Hydrogen Sulfide Drilling Operations Plan

Mallon 34 Federal No. 19

Cimarex Energy Co. of Colorado Unit H, Section 34 T19S-R34E, Eddy County, NM

30-025-39894

- 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 Well control equipment:

A. See exhibit "E"

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 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 Mallon 34 Federal No. 19 Cimarex Energy Co. of Colorado Unit H, Section 34 T19S-R34E, Eddy 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.
- ★ 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 (SO_2). 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.

Characteristics of H₂S and SO₂

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

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

Mallon 34 Federal No. 19

Cimarex Energy Co. of Colorado Unit H, Section 34

T19S-R34E, Eddy County, NM

Cimarex Energy Co. of Colo	prado	800-969-4789			
Co. Office and After-Hours	Menu				
Key Personnel		010	84-L!I-		
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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<u>Artesia</u> 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 Plannir	ng Committee	575-746-2122			
New Mexico Oil Conserv		575-748-1283			
TVCW IVICAICO OII CONSCIV	adon bivision				
<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 Plannir	ng Committee	575-887-6544			
US Bureau of Land Mana		575-887-6544			
Santa Fe					
	Response Commission (Santa Fe)	505-476-9600			
New Mexico Emergency	Response Commission (Santa Fe) 24 Hrs	505-827-9126			
New Mexico State Emer	gency Operations Center	505-476-9635			
National	C. L. (W. 11	000 424 0002			
National Emergency Res	ponse Center (Washington, D.C.)	800-424-8802			
 Medical					
<u>Medical</u> Flight for Life - 4000 24t	h St. Lubbock TX	806-743-9911			
Aerocare - R3, Box 49F;		806-743-9911			
	01 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433			
	01 Yale Bivd S.E., #D5, Albuquerque, NM 05 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949			
JU All IVICU JEIVICE - ZJC	55 Clark Carr Loop S.E., Albuquerque, WW	303 072-4343			
Other					
		800-256-9688	or 281-931-8884		
Boots & Coots IWC					
Cudd Pressure Control		432-699-0139	or 432-563-3356		
		575-746-2757	OF 432-363-3330		

Surface Use Plan

Mallon 34 Federal No. 19

Cimarex Energy Co. of Colorado Unit H, Section 34 T19S-R34E, Eddy County, NM

- 1 <u>Existing Roads:</u> Area maps, Exhibit "B" is a reproduction of Eddy Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
 - A. Exhibit "A" shows the proposed well site as staked.
 - B. From Mile Marker 79 of Hwy 62-180, go 0.7 miles easterly to lease road. On lease road, go South 0.3 miles to proposed location.
- 2 Planned Access Roads: No new access roads will be built to access this location.
- 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 Exhibit "A"
 - E. Abandoned wells As shown on Exhibit "A"
- 4 If on completion this well is a producer, Cimarex Energy Co. of Colorado will furnish maps and/or plats showing on site facilities or off site facilities if needed. This 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 or piped in flexible lines laid on top of the ground.

6 Source of Construction Material:

If possible, construction will be obtained from the excavation of drill site. If additional material is needed, it will be purchased from a local source and transported over the access route as shown on Exhibit "C".

Surface Use Plan Mailon 34 Federal No. 19

Cimarex Energy Co. of Colorado Unit H, Section 34 T19S-R34E, Eddy County, NM

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. 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, it is our intent to construct a tank battery; therefore no interim reclamation is planned for the location.

Surface Use Plan

Mallon 34 Federal No. 19

Cimarex Energy Co. of Colorado Unit H, Section 34 T19S-R34E, Eddy County, NM



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Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

Surface Use Plan Mallon 34 Federal No. 19

Cimarex Energy Co. of Colorado Unit H, Section 34 T19S-R34E, Eddy County, NM

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. An Archaeological survey will be conducted on the location and proposed roads, and this report will be filed with the Bureau of Land Management in the Carlsbad BLM office.
- D. There are no know dwellings within 1½ miles of this location.

Operator Certification Statement
Mallon 34 Federal No. 19
Cimarex Energy Co. of Colorado
Unit H, Section 34
T19S-R34E, Eddy County, NM

