

BC Operating, Inc.
Hydrogen Sulfide Drilling Operations Plan

Dogie Draw 23 Federal #3H

SHL: 240' FNL & 1980' FEL of Unit Letter 'B', Section 26, T-25S, R-34E

BHL: 240' FNL & 1980' FEL of Unit Letter 'B', Section 23, T-25S, R-34E

Lea County, New Mexico

The H₂S 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 (H₂S).
- B. The prior use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H₂S 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 H₂S 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 H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500') 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 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.

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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' above or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S (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 and rotating head.
- B. Protective equipment for essential personnel:
 - Mark II Surviveair 30 minute units located in the dog house and at briefing areas
- C. H₂S detection and monitoring equipment:
 - 2 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.
- 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 H₂S circulated to the surface.
- F. Metallurgy:
 - All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool kill lines, choke manifold lines and valves shall be suitable for H₂S services.
- G. Communication:
 - Company vehicles equipped with cellular telephone.

BC Operating, Inc. has conducted a review to determine if an H₂S Contingency Plan is needed for this well and has determined that there is minimal potential for the accumulation for any hazardous concentration of H₂S; therefore, no H₂S Contingency Plan has been submitted for this well.

WARNING

YOU ARE ENTERING AN H₂S 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. CHECK WITH BC OPERATING, INC. FORMAN AT
MAIN OFFICE**

BC OPERATING, INC.

432-684-9696

Emergency Call List

BC Operating, Inc. Office	432-684-9696
Deane Durham	432-684-9696 (Office) 432-431-9701 (Cell)
Nic Klopp	432-684-9696 (Office) 432-422-2510 (Cell)
Bruce Madden	432-684-9696 (Office) 432-894-0721 (Cell)

Emergency Response Numbers

New Mexico State Police	575-392-5580
Eddy County Sheriff Dept	575-887-7551
Carlsbad Medical Center	575-887-4100
Ambulance	911