Page 2 H2S DRILLING OPERATIONS LUSK 31 FEDERAL #1

- 1. Well Control Equipment:
 - A. Flare line with electronic igniter or continuous pilot.
 - B. Choke manifold with a minimum of one remote choke.
 - C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - D. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head, and flare gun with flares.
- 2. Protective equipment for essential personnel:
 - A. 30-minute air units located in the dog house and at briefing areas, as indicated on well site diagram.
- 3. H₂S detection and monitoring equipment:
 - A. $2 \text{portable H}_2\text{S}$ monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.
 - B. 1portable SO_2 monitor positioned near flare line.
- 4. Visual warning systems:
 - A. Wind direction indicators as shown on well site diagram.
 - B. 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 well 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.
- B. A mud-gas separator and an H₂S gas buster will be utilized.