Operator's Representative

Cimarex Energy Co. of Colorado 600 N. Marienfeld St., Ste. 600 Midland, TX 79701

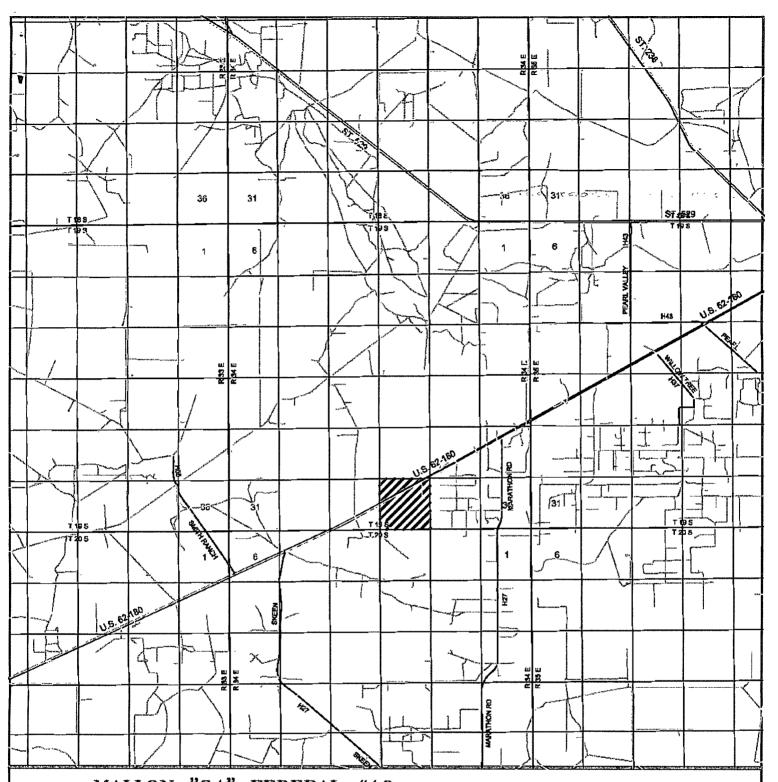
Office Phone: (432) 571-7800

Zeno Farris

CERTIFICATION: I hereby certify that the statements and plans made in this APD are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Cimarex Energy Co. of Colorado and/or its contractors/subcontractors and is in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME:	ZenoFaus			
_	Zeno Farris			
DATE:	March 29, 2010			
TITLE:	Manager Operations Administration			

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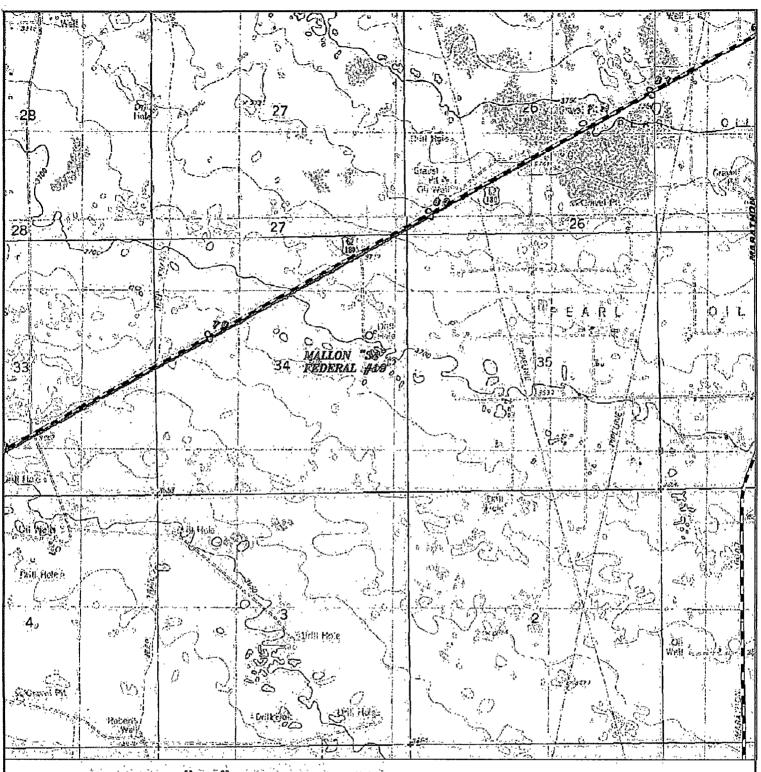
MALLON "34" FEDERAL #19
Located 2055' FNL and 790' FEL
Section 34, Township 19 South, Range 34 East,
N.M.P.M., Lea County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (575) 393-7316 — Office (575) 392-2206 — Fax basinsurveys.com

A CANAL PROPERTY.	W.O. Number: JMS 21723	
A CONTRACTOR OF THE PERSON NAMED IN	Survey Date: 09-15-2009	9
	Scale: 1" = 2 Miles	Q
Service Services	Date: 09-17-2009	3

CIMAREX ENERGY CO. OF COLORADO



MALLON "34" FEDERAL #19 Located 2055' FNL and 790' FEL Section 34, Township 19 South, Range 34 East, N.M.P.M., Lea County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (575) 393-7316 - Office (575) 392-2206 - Fax basinsurveys.com

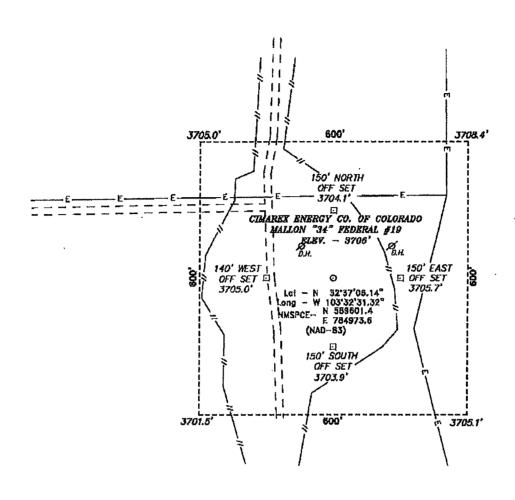
W.O. Number: JMS 21723

Survey Date: 09-15-2009

Scale: 1'' = 2000'

Date: 09-17-2009

CIMAREX ENERGY CO. OF COLORADO SECTION 34, TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M., NEW MEXICO. LEA COUNTY.



Directions to Location:

FROM MILE MARKER 79 OF HWY 62-180, GO 0.7 MILES EASTERLY TO LEASE ROAD, ON LEASE ROAD GO SOUTH 0.3 MILES TO PROPOSED LOCATION.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 21723 J. SMALL Drawn By: 09-17-2009 Disk: JMS 21723

SECTION 34, TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 09-15-2009

Sheet

Sheets

200 200 400 FEET SCALE: 1" = 200"

CIMAREX ENERGY CO. OF COLORADO

THE MALLON "34" FEDERAL #19 LOCATED 2055" FROM THE SOUTH LINE AND 790' FROM THE EAST LINE OF

MALLON "34" FEDERAL #19 / WELL PAD TOPO