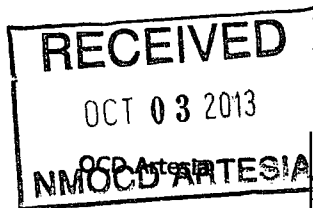


UNORTHODOX LOCATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



ATS-13-1061

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

TS
10/4/2013

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM096208	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Cimarex Energy Co. of Colorado		7. If Unit or CA Agreement, Name and No.	
3a. Address 600 N. Marienfeld St. Ste. 600 Midland Tx 79701		8. Lease Name and Well No. Taos Federal 5H	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-015-41720	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 310' FSL & 524' FWL At proposed prod. Zone 330' FNL & 500' FWL Horizontal Bone Spring test		10. Field and Pool, or Exploratory Cotton Draw, B.S. Wildcat Bone Spring	
14. Distance in miles and direction from nearest town or post office* Approximately 17 miles south of Carlsbad, NM		11. Sec., T. R. M. or Blk. and Survey or Area 31-24S-27E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 310'		12. County or Parish Eddy County	
16. No of acres in lease 624 acres		13. State NM	
17. Spacing Unit dedicated to this well 144 acres			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 100' to Taos #1		20. BLM/BIA Bond No. on File NM2575; NMB000835	
19. Proposed Depth 11,797' MD 7,362' TVD			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3355' GR		23. Estimated duration 35-40 days	
22. Approximate date work will start* 11.01.13			
24. Attachments			

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Paula Brunson</i>	Name (Printed/Typed) Paula Brunson	Date 07.23.13
---------------------------------------	---------------------------------------	------------------

Title

Regulatory Compliance	
Approved By (Signature) <i>TS/ James A. Amos</i>	Name (Printed/Typed) James A. Amos
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
Date SEP 30 2013	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL FOR TWO YEARS

Operator Certification Statement
Taos Federal 5H
Cimarex Energy Co. of Colorado
UL: M; Sec 31-24S-27E
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

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 this 23rd day of July, 2013

NAME: 
Paula Brunson

TITLE: Regulatory Compliance

ADDRESS: 600 N. Marienfeld St., Ste. 600
Midland, TX 79701

TELEPHONE: 432-571-7848

EMAIL: pbrunson@cimarex.com

Field Representative: Same as above

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised July 18, 2010

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015- 41720	Pool Code 13367	Pool Name COTTON DRAW BS Wildcat Bone Spring
Property Code 35352	Property Name TAOS FEDERAL	Well Number 5H
GRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3355'

Surface Location


UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Lot 4	31	24 S	27 E		310	SOUTH	524	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Lot 1	31	24 S	27 E		330	NORTH	500	WEST	EDDY

Dedicated Acres 144	Joint or Infill	Consolidation Code	Order No.
-------------------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>N: 429543.5 E: 570833.5 500' O.B.H.</p> <p>LOT 1</p>	<p>PROPOSED BOTTOM HOLE LOCATION Lat - N 32°10'47.89" Long - W 104°14'10.96" NMSPCE - N 429221.2 E 571333.4 (NAD-83)</p>	<p>N: 429622.0 E: 575977.7</p>	<p>OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location, or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Paula Brunson</i> 7/23/2013 Signature Date Paula Brunson Printed Name pbrunson@cimarex.com Email Address</p>
<p>N: 426895.9 E: 570833.9 4660.0' S.L.</p> <p>LOT 2</p>	<p>N: 426895.9 E: 570833.9 4660.0' S.L.</p> <p>LOT 3</p>		<p>SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date Surveyed Signature Professional Surveyor</p> <p></p> <p>Certificate No: Gary L. Jones 7977</p>
<p>N: 424249.4 E: 570831.7 524' S.L.</p> <p>LOT 4</p>	<p>SURFACE LOCATION Lat - N 32°10'01.79" Long - W 104°14'10.75" NMSPCE - N 424562.4 E 571355.7 (NAD-83)</p>	<p>N: 424278.5 E: 576001.6</p>	<p>BASIN SURVEYS 28477</p>

