

**Hydrogen Sulfide Drilling Operations Plan  
Blue Quail 23 Federal #1H  
Sec 23, T19S, R34E  
Lea County N.M.**

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1. Company and contract personnel admitted on location should be trained by a qualified H<sub>2</sub>S safety instructor to the recognize and handle following:
  - A. Characteristics of H<sub>2</sub>S gas
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems
  - D. Principle and operation of H<sub>2</sub>S detectors, warning system and briefing knowledge
  - E. Evacuation procedure, routes and first aid support
  - F. Proper use of 30 minutes Pressure-on-Demand Air Pack
2. Supervisory personnel will be trained in the following areas:
  - A. Effects of H<sub>2</sub>S on metal components.
  - B. Corrective action and shut in procedures, blowout prevention, and well control procedure.
  - C. Contents of Hydrogen Sulfide Drilling Operations Plan.
3. H<sub>2</sub>S Detection and Alarm Systems will be in place before commencing any operations.
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at wellhead, shale shaker and mud pits. Will be installed and maintained by third party safety company.
  - B. Thirty minute self-contained work unit located in at briefing areas.
3. Windsock and/or Wind Streamers
  - A. Windsock at mud pit area (high enough to be visible)
  - B. Windsock on dog house (high enough to be visible)
4. Condition Flags and Signs
  - A. H<sub>2</sub>S warning signs on lease access road into location
  - B. Flags displayed on sign at location entrance
    1. Green flag indicates "Normal Safe Conditions"
    2. Yellow Flag indicates "Potential Pressure and Danger"
    3. Red Flag indicates "Danger - H<sub>2</sub>S Present in High Concentrations" *admit only emergency personnel*
5. Well Control Equipment
  - A. See BOP, and Choke exhibit.
6. Communication
  - A. While working under masks chalkboards will be used for communication
  - B. Hand signals will be used where chalk board is inappropriate
  - C. Two -way radios or cell phones used to communicate off location or minimally in Drilling Foreman's trailer or living quarters
7. Drillstem Testing (**not planned**)
  - A. Exhausts watered
  - B. Flare line equipped with electric Igniter/propane pilot light in case gas reaches surface
  - C. If location near dwelling closed DST will be performed

9. If H<sub>2</sub>S encountered, mud system shall be addressed to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers, if necessary. pH will be maintained at 10, to minimize h<sub>2</sub>S in the system. Hydrogen sulfide scavengers will also be used to minimize hazards while drilling the well.
10. Mud program: pH of 10 will be maintained with additives to minimize hazards of H<sub>2</sub>S. H<sub>2</sub>S scavengers will also be used to minimize effects on tubulars and well control equipment and control effects of H<sub>2</sub>S on metallurgy.

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PUBLIC PROTECTION PLAN FOR EMERGENCY CONTACTS

**NADEL AND GUSSMAN Permian, LLC**

(432) 682-4429

**Company Personnel**

Keith Cannon	Drilling Superintendent	575-623-6601 575-626-1936
Jason Goss	Drilling Engineer	432-682-4429 512-784-2613

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**ARTESIA N.M.**

Ambulance	911
State Police	575-746-5000
City Police	575-746-5000
Sheriff's Office	575-746-9888
Fire Department	575-746-5050 or 575-746-5051
N.M.O.C.D	575-748-1283

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**CARLSBAD N.M.**

Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-885-3125 or 575-885-2111
Carlsbad BLM	575-887-6544

**HOBBS N.M.**

Ambulance	911
State Police	575-392-5588
City Police	575-397-9265
Sheriff's Office	575-396-3611
Fire Department	575-397-9308
N.M.O.C.D	575-393-6161
Hobbs BLM	575-393-3612

Flight for Life (Lubbock Tx)	806-743-9911
Aerocare (Lubbock Tx)	806-747-8923
Med flight air Ambulance (Albuq NM)	505-842-4433
SB air Med Services (Albuq NM)	505-842-4949

Wild Well Control	281-784-4700 (24 hour number)
Boots & Coots IWC	800-256-9688 or 281-931-8884
Cudd Pressure Control	915-699-0139 or 915-563-3356
BJ Services (Artesia NM)	575-746-3569
(Hobbs NM)	575-392-5556

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
24 Hour	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

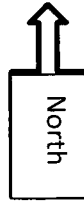
Blue Quail 23-1H Location layout

Sec 23, T19S, R34E

SHL: 660' FSL & 330' FEL

BHL: 660' FSL & 330' FWL

Lea Co. N.M

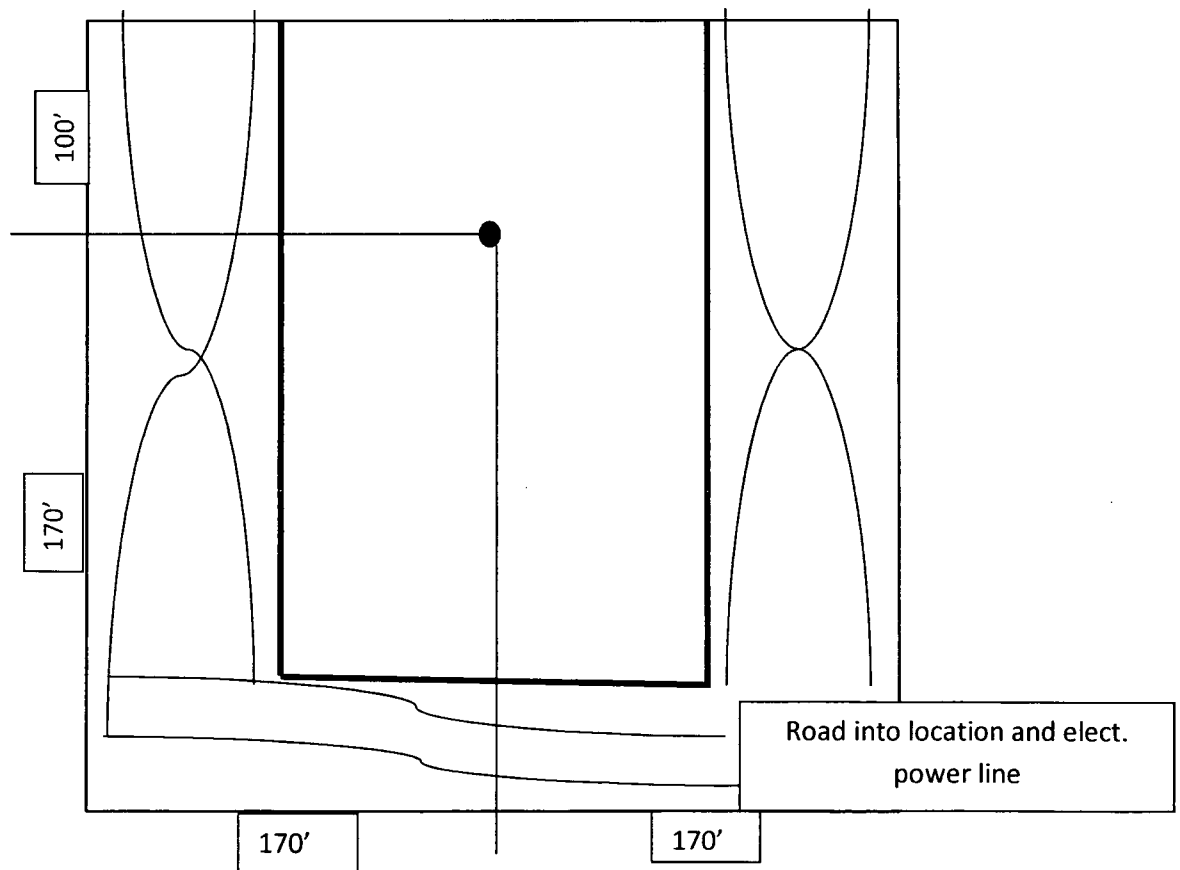


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1. V-door to the east, 2. Top soil on the south side of location, 3. No tank battery at Blue Quail 23 Federal #1H, if well is found productive will lay flow line to 26-1H battery. 4. Interim Reclamation 60' off the south, west & east side of location. 5 New electric line will follow new road approx. 1100ft of new lines (4-5 poles, see attached plat).
2. Tank battery will be constructed at the Blue Quail 26 Federal #1H (APD), battery will be lined and buried. Approx. 900ft of new lease road east to existing lease road (see attached plat)



## Blue Quail 23 Federal #1H battery will be located on the this location

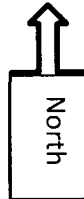
### Blue Quail 26 Federal #1H Location layout

Sec 26, T19S, R34E

SHL: 810' FNL & 330' FEL

BHL: 810' FSL & 330' FWL

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1. V-door to the east, 2. Top soil on the south side of location, 3. Heater to the north side location and tank battery to the west side location, 4. Interim Reclamation 60' off the south & east side of location. 5 Power line will come down road ROW

