Hydrogen Sulfide Drilling Operations Plan North Young 15 Federal Com No. 1 Cimarex Energy Co. of Colorado Unit M, Section 15 T18S-R32E, Lea County, NM

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- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
- 2 H₂S Detection and Alarm Systems:
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
- 3 Windsock and/or wind streamers:
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
- 4 Condition Flags and Signs:
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H₂S present in dangerous concentration). Only emergency personnel admitted to location.
- 5 <u>Well control equipment:</u>
 - A. See exhibit "E"

6 <u>Communication:</u>

- 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 radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

No DSTs or cores are planned at this time.

- 8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H₂S scavengers if necessary.

H₂S Contingency Plan North Young 15 Federal Com No. 1 Cimarex Energy Co. of Colorado Unit M, Section 15 T18S-R32E, Lea County, NM

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must:

- ★ Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- ★ Evacuate any public places encompassed by the 100 ppm ROE.
- \star Be equipped with H₂S monitors and air packs in order to control the release.
- ★ Use the "buddy system" to ensure no injuries occur during the response.
- ★ Take precautions to avoid personal injury during this operation.
- ★ Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- ★ Have received training in the:
 - Detection of H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Common	Chemical	Specific	Threshold	Hazardous	Lethal			
Name	Formula	Gravity	Limit	Limit	Concentration			
Hydrogen Sulfide	H₂S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm			
Sulfur Dioxide	SO2	2.21 Air=1	2 ppm	N/A	1000 ppm			

Characteristics of H₂S and SO₂

Contacting Authorities

Cimarex Energy Co. of Colorado's personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

H₂S Contingency Plan Emergency Contacts North Young 15 Federal Com No. 1 Cimarex Energy Co. of Colorado Unit M, Section 15 T18S-R32E, Lea County, NM

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Cimarex Energy Co. of Cold	800-969-4789				
Co. Office and After-Hours					
<u>Key Personnel</u>					
Name	Title	Office		Mobile	
Doug Park	Drilling Manager	432-620-1934	,	972-333-1407	
Dee Smith	Drilling Super	432-620-1933		972-882-1010	
Jim Evans	Drilling Super	432-620-1929		972-465-0564	
Roy Shirley	Field Super			432-634-2136	
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Ambulance		911			
State Police		575-746-2703			
City Police		575-746-2703			
Sheriff's Office		575-746-9888			
Fire Department	575-746-2701	_			
Local Emergency Plannin	575-746-2122				
New Mexico Oil Conserv	575-748-1283				
<u>Carlsbad</u>					
Ambulance		911			
State Police		575-885-3137			
City Police		575-885-2111			
Sheriff's Office		575-887-7551			
Fire Department		575-887-3798	_		
Local Emergency Plannii		575-887-6544			
US Bureau of Land Mana	agement	575-887-6544			
<u>Santa Fe</u>					
	Response Commission (Santa Fe)	505-476-9600			
	Response Commission (Santa Fe) 24 Hrs	505-827-9126			
New Mexico State Emer	gency Operations Center	505-476-9635			
National National Emergency Res	ponse Center (Washington, D.C.)	800-424-8802			
	point server (reasinglori) sier				
Medical		000 740 0044			
Flight for Life - 4000 24t		806-743-9911			
Aerocare - R3, Box 49F;		806-747-8923			
Med Flight Air Amb - 23	505-842-4433				
SB Air Med Service - 250)5 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949			
<u>Other</u>		000 252 2522		204 004 000	
Boots & Coots IWC		800-256-9688	or	281-931-8884	
Cudd Pressure Control		432-699-0139	or	432-563-3356	
Halliburton		575-746-2757			
B.J. Services		575-746-3569			

Surface Use Plan North Young 15 Federal Com No. 1 Cimarex Energy Co. of Colorado Unit M, Section 15 T18S-R32E, Lea County, NM

