

**MANZANO, LLC**  
**HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

Chili Parlor 17 Federal #1H  
SHL: 330' FSL & 2200' FEL  
BHL: 330' FNL & 2200' FEL  
Section 17-T22S-R33E  
Lea County, New Mexico

HOBBS OCD

DEC 04 2013

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This H<sub>2</sub>S Drilling Operations Plan is submitted with Form 3160-3, Application for Permit to Drill, in accordance with BLM Onshore Oil and Gas Order Number 6 Section III.A.1., covering the above described well.

**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:

- A. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S).
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- D. The proper techniques for first aid and rescue procedures.

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

- A. The effects of H<sub>2</sub>S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- C. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

## **II. H<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

Note: All H<sub>2</sub>S 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 H<sub>2</sub>S (prior to drilling out of the 13 3/8" surface casing shoe for this well).

- A. Well Control Equipment (All BOP and BOP equipment is shown in Drilling Plan-Exhibits 1-4).
  - Flare line.
  - Choke manifold and remotely operated chokes.
  - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
  - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.
- B. Protective equipment for essential personnel:
  - Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- C. H<sub>2</sub>S detection and monitoring equipment:
  - 2 - Portable H<sub>2</sub>S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H<sub>2</sub>S levels of 20 ppm are reached.
- D. Visual warning systems:
  - 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.

- E. Mud Program: The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to the surface
- F. Metallurgy:  
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.
- G. Communication:  
Company vehicles equipped with cellular telephone.

Manzano has conducted a review to determine if an H<sub>2</sub>S Contingency Plan is needed for this well and has determined that there is minimal potential for the accumulation for any hazardous concentration of H<sub>2</sub>S; therefore, no H<sub>2</sub>S Contingency Plan has been submitted for this well.

# **W A R N I N G**

**YOU ARE ENTERING AN H<sub>2</sub>S AREA  
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED***
- 2. HARD HATS REQUIRED***
- 3. SMOKING IN DESIGNATED AREAS ONLY***
- 4. BE WIND CONSCIOUS AT ALL TIMES***
- 5. CK WITH MANZANO FOREMAN AT MAIN OFFICE***

Manzano, LLC

575-623-1996

**EMERGENCY CALL LIST**

|                            |                                                        |
|----------------------------|--------------------------------------------------------|
| <b>MANZANO, LLC OFFICE</b> | <b>575-623-1996</b>                                    |
| <b>MIKE HANAGAN:</b>       | <b>575-623-1996 office</b><br><b>575-420-8821 cell</b> |
| <b>CRAIG HANAGAN:</b>      | <b>575-623-1996 office</b><br><b>575-910-6154 cell</b> |