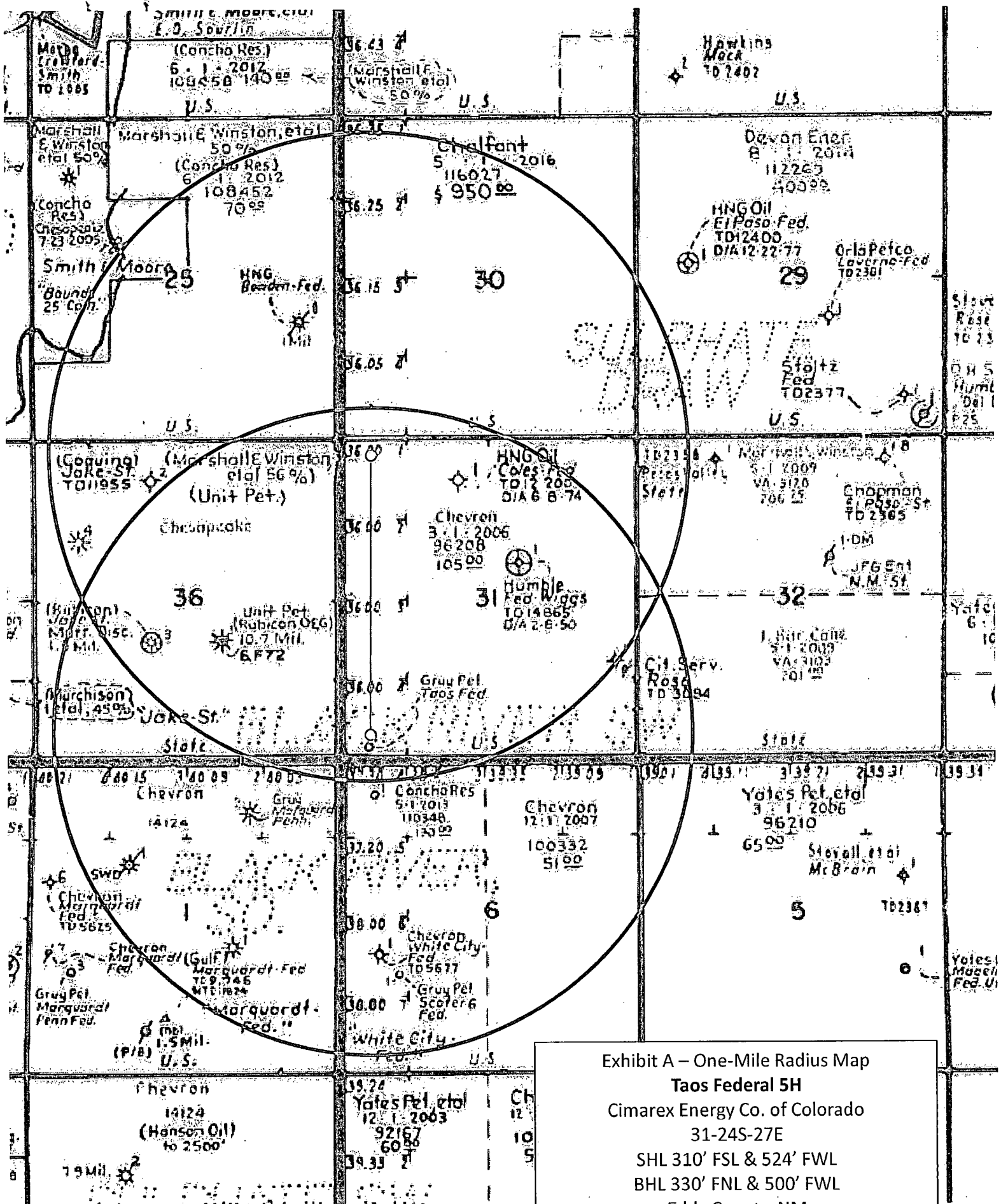
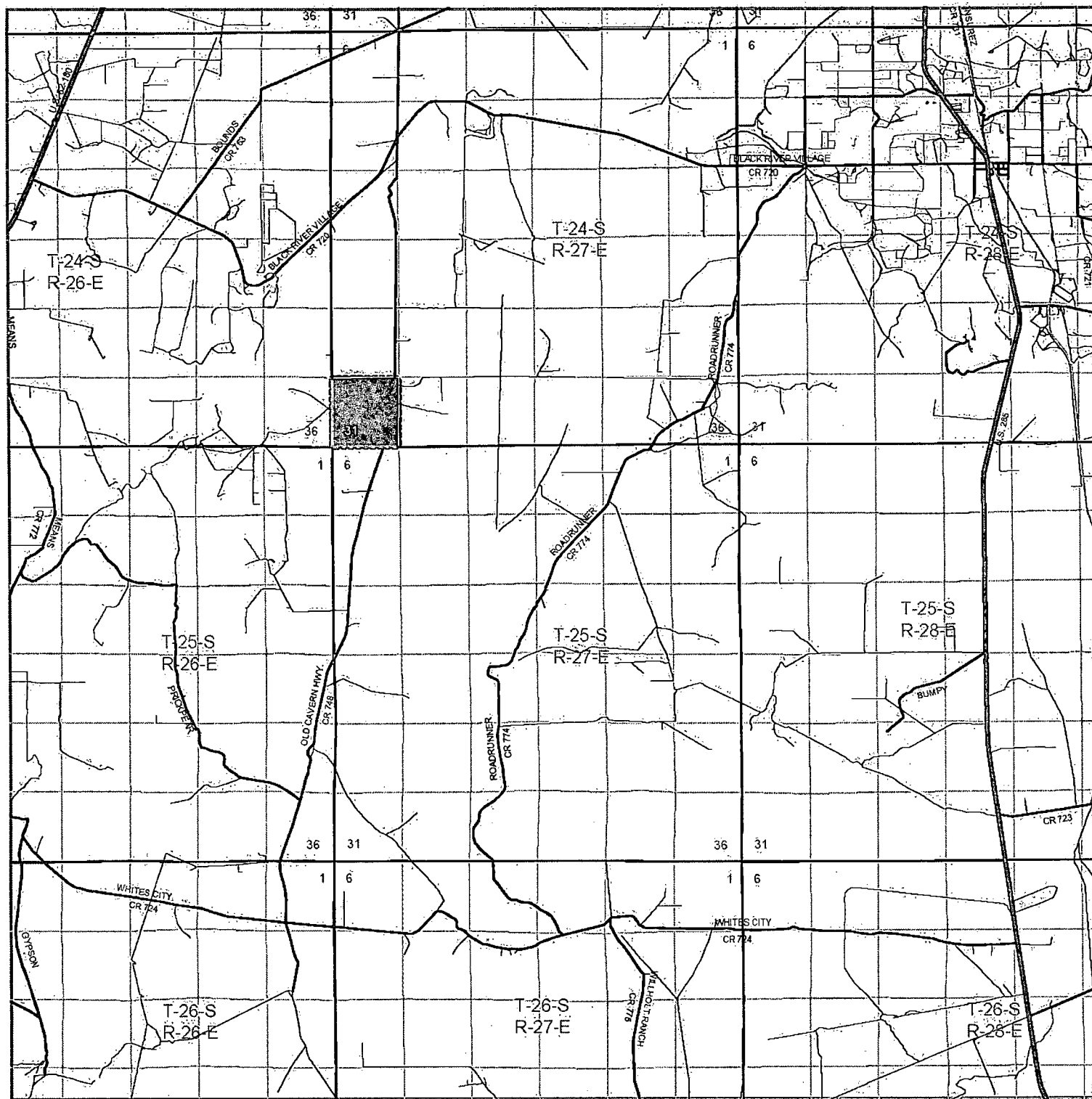