- 1. <u>Existing Roads</u>: Area maps, Exhibit "A" shows the proposed well site as staked. Exhibit "B" is a reproduction of Eddy Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, and Exhibit "C-1" is a well site layout map, showing proposed road to location and existing road.
 - A. The maximum width of the driving surface will be 15.' The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.
 - B. From the junction of Hwy 529, turn South on Maljamar Rd for 1.7 miles. Turn East on existing lease road winding Southerly for 2.2 miles. Turn South for 0.2 miles to proposed lease road.
- 2. Planned Access Roads: 1788.3' of proposed newly-constructed, on-lease access road.
- 3. Location of Existing Wells in a One-Mile Radius Exhibit A
 - A. Water wells None known
 - B. Disposal wells None known
 - C. Drilling wells None known
 - D. Producing wells As shown on Exhibits "A" and "A-1"
 - E. Abandoned wells As shown on Exhibits "A" and "A-1"
- 4. Location of Proposed Production Facilities:

If on completion this well is a producer, a tank battery will be used and the necessary production equipment will be installed at the wellsite. See production facilities layout diagram. Any changes to the facilities or off-site facilities will be accompanied by a Sundry Notice.

5. Location and Type of Water Supply:

Water will be purchased locally from a commercial source and trucked over the access roads.

6. Source of Construction Material:

If possible, native caliche will be obtained from the excavation of drill site. Topsoil will be pushed back from the drill site and existing caliche will be ripped and compacted. Then topsoil will be stockpiled on location as depicted on Exhibit "D" (rig layout). If additional material is needed, it will be purchased from a BLM-approved pit as near as possible to the well location.

- 7. Methods of Handling Waste Material:
 - A. Drill cuttings will be seperated by a series of solids removal equipment and stored in steel containment pits and then hauled to a state-approved disposal facility.
 - B. All trash, junk and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill.
 - C. Salts remaining after completion of well will be picked up by supplier including broken sacks.
 - D. Sewage from living quarters will drain into holding tanks and be cleaned out periodically and hauled to a waste disposal facility. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well.
 - E. Drilling fluids will be contained in steel pits in a closed circulating system. Fluids will be cleaned and reused. Water produced during testing will be contained in the steel pits and disposed of at a state approved disposal facility. Any oil or condensate produced will be stored in test tanks until sold and hauled from the site.

8. Ancillary Facilities:

A. No camps or airstrips to be constructed.

9. Well Site Layout:

- A. Exhibit "D" shows location and rig layout.
- C. Mud pits in the closed circulating system will be steel pits and the cuttings will be stored in steel containment pits.
- D. Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- E. If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. Plans for Restoration of Surface:

Rehabilitation of the location will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be recountoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, those areas of the location not essential toproduction facilities and operations will be reclaimed and seeded per BLM requirements. Please see Production Facilities Layout Diagram, exhibit D-1.

11 Other Information

- A. Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak.
- B. The wellsite is on surface owned by Department of the Interior, Bureau of Land Management. The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.
- C. In lieu of an archaeological survey report, Cimarex will be submitting an MOA application for this well pad and access road since they are within the MOA boundary.
- D. There are no know dwellings within 1½ miles of this location.

Operator Certification Statement North Young 15 Federal Com No. 1 Cimarex Energy Co. of Colorado Unit M, Section 15 T18S-R32E, Lea County, NM

Operator's Representative Cimarex Energy Co. of Colorado 600 N. Marienfeld St., Ste. 600 Midland, TX 79701 Office Phone: (432) 571-7800 Zeno Farris MAR 1 4 2011 HOBBSUCD

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CERTIFICATION: I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this29thday ofSeptember,2010							
NAME: Zeno Fanij							
Zeno Farris							
TITLE: Manager Operations Administration							
ADDRESS: 600 N. Marienfeld St., Ste. 600							
Midland, TX 79701							
TELEPHONE: (432) 620-1938							
EMAIL: <u>zfarris@cimarex.com</u>							
Field Representative: Same as above							





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Exhibit C-1