**EMERGENCY RESPONSE NUMBERS**

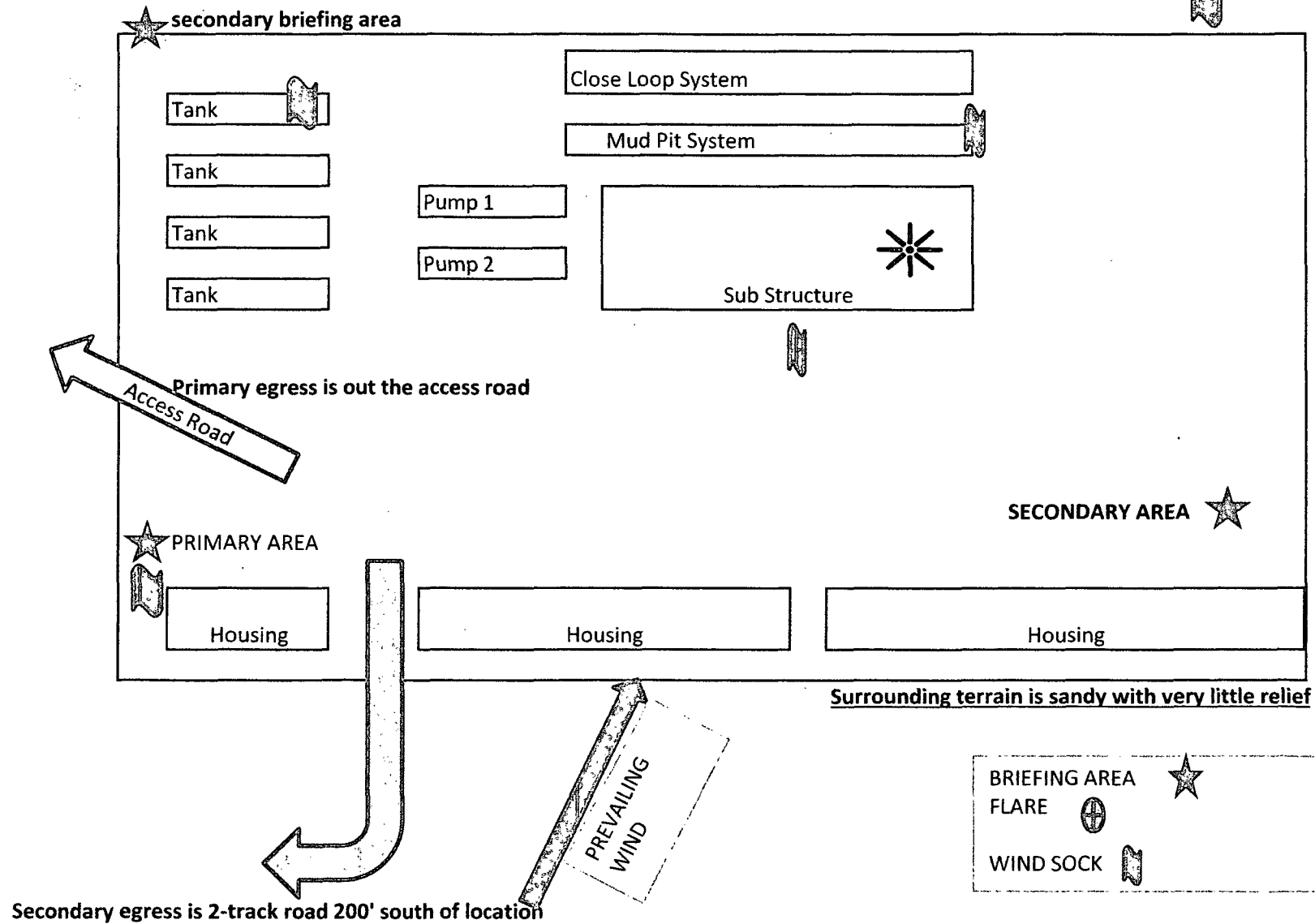
**Lea County, New Mexico**

|                                    |                     |
|------------------------------------|---------------------|
| <b>NEW MEXICO STATE POLICE</b>     | <b>575-392-5580</b> |
| <b>LEA COUNTY SHERIFF DEPT</b>     | <b>575-396-3611</b> |
| <b>LEA REGIONAL MEDICAL CENTER</b> | <b>575-492-5000</b> |
| <b>AMBULANCE</b>                   | <b>911</b>          |