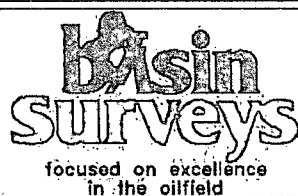
Exhibit A – One-Mile Radius Map
 Taos Federal 5H
 Cimarex Energy Co. of Colorado
 31-24S-27E
 SHL 310' FSL & 524' FWL
 BHL 330' FNL & 500' FWL
 Eddy County, NM



TAOS FEDERAL #5H

Located 310' FSL and 524' FWL

Section 31, Township 24 South, Range 27 East,
N.M.P.M., Eddy 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

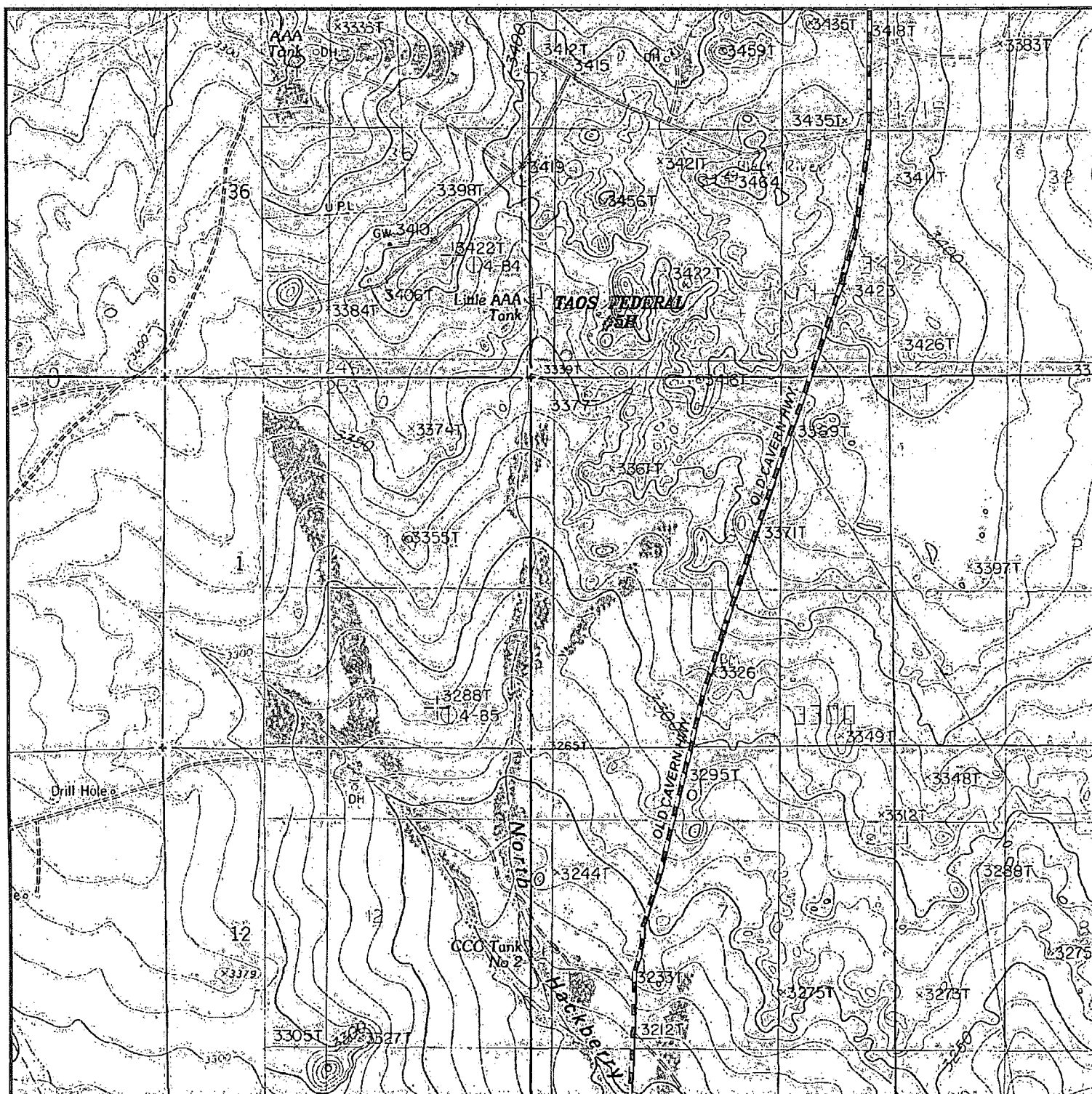
W.O. Number: JG 28587

Survey Date: 5-4-2013

Scale: 1" = 2 Miles

Date: 5-13-2013

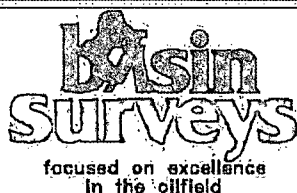
**CIMAREX
ENERGY CO.
OF COLORADO**



TAOS FEDERAL #5H

Located 310' FSL and 524' FWL

Section 31, Township 24 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
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W.O. Number: JG 28587

