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**CONTINGENCY PLAN FOR HYDROGEN SULFIDE DISCHARGE
DRILLING OPERATIONS**

Fasken Oil and Ranch, Ltd.

6101 Holiday Hill Road

Midland, TX 79707

CONTINGENCY PLAN FOR HYDROGEN SULFIDE DISCHARGE

DRILLING OPERATIONS

- I. **HYDROGEN SULFIDE PHYSICAL PROPERTIES AND TOXICITY** - Hydrogen sulfide is extremely toxic and smells like rotten eggs in low volumes. The acceptable concentration for eight-hour exposure is 10 ppm, which is .001% by volume. Hydrogen sulfide is heavier than air (specific gravity - 1.187) and is colorless. It forms an explosive mixture with air between 4.3 and 46.0 volume percent. Toxicity data for hydrogen sulfide and various gasses are compared in the table below.

Common Name	Chemical Formula	Sp. Gravity (Air =1)	Threshold Limit	Hazardous Limit	Lethal Conc.
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm	300 ppm
Hydrogen Sulfide	H ₂ S	1.18	10 ppm *	100 ppm/hr	500 ppm
Sulfur Dioxide	SO ₂	2.21	5 ppm	--	1000 ppm
Chlorine	Cl ₂	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	1.52	5000 ppm	5%	10%
Methane	CH ₄	0.55	90,000 ppm	Combustible above 5% in air	---

*Threshold Limit - concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects, 10 ppm = 1972 ACGIH concentration (American Conference of Governmental Industrial Hygienist) and Occupational Safety and Health Administration (OSHA).

- II. **PHYSICAL EFFECTS OF HYDROGEN SULFIDE** - The physiological effects of hydrogen sulfide are summarized in the table below.

<u>Percent Vol.</u>	<u>Concentration</u> <u>ppm</u>	<u>Physical Effects</u>
0.001	10	Obvious and unpleasant odor.
0.01	100	Kills smell in 3 to 15 minutes; may sting eyes and throat.
0.02	200	Kills smell shortly; stings eyes and throat.
0.05	500	Dizziness; breathing ceases in a few minutes; needs prompt artificial resuscitation.
0.07	700	Unconscious quickly; death will result if not rescued promptly.
0.10	1000	Unconscious at once; followed by death within minutes.

- III. **ACCIDENTAL RELEASE OF HYDROGEN SULFIDE** - The possible release of hydrogen sulfide gas could result from leakage at either wellhead, flow lines, separators or drill string at this drilling location.

- A. In the event of an accidental release, the tool pusher, supervisor or agent of the operator in the vicinity at the time of the discharge will be in charge of all activities on the ground and shall be responsible for the following.
1. Notify all personnel, Company or outside, that are in the area to evacuate as soon as possible. This includes drilling rig crews, roustabout gangs, supervisory personnel, maintenance personnel, sales representatives, farm or ranch hands, visitors and all others that may be in the vicinity.
 2. Notify the County Sheriff's office and the Department of Public Safety, and request their assistance to provide road blocks and direct traffic away from the drilling location. They should also be asked to assist in the evacuation of residents, if any, in affected area.
 3. Alert local Hospital and Fire Department in the event that medical services or ambulance assistance is needed.

4. Call the Drilling Manager in the Midland Office and advise him of the nature and extent of the emergency situation.
- B. The Drilling Manager or his delegate will notify the appropriate state and federal agencies that the contingency plan has been activated and what level and type of reaction has already been initiated.
 - C. Fasken's Senior Representative or employee on the scene will be in charge and shall initiate measures necessary to bring the gas flow under control securing whatever additional personnel and equipment are necessary to control the flow in the shortest time thereby reducing potential exposure of the general public to hydrogen sulfide.
- IV. **WEATHER CONDITIONS** - Hydrogen sulfide collects in low lying areas during adverse weather conditions such as drizzle, rain, fog, calm winds and snow. These areas should be avoided. Any personnel in such areas should be evacuated and law enforcement personnel should be requested to keep people and traffic from entering. Should moderate winds be blowing hydrogen sulfide from the source of the discharge toward a populated area, residents and other personnel should be evacuated by law enforcement personnel who should then maintain an exclusion perimeter to avoid people from reentering the area until the emergency is over.
- V. **TERMINATION OF EMERGENCY AND FOLLOW-UP PROCEDURES** - Fasken's Senior Representative or employee on the scene, with the cooperation of the Senior Law Enforcement Officer, will declare the emergency terminated when there is no further danger to oilfield personnel or general public. This will occur only after a sufficient number of gas measurements in the vicinity have been made by a qualified technician showing that hydrogen sulfide concentration is below the 10 ppm threshold. In addition, the Operator's Senior Representative or employee will perform the following duties connected with the emergency:
 - A. Notify all cooperating law enforcement agencies and emergency medical services that the emergency has been terminated.
 - B. Notify all evacuees that they may return safely to their residences or job sites.
 - C. Make an estimate of damages and/or expenses incurred in the control of the emergency, the evacuation of any persons and the destruction of property, if any, including domestic animals and livestock. He is to make an itemized list of all such damages and/or expenses along with pertinent addresses, and any other specific information pertinent to the situation. He is to deliver this list to the Drilling Manager as soon as possible.
 - D. Under no circumstance are damage estimates, names of affected persons, if any, or any other information pertaining to the incident be given to the press. All inquiries shall be directed to the Drilling Manager in the Midland Office. Public information regarding the emergency will be issued by headquarters office in Midland, Texas.
- VI. Copies of the Contingency Plan are available in Fasken's office in Midland, Texas.
- VII. This plan is subject to approval of the state and federal agencies and shall be revised as required.