H2S WELL SITE DIAGRAM  
DRILL RIG ORIENTATION

Manzano, LLC  
CHILI PARLOR 17 FED #1H #2H  
Sec 17-T22S-R33E

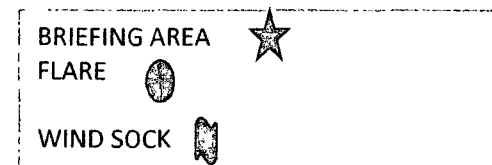
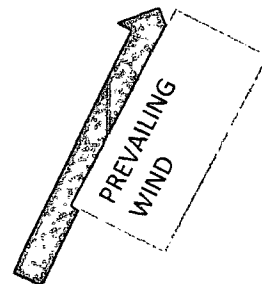
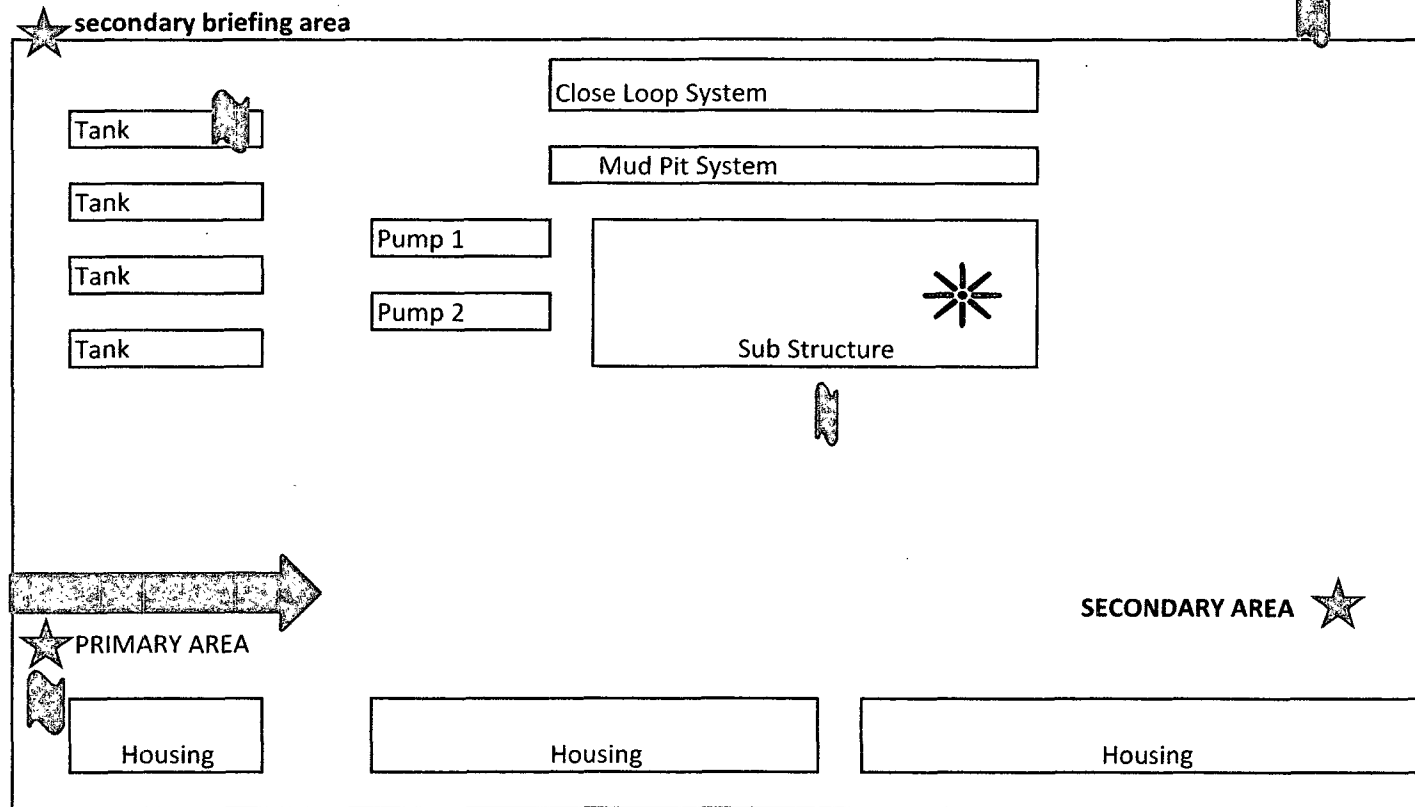
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MANZANO, LLC  
EXHIBIT 4  
PRODUCTION FACILITIES and INTERIM RECLAMATION PLAN FOR CHILI PARLOR 17 FED #1H

SURFACE USE PLAN - EXHIBIT 4