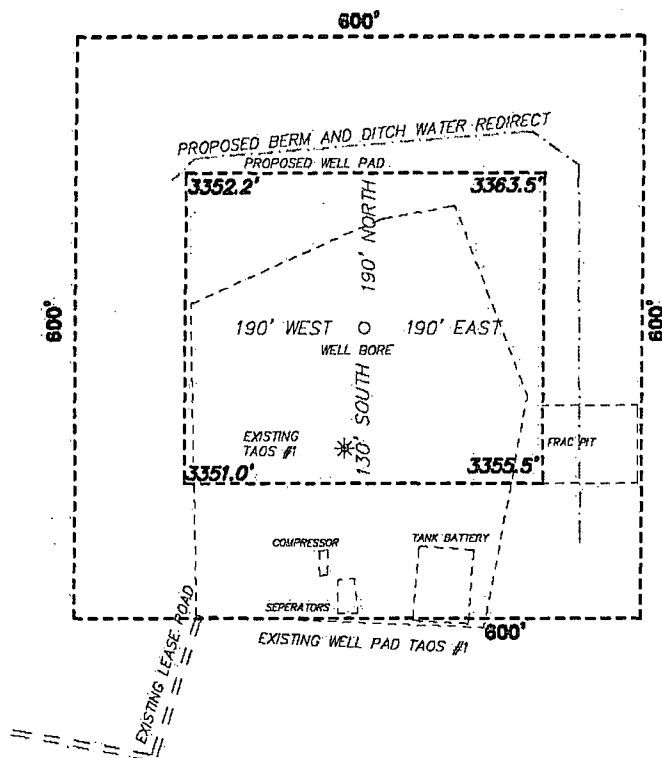
Survey Date: 5-4-2013

Scale: 1" = 2000'

Date: 5-13-2013

**CIMAREX
ENERGY CO.
OF COLORADO**

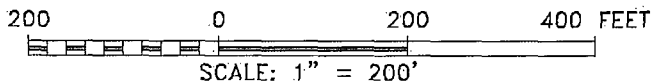
SECTION 31, TOWNSHIP 24 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



CIMAREX ENERGY CO. OF COLORADO
TAOS FEDERAL 5H
ELEV. - 3355'

Lat - N 32°10'01.79"
Long - W 104°14'10.75"
NMSPC - N 424562.4
E 571355.7
(NAD-83)

WHITE CITY, NM IS APPROXIMATELY 8.2 MILES WEST OF LOCATION.



Directions to Location:

FROM THE JUNCTION OF BLACK RIVER VILLAGE AND OLD CAVERN HWY, GO SOUTH ON OLD CAVERN HWY FOR 4.3 MILES TO LEASE ROAD, ON LEASE ROAD GO WEST 0.8 MILES TURNING NORTH 0.4 MILES TURNING NORTHEASTERLY 0.4 MILES TO PROPOSED WELL LOCATION.