**Fasken Oil and Ranch, Ltd.
H₂S Contingency Plan
Emergency Phone Numbers**

Quail "16" State No. 9 SWD

Fasken Oil and Ranch, Ltd.

432-687-1777

Key Personnel

Tommy Taylor, Director of Oil and Gas Development

432-556-2228

Cory Frederick, Senior Drilling Engineer

432-288-0086

Lane Gilmore, Drilling Engineer

432-254-4949

Deryl Briles, Drilling Foreman

432-556-4269

Jimmy Davis, Director of Operations

432-557-5668

Carlsbad, Eddy County, New Mexico

Ambulance

911

State Police

911 or 575-885-3138

Sheriff's Office

911 or 575-887-7551

Fire Department

911 or 575-885-3125

Local Emergency Planning Committee

575-887-7553

Bureau of Land Management

575-628-3471

New Mexico Oil Conservation Division (Artesia)

575-748-1283

Hobbs, Lea County, New Mexico

Ambulance

911

State Police

911 or 575-392-5580

Sheriff's Office

911 or 575-396-3611

Fire Department

911 or 575-397-9308

Local Emergency Planning Committee

575-393-2870

New Mexico Oil Conservation Division

575-393-6161

Statewide and National Emergency Numbers

New Mexico Department of Homeland Security
and Emergency Management

505-476-9600

New Mexico State Emergency Operations
Center (24 Hour Number)

505-476-9635

National Emergency Response Center

800-424-8802

Other Numbers for Emergency Response

Boots & Coots IWC

Cudd Pressure Control

MCH Care Star Flight Service (air ambulance)

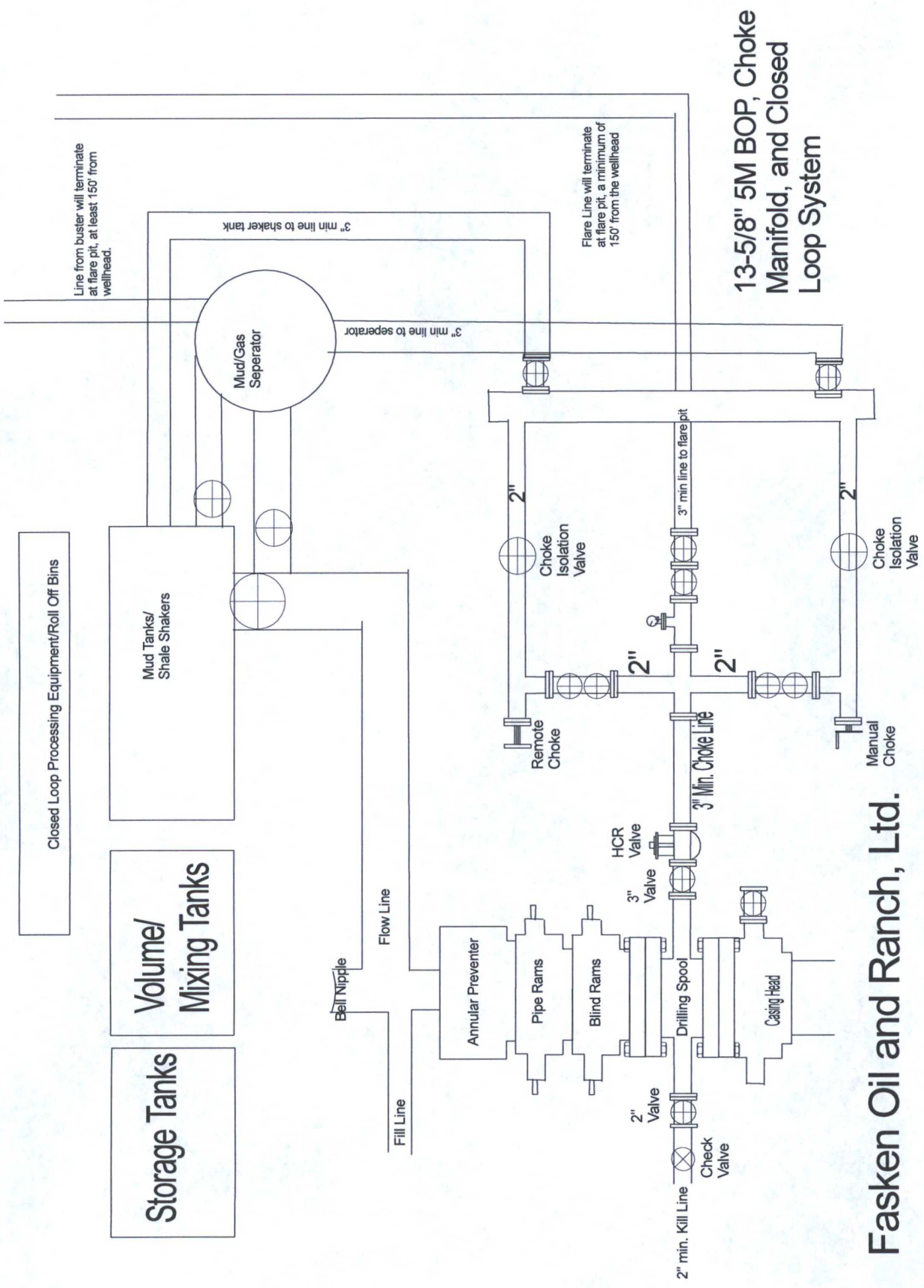
Aerocare (air ambulance)

800-256-9688 or 281-931-8884

432-563-3356

432-640-4000

806-725-1111



13-5/8" 5M BOP, Choke Manifold, and Closed Loop System