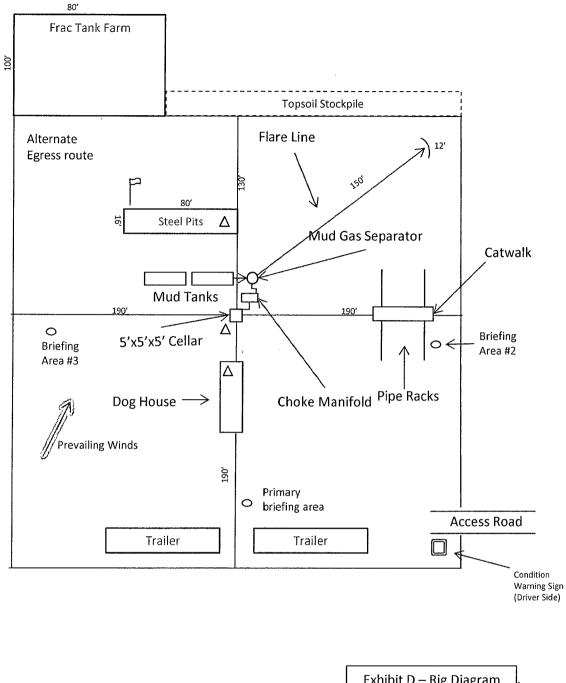
#### **Contacting Authorities**

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<sub>2</sub>S Contingency Plan Emergency Contacts Fuggles 14 Federal 2H Cimarex Energy Co. UL: O, Sec. 14, 25S, 32E Lea Co., NM

0	800-969-4789		
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Title	Office		Mobile
Drilling Manager	432-620-1934		580-243-8485
Drilling Superintendent	432-620-1933		806-640-2605
Drilling Superintendent	432-620-1989		432-894-5572
Construction Superintendent			432-634-2136
	911		
	575-746-2703		
	575-746-2703		
	575-746-9888		
	575-746-2701		
ommittee	575-746-2122		
n Division	575-748-1283		
	911		
	575-885-3137		
······	575-885-2111		
	575-887-7551		
	575-887-3798		<u> </u>
ommittee	575-887-6544		
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cy Operations Center	505-476-9635		
	600 424 0000		
se center (wasnington, D.C.)	800-424-8802		
tubback TV	806-742 0011		
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ark carr Luop S.E.; Amuquerque, MM	303-042-4343		
	800-256-9688	or	281-931-8884
			432-563-3356
	575-746-2757		-32-303-3330
	Title Drilling Manager Drilling Superintendent Construction Superintendent committee n Division	Title         Office           Drilling Manager         432-620-1934           Drilling Superintendent         432-620-1933           Drilling Superintendent         432-620-1939           Construction Superintendent         432-620-1989           Construction Superintendent         432-620-1989           Construction Superintendent         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2701         575-746-2712           pommittee         575-748-1283           911         575-885-3137           575-885-2111         575-887-7551           575-887-3551         575-887-6544           ponse Commission (Santa Fe)         505-476-9600           ponse Commission (Santa Fe)         505-476-9635           y Operations Center         505-476-9635           see Center (Washington, D.C.)         800-424-8802           i Lubbock, TX         806-743-9911           sock, TX	Title         Office           Drilling Manager         432-620-1934           Drilling Superintendent         432-620-1933           Drilling Superintendent         432-620-1989           Construction Superintendent         432-620-1989           Construction Superintendent         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-746-2703           575-746-2703         575-748-2701           Dommittee         575-748-1283           911         575-887-3513           575-887-3513         575-887-3551           575-887-3514         575-887-3551           575-887-6544         505-827-9126           ponse Commission (Santa Fe)         505-476-9600           ponse Commission (Santa Fe)         505-476-9600           ponse Commission (Santa Fe) 24 Hrs         505-827-9126           cy Operations Center         505-476-9635           see Center (Washington, D.C.)         800-424-8802           iz Lubbock, TX

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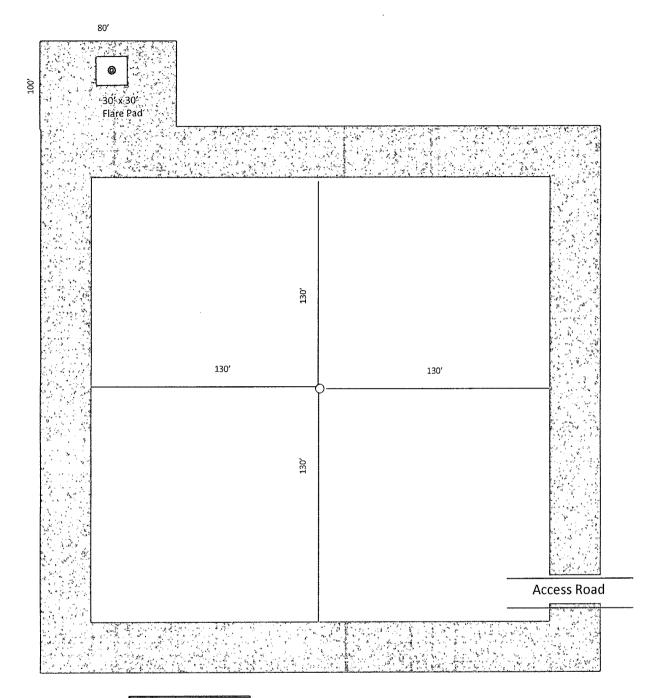


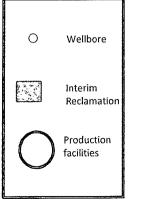
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 Wind Direction Indicators (wind sock or streamers)
 H2S Monitors (alarms at bell nipple and shale

(alarms at bell nipple and shale shaker) Exhibit D – Rig Diagram Fuggles 14 Federal 2H Cimarex Energy Co. 14-25S-33E SHL 330 FSL & 1980 FEL BHL 330 FNL & 1980 FEL Lea County, NM

O Briefing Areas





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