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

W.O. Number: 28587 Drawn By: **J. GOAD**

Date: 5-13-2013 Disk: JG - 28587WELL

CIMAREX ENERGY CO. OF COLORADO

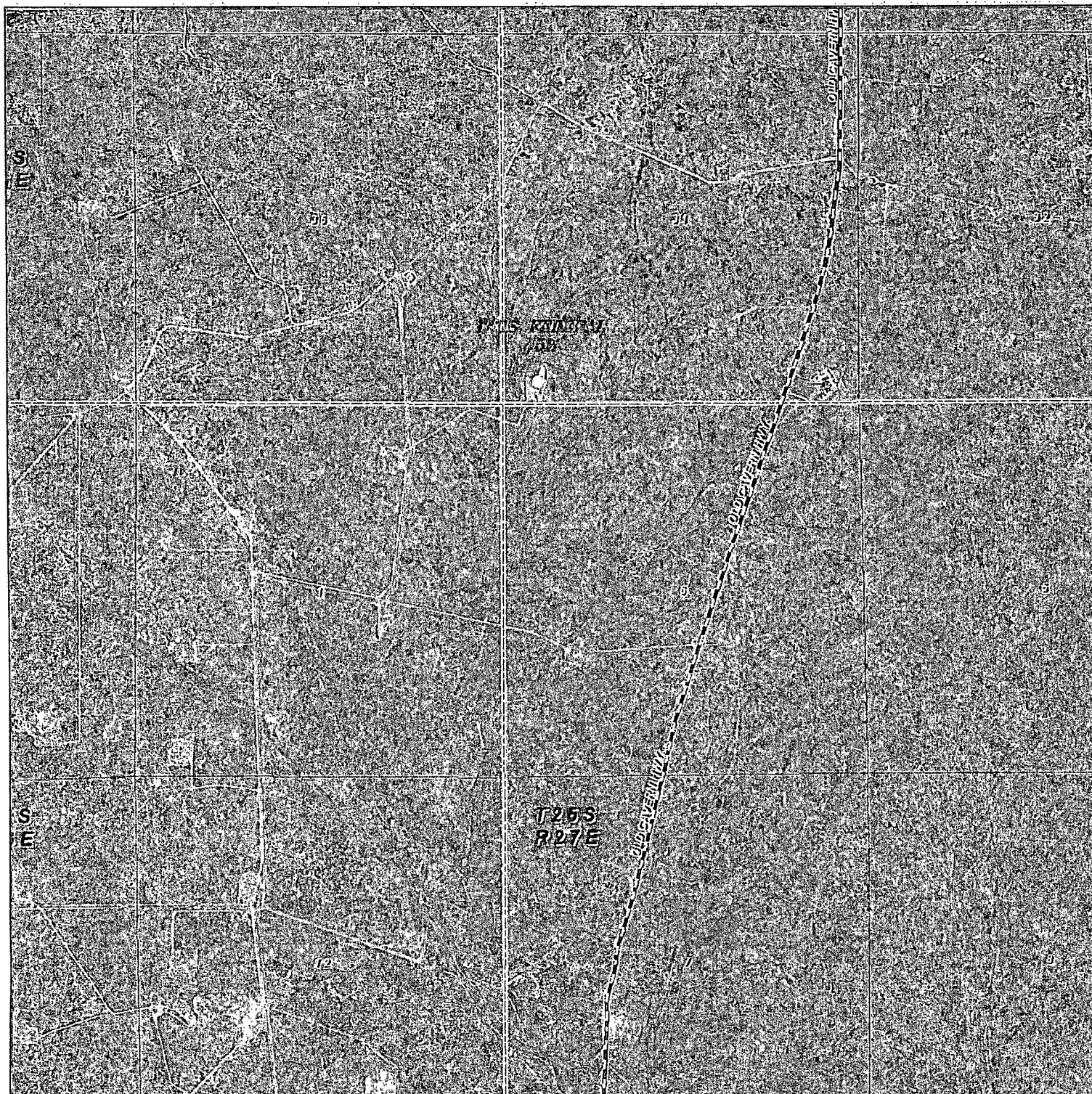
REF: TAOS FEDERAL #5H

THE TAOS FEDERAL #5H LOCATED 310'

FROM THE SOUTH LINE AND 524' FROM THE WEST LINE OF
SECTION 31, TOWNSHIP 24 SOUTH, RANGE 27 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

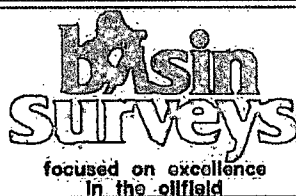
Survey Date: 5-4-2013 Sheet 1 of 1 Sheets



TAOS FEDERAL #5H

Located 310' FSL and 524' FWL

Section 31, Township 24 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.



