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# **Yates Petroleum Corporation**

# Hydrogen Sulfide Drilling Operation Plan

### I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- 1. The hazards and characteristics of hydrogen sulfide (H2S).
- 2. The proper use and maintenance of personal protective equipment and life support systems.
- 3. The proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- 4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- 1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well 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 H2S Drilling Operations Plan and H2S Contingency Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operation Plan and the H2S Contingency Plan. **The location of this well does not require a Public Protection Plan.** 

## II. H2S SAFETY EQUIPMENT AND SYSTEMS

NOTE: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S.

### 1. Well Control Equipment:

- A. Flare line
- B. Choke manifold will have a remotely operated adjustable choke system.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

### 2. Protective equipment for essential personnel:

A. Mark II Survive Air (or equivalent) 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

### 3. H2S detection and monitoring equipment:

A. 3 portable H2S monitors positioned at: Shale Shaker, Bell Nipple, and Rig Floor. These units have warning lights and audible sirens when H2S levels of 10 PPM are reached.

### 4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (attached).
- B. Caution/Danger signs (attached) shall be posted on roads providing direct access to location. Signs will be painted with high visibility yellow with black lettering of a sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

### 5. Mud program:

A. The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

### 6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- B. All elastomers used for packing and seals shall be H2S trim.

### 7. Communication:

- A. Cellular communications in company vehicles.
- B. Land line (telephone) communication at the Office.

### 8. Well testing:

A. There will be no drill stem testing.

### **EXHIBIT**

# DANGER POISONS GAS HYDROGEN SULFIDE NORMAL OPERATIONS (GREEN) CAUTION POTENTIAL DANGER (YELLOW) DANGER POISONS GAS ENCOUNTERED (RED) AUTHORIZED PERSONAL ONLY. LOCATION SECURED. 1-575-746-1096 1-877-879-8899

EDDY COUNTY EMERGENCY NUMBERS ARTESIA FIRE DEPT. 575-746-5050 ARTESIA POLICE DEPT. 575-746-5000 EDDY CO. SHERIFF DEPT. 575-746-9888 LEA COUNTY EMERGENCY NUMBERS HOBBS FIRE DEPT. 575-397-9308 HOBBS POLICE DEPT. 575-397-9285 LEA CO. SHERIFF DEPT. 575-396-1196

# Yates Petroleum Corporation 105 S. Fourth Street Artesia, NM 88210

# Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan

For

Capella BOP Federal Com ####

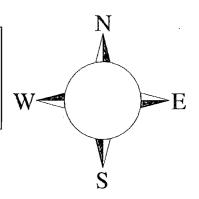
1600' FSL & 1900' FEL

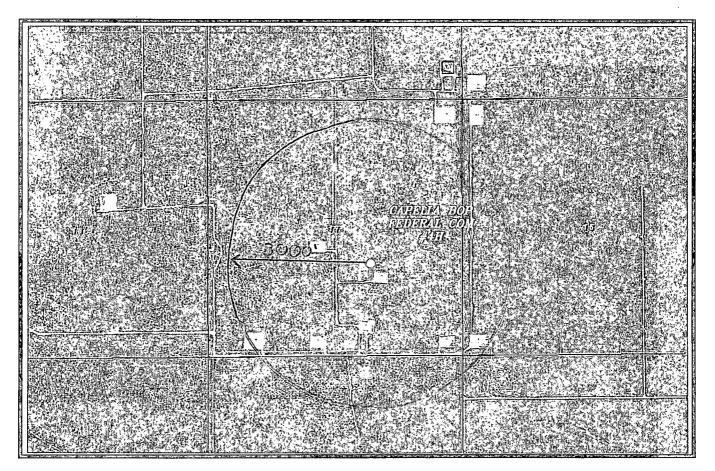
Section 17, T21S-R32E

Lea County, NM

# Capella BOP Federal Com ###

This is an open drilling site.  $H_2S$  monitoring equipment and emergency response equipment will be used within 500' of zones known to contain  $H_2S$ , including warning signs, wind indicators and  $H_2S$  monitor.





Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

### **Emergency Procedures**

In the case of a release of gas containing  $H_2S$ , the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H<sub>2</sub>S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must 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 during the 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 Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentr- ation
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

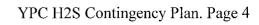
### **Contacting Authorities**

YPC personnel must liaison 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. The following call list of essential and potential responders has been prepared for use during a release. YPC Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

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# Yates Petroleum Corporation Phone Numbers

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YPC Office	
Wade Bennett/Prod Superintendent	
•	(575) 748-4228
Mike Larkin/Drilling	` ,
Paul Hanes/Prod. Foreman/Roswell	
Tim Bussell/Drilling Superintendent	(5/5) /48-4221
Artesia Answering Service(During non-office hours)	(5/5) /48-4302
(During non-ornee nours)	
Agency Call List	
Eddy County (575)	
Artesia	
State Police	746-2703
City Police	
Sheriff's Office	
Ambulance	
Fire Department	
LEPC (Local Emergency Planning Committee)	
NMOCD	
Carlsbad	
State Police	885-3137
City Police	885-2111
Sheriff's Office	887-7551
Ambulance	
Fire Department	
LEPC (Local Emergency Planning Committee)	887-3798
US Bureau of Land Management	887-6544
New Mexico Emergency Response Commission (Santa Fe)	(505)476-9600
24 HR	
New Mexico State Emergency Operations Center	,
National Emergency Response Center (Washington, DC)	(800) 424-8802
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Other	
T 000 054 0600 (001) 001 0001	
Boots & Coots IWC1-800-256-9688 or (281) 931-8884	
Cudd Pressure Control(915) 699-0139 or (915) 563-3356	
Halliburton(575) 746-2757	
B. J. Services(575) 746-3569	
Flight For Life -4000 24th St, Lubbock, TX	206) 742 0011
Aerocare -Rr 3 Box 49f, Lubbock, TX	(206) 743-3311 (206) 747 2022
Med Flight Air Amb 2301 Yale Blvd SE #D3, Albuq, NM	
S B Air Med Svc 2505 Clark Carr Loop SE, Albuq, NM	
3 D All Mod 346 2303 Clark Cart Doop 313 Winding Tript American	JUD J 074-4747



# YATES PETROLEUM CORPORATION

