

NOV 06 2015

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## H<sub>2</sub>S Drilling Operations Plan

- a. All personnel will be trained in H<sub>2</sub>S working conditions as required by Onshore Order 6 at least 500' before drilling into the Delaware Formation.
- b. Two briefing areas will be established. Each will be  $\geq 150'$  from the wellhead, perpendicular from one another, and easily entered and exited. See H<sub>2</sub>S Page 5 for more details.
- c. H<sub>2</sub>S Safety Equipment/Systems:
  - i. Well Control Equipment
    - Flare line will be  $\geq 150'$  from the wellhead and ignited by a flare gun.
    - Beware of SO<sub>2</sub> created by flaring.
    - Choke manifold will include a remotely operated choke.
    - Mud gas separator
  - ii. Protective Equipment for Personnel
    - Every person on site will wear a personal H<sub>2</sub>S and SO<sub>2</sub> monitor at all times while on site. Monitors will not be worn on hats. Monitors will be worn on the front of the waist or chest.
    - One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
    - Four work/escape packs will be on the rig floor. Each pack will have a long enough hose to allow unimpaired work activity.
    - Four emergency escape packs will be in the doghouse for emergency evacuation.
    - Hand signals will be used when wearing protective breathing apparatus.
    - Stokes litter or stretcher
    - Two full OSHA compliant body harnesses
    - A 100 foot long x 5/8 inch OSHA compliant rope
    - One 20 pound ABC fire extinguisher
  - iii. H<sub>2</sub>S Detection & Monitoring Equipment
    - Every person on site will wear a personal H<sub>2</sub>S and SO<sub>2</sub> monitor at all times while on site. Monitors will not be worn on hats. Monitors will be worn on the front of the waist or chest.
    - A stationary detector with 3 sensors will be in the doghouse.

- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- Color-coded H<sub>2</sub>S condition sign will be set at the entrance to the pad.
- Color-coded condition flag will be installed to indicate current H<sub>2</sub>S conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program

- A water based mud with a pH of  $\geq 10$  will be maintained to control corrosion, H<sub>2</sub>S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H<sub>2</sub>S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H<sub>2</sub>S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H<sub>2</sub>S will be suitable for H<sub>2</sub>S service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packing and seals).

vii. Communication

- Cell phones and/or 2-way radios will be used to communicate from the well site.

d. A remote controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H<sub>2</sub>S.

Company (281 847-6000) Personnel to be Notified

Mark Beach, Drilling Manager	Office: (281) 674-2019 Mobile: (281) 546-7665
Phillip Joseph, Operations Engineer	Office: (281) 674-2482 Mobile: (832) 205-2573
Mark Prediger, Safety Manager	Office: (281) 674-2870 Mobile: (281) 798-5810

Local & County Agencies

Monument Fire Department	911 or (575) 395-2221
Hobbs Fire Marshal	(575) 391-8185
Lea County Sheriff (Lovington)	911 or (575) 396-3611
Lea County Emergency Management (Lovington)	(575) 396-8602
Lea Regional Medical Center Hospital (Hobbs)	(575) 492-5000

State Agencies

NM State Police (Hobbs)	(575) 392-5588
NM Oil Conservation (Hobbs)	(575) 370-3186
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Department of Transportation (Roswell)	(575) 637-7201

Federal Agencies

BLM Carlsbad Field Office	(575) 234-5972
BLM Hobbs Field Station	(575) 393-3612
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063 (214) 665-6444

### Veterinarians

Dal Paso Animal Hospital (Hobbs)	(575) 397-2286
Hobbs Animal Clinic & Pet Care (Hobbs)	(575) 392-5563
Great Plains Veterinary Clinic & Hospital (Hobbs)	(575) 392-5513

### Residents within 2 miles

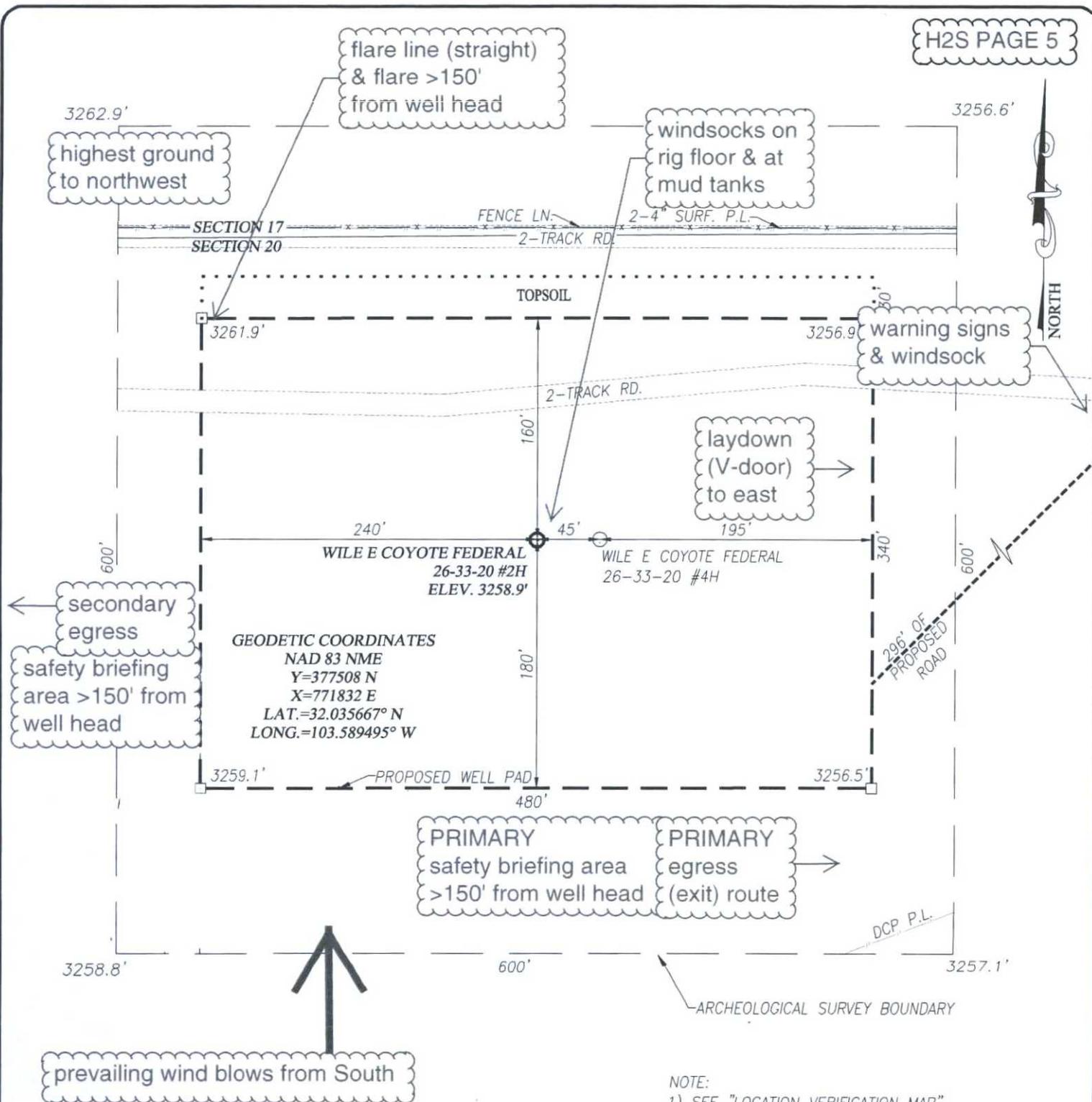
There are no residents within 2 miles.

### Air Evacuation

Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

### Contractors

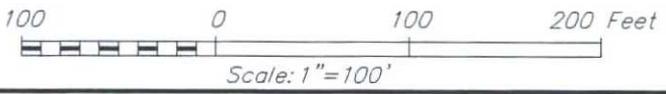
Axiom Medical (Houston)	(877) 502-9466
Basic Energy (Artesia)	(575) 746-2217
Baker Hughes (Hobbs)	(575) 392-5556
DXP Safety (Hobbs)	(575) 393-9188
DXP Safety (Odessa)	(800) 530-8693
Indian Fire & Safety (Hobbs)	(575) 393-3093
Key Energy (Carlsbad)	(575) 885-2053
M-I SWACO (Midland)	(432) 742-5627
Petro Safety (Tyler)	(903) 939-9087
Safety International (Odessa)	(432) 580-3770



**DIRECTIONS TO WILE E COYOTE FEDERAL 26-33-20 #2H:**

FROM THE INTERSECTION OF ST. HWY. 128 AND CO. RD. J2 (BATTLE AXE RD.), GO SOUTH-SOUTHWEST APPROX. 13.15 MILES ON BATTLE AXE ROAD TO END OF PAVEMENT. TURN RIGHT AND GO WEST APPROX. 0.3 MILES. TURN LEFT BACK ONTO BATTLE AXE ROAD AND GO SOUTHWEST APPROX. 2.5 MILES. TURN RIGHT AND FOLLOW STAKED ROAD ALONG EXISTING 2-TRACK ROAD AND FENCE LINE APPROX. 0.7 MILES. TURN LEFT AND FOLLOW STAKES SOUTHWEST 296 TO THE LOCATION.

NOTE:  
1) SEE "LOCATION VERIFICATION MAP" FOR PROPOSED ROAD LOCATION.



**ROADRUNNER OIL & GAS, LLC**

**WILE E COYOTE FEDERAL 26-33-20 #2H WELL  
LOCATED 220 FEET FROM THE NORTH LINE  
AND 1160 FEET FROM THE EAST LINE OF SECTION 20,  
TOWNSHIP 26 SOUTH, RANGE 33 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO**

PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO HOBBS, N.M. 88240  
(575) 393-3117 www.jwsc.biz  
TBPLS# 10021000

Survey Date: 7/30/14	CAD Date: 6/19/14	Drawn By: ACK
W.O. No.: 14110586	Rev: 1/21/15	Rel. W.O.:
		Sheet 1 of 1

# Roadrunner Oil & Gas, LLC

Wile E Coyote Federal 26-33-20 #2H  
H2S Contingency Plan:  
1 Mile Radius Map

Section 20, Township 26S, Range 33E  
Lea County, New Mexico

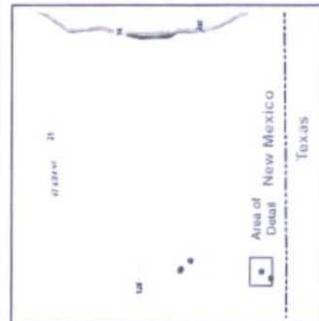
📍 Wile E Coyote Federal 26-33-20 #2H



NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



Prepared by Permits West, Inc., February 27, 2015  
for Roadrunner Oil & Gas, LLC



# Roadrunner Oil & Gas, LLC

Wile E Coyote Federal 26-33-20 #2H  
 HzS Contingency Plan:  
 2 Mile Radius Map

Section 20, Township 26S, Range 33E  
 Lea County, New Mexico

Wile E Coyote Federal 26-33-20 #2H



NAD 1983 New Mexico State Plane East  
 FIPS 3001 Feet



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