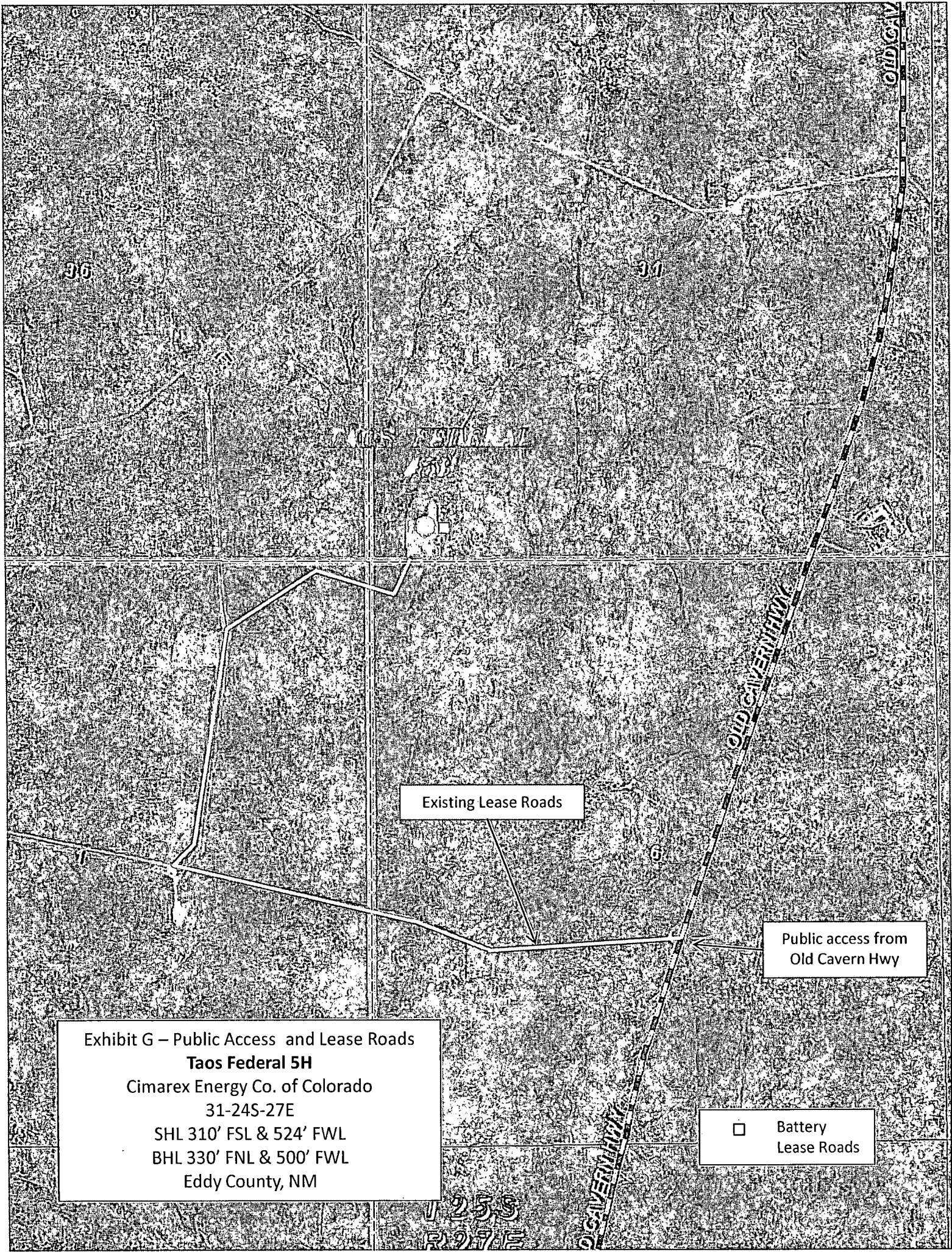
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: JG 28587

Scale: 1" = 2000'

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

CIMAREX
ENERGY CO.
OF COLORADO



Existing Lease Roads

Public access from
Old Cavern Hwy

Exhibit G – Public Access and Lease Roads
Taos Federal 5H
Cimarex Energy Co. of Colorado
31-24S-27E
SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
Eddy County, NM

□ Battery
Lease Roads

Application to Drill
Taos Federal 5H
Cimarex Energy Co. of Colorado
UL: M; Sec 31-24S-27E
Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 Location: SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
- 2 Elevation above sea level: 3355' GR
- 3 Geologic name of surface formation: Quaternary Alluvium Deposits
- 4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
- 5 Proposed drilling depth: 11,797' MD 7,362' TVD
- 6 Estimated tops of geological markers:

Formation	Est. Top	Bearing
Rustler	NA	NA
Top of Salt	1255	NA
Base of Salt	1926	NA
Delaware	2098	Hydrocarbons
Cherry Canyon	3111	NA
Brushy Canyon	4071	NA
Brushy Canyon Lower	5277.25	NA
Bone Spring	5614.39	NA
Bone Spring "A" Shale	5720.93	Hydrocarbons
Bone Spring "C" Shale	6016.54	NA
1st Bone Spring Ss	6560.76	NA
2nd Bone Spring Ss	7061.45	NA
2nd BS Ss Horz Target	7342.06	Hydrocarbons
3rd BS Limestone	7405.09	NA

- 7 Possible mineral bearing formation:

Shown above

7A OSE Ground Water estimated depth: 20'

- 8 Casing Program:

Casing Depth From (ft)	Casing Setting Depth(ft) MD	Casing Setting Depth(ft) TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Conditon	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF (1.125)	Burst SF (1.125)	Cumulative Air Weight (lbs)	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface															
0'	450'	450'	17 1/2	13 3/8	48	H-40	ST&C	New	203	8.4	3.76	8.54	21,600	18,830	17.10
Intermediate															
0'	2078'	2078'	12 1/4	9 5/8	36	J-55	LT&C	New	935	10.2	1.83	3.76	74,808	63,159	8.93
Production															
0'	6865'	6865'	8 3/4	5 1/2	17	N-80	LT&C	New	1,693	9.2	1.92	4.57	125,154	107,575	3.23
6865'	11797'	7362'	8 3/4	5 1/2	17	N-80	BT&C	New	3,313	9.2	1.79	2.34	8,449	7,262	54.67

Casing Design Criteria and Casing Loading Assumptions:

Surface

Tension A 1.8 design factor with effects of buoyancy. 8.4 ppg

Collapse A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.4 ppg mud gradient

Burst A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Intermediate

Tension A 1.8 design factor with effects of buoyancy. 10.2 ppg

Collapse A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.2 ppg mud gradient

Burst A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Production

Tension A 1.8 design factor with effects of buoyancy. 9.2 ppg

Collapse A 1.125 design factor with full internal evacuation and a collapse force equal to a 9.2 ppg mud gradient

Burst A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Drilling Plan
Taos Federal 5H
Cimarex Energy Co. of Colorado
UL: M; Sec 31-24S-27E
Eddy County, NM

9 Cementing Program:

Surface	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	----	----	----	----	----
Tail	400	1.34	14.8	536	Class C + LCM
TOC: 0' 70% Excess Centralizers per Onshore Order 2.III.B.1f					

Intermediate	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	460	1.88	12.9	861	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	140	1.34	14.8	187	Class C + retarder + LCM
TOC: 0' 78% Excess					

Production	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	608	2.4	11.9	1459	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1400	1.24	14.5	1736	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 1578' 25% Excess No centralizers planned in the lateral section. 1 every jt from EOC to KOP. 1 every 4th joint from KOP to 500' inside previous casing.

9a Lateral KO Drilling Plan:

Pilot Hole TD: No Pilot Hole KOP: 6865' EOC: 7612'

Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

10 Pressure Control Equipment:

Exhibit "E-1". A 13 3/4" 5000 PSI working pressure BOP, tested to 3000 psi on the surface casing and 5000 psi on the intermediate, consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be installed and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high on the surface casing and 250 psi low and 5000 psi high on the intermediate. Hydril will be tested to 250 psi low and 2500 psi high on the surface and intermediate casings.

See COP

Cimarex Energy Co. of Colorado requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

Application to Drill
Taos Federal 5H
Cimarex Energy Co. of Colorado
UL: M; Sec 31-24S-27E
Eddy County, NM

11 Proposed Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	450'	8.4	28	NC	FW Spud Mud
450'	to	2078'	10.2	30-32	NC	Brine water
2078'	to	11797'	9.2	30-32	NC	FW/Cut Brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

12 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 2078' to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / GR -- Inter. Csg to TD
CNL / GR -- Surf to Inter. Csg
- C. No DSTs or cores are planned at this time.
- D. CBL w/ CCL from as far as gravity will let it fall to TOC

13 Potential Hazards:

See COA
No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **3313 psi** Estimated BHT **140°**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take : **35-40 days**

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from TD over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

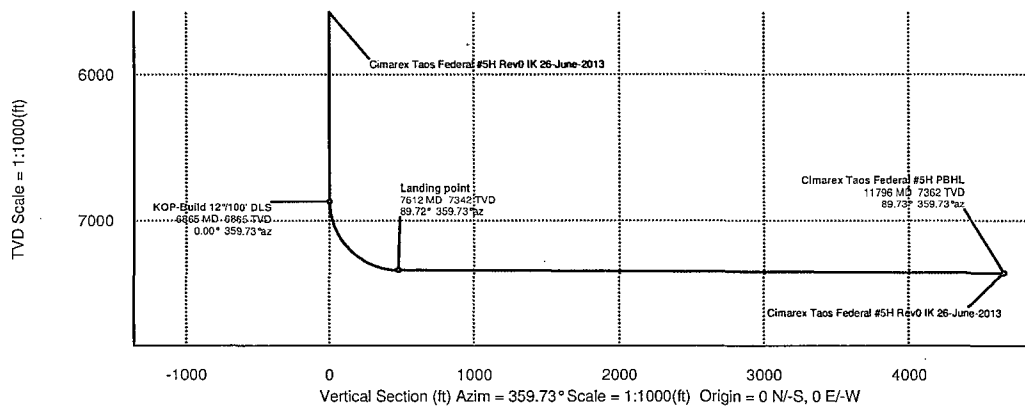
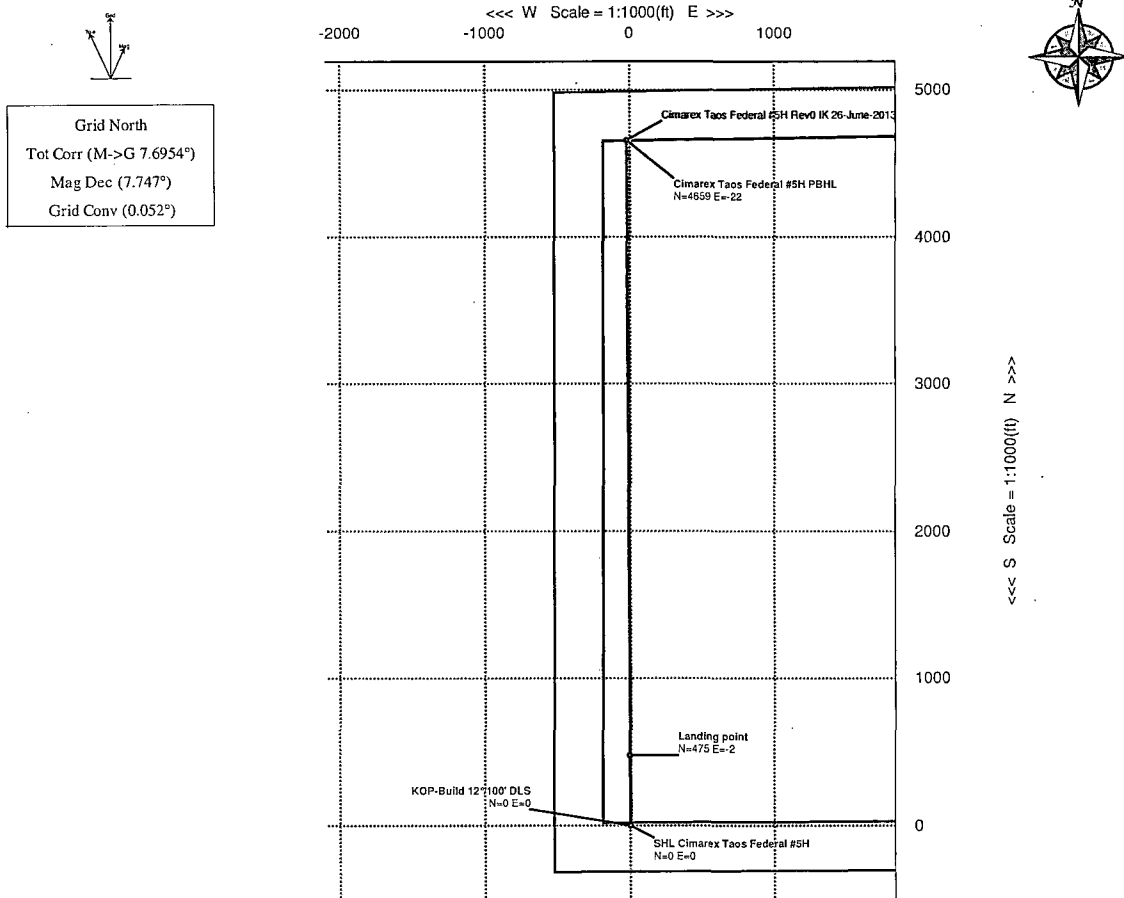
The proposed well will be tested and potentialized as **Oil**



Cimarex

PATHFINDER
A Schlumberger Company

WELL				Taos Federal #5H				FIELD				NM Eddy County				STRUCTURE				TBD							
Magnetic Parameters								Surface Location								Miscellaneous											
Model: BGM 2013				Clp: 59.931°				Date: June 26, 2013				Lat: N 32 10 1.797"				NAVD83 New Mexico State Plane, Easton Zone, US Feet				Size: 424562.40 NUS				Plan: Taos Federal #5H			
Mag Dec: 7.747°				PS: 46398.507				North: W 104 14 10.723"				Easting: 517355.70 RUB				Grid Conv: 0.322°				Scale Factor: 0.99991012				TVD Ref: Ground Level (3355R above)			
																Srvy Date: June 26, 2013											



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL Cimarex Taos Federal #5H	0.00	0.00	359.73	0.00	0.00	0.00	0.00	
KOP-Build 12°/100' DLS	6864.54	0.00	359.73	6864.54	0.00	0.00	0.00	0.00
Landing point	7612.25	89.73	359.73	7342.00	475.17	475.17	-2.28	12.00
Cimarex Taos Federal #5H PBHL	11796.40	89.73	359.73	7362.00	4659.28	4659.23	-22.30	0.00



Cimarex Taos Federal #5H Rev0 IK 26-June-2013 Proposal Report 100'

Interpolated (Non-Def Plan)



A Schlumberger Company

Report Date: June 26, 2013 - 09:44 AM
 Client: Cimarex
 Field: NM Eddy County (NAD 83)
 Structure / Slot: TBD / Cimarex Taos Federal #5H
 Well: Cimarex Taos Federal #5H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Taos Federal #5H Rev0 IK 26-June-2013
 Survey Date: June 26, 2013
 Tort / AHD / DDI / ERD Ratio: 89.728 ° / 4659.281 ft / 5.826 / 0.633
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 10' 1.78654", W 104° 14' 10.75308"
 Location Grid N/E Y/X: N 424562.400 ftUS, E 571355.700 ftUS
 CRS Grid