

30-015-38992

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Bureau of Land Management 620 E. Greene Carlsbad, NM 88220 575-887-6544



Dear Sirs:

XTO Energy Inc. does not anticipate encountering H2S while drilling the Nash #56H located in Section 14, T23S, R29E, in Eddy County, New Mexico. As a precaution, I have attached an H2S contingency plan along with a gas analysis of our well stream. If you need anything further, please contact me at the telephone number or email listed above.

Thank you,

Chip Amrock

Sr. Drilling Engineer

#### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

#### **Hydrogen Sulfide Training:**

All regularly assigned personnel, contracted or employed by XTO Energy. Inc. will receive training from qualified instructor(s) in the following areas prior to commencing drilling possible hydrogen sulfide bearing formations in this well:

The hazards and characteristics of hydrogen sulfide (H2S)

The proper use and maintenance of personal protective equipment and life support systems.

The proper use of H2S detectors, alarms, warning systems, briefing area, evacuation procedures & prevailing winds.

The proper techniques for first aid and rescue procedures.

#### Supervisory personnel will be trained in the following areas:

The effects of H2S on metal components. If high tensile tubulars are to be utilized, personnel will be trained in their special maintenance requirements.

Corrective action & shut-in procedures when drilling or reworking a well & blowout prevention / well control procedures.

The contents and requirements of the H2S Drilling Operations Plan

#### **H2S SAFETY EQUIPMENT AND SYSTEMS:**

#### **Well Control Equipment:**

Flare Line w/continuous pilot. Choke manifold with a minimum of one remote choke.

Blind rams and pipe rams to accommodate all pipe sizes w/properly sized closing unit.

Auxiliary equipment to include: annular preventer, ude-gas separator, rotating head & flare.

#### **Protective Equipment for Essential Personnel:**

Mark II Survive-air 30 minute units located in dog house & at briefing areas, as indicated on wellsite diagram.

#### **H2S Detection and Monitoring Equipment:**

Two portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

One portable H2S monitor positioned near flare line.

#### **H2S Visual Warning Systems:**

Wind direction indicators are shown on wellsite diagram.

Caution / Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

#### Mud Program:

The Mud Program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weights, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones. A mud-gas separator will be utilized as needed.

#### Metallurgy:

All drill strings, casing, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and line and valves will be suitable for H2S service.

#### Communication:

Cellular telephone communications in company vehicles, rig floor and mud logging trailer.



## **HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN**

## Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

### **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
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o 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 this 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	H <sub>2</sub> S	1.189 Air = I	10 ppm	100	600 ppm	
Sulfide				ppm/hr		
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = I	2 ppm	N/A	1000 ppm	

### **Contacting Authorities**

XTO Energy Inc's 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 including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

## **EUNICE OFFICE – EDDY & LEA COUNTIES**

575-394-2089
575-396-0542
432-556-7403 432-296-3926 432-638-8372 432-557-3159 432-557-7976 575-441-1147 575-441-1628 575-390-7167 575-441-1634 575-634-5677
575-887-7551 575-396-3611
575-392-5588
911 575-885-2111 575-394-2111 575-397-9308 575-395-2221 575-396-2359
911 575-885-2111 575-394-2112 575-397-9308 575-395-2221 575-396-2359
575-393-3612 575-393-6161 575-887-2871
575-394-3155 575-391-8543 575-393-7726 575-393-3093 575-393-3180 575-393-2415 575-397-4541 575-393-5305

# XTO ENERGY INC H2S BATTERY SURVEY

LOCATION	RESULTS	COMMENTS	TYPE GAS
New Approximation of the Control of			
Bar 4 Fed #1	0	Oil & Water tanks	
Bridges State 514	0 .	Oil & Water tanks	
Bridges State 120	2100 ppm	Oil & Water tanks	Sour
Bridges State 126	10,000 ppm	Oil & Water tanks	Sour
Bridges State 12	16,000 ppm	Oil tanks	Sour
Bridges State 95	200 ppm	Oil tanks	Sour
Bridges State 14	4,200 ppm	Oil & Water tanks	Sour
Federal DM #1	180,000 ppm	Oil & Water tanks	Sour
Greenstar 22 #1	0	Oil & Water tanks	
Gulf 5 Federal #1	0	Oil & Water tanks	
NVA North Prod Wtr Station	300 ppm	Water tanks	Sour
NVAE	350 ppm	Oil & Water tanks	Sour
NVAU #204	600 ppm	Oil & Water tanks	Sour
NVAU #134	600 ppm	Oil & Water tanks	Sour
NVAU #120	200 ppm	Oil & Water tanks	Sour
NVAU #131	8,000 ppm	Oil & Water tanks	Sour
NVAU #203	100 ppm	Oil & Water tanks	Sour
NVA South Prod Wtr Station	9,000 ppm	Water tanks	Sour
NVAU #95	100 ppm	Oil tanks	Sour
Remuda Basin 24 #1	0	Oil & Water tanks	
Remuda Basin #19	0	Oil & Water tanks	
Ross Draw 25 #1	0	Oil & Water tanks	
Yates #8	0	Oil & Water tanks	
Nash # 1, 6, 9, 13, 15, 19, 24, 33,34, 36, 38	. 0	Oil & Water tanks	
SDE #31	20	Oil & Water tanks	Sour
SDE #19	0	Oil & Water tanks	
SEMGSAU Battery #1	16,000 ppm	Oil & Water tanks	Sour
SEMGSAU Battery #2	8,000 ppm	Oil & Water tanks	Sour
Sprinkle B Federal #2	50 ppm	Oil & Water tanks	Sour
State N	200 ppm	Oil & Water tanks	
State XX	0	Oil & Water tanks	
State K	25 ppm	Oil & Water tanks	Sour
NM State BO	9,000 ppm	Oil & Water tanks	Sour
State M	0	Oil & Water tanks	
State Sec 27 SWD	2,200 ppm	Water tanks	Sour
State L & PP	0	Oil & Water tanks	
NM J State	100 ppm	Oil & Water tanks	Sour
Tex-Mack 5 State Comm	0	Oil & Water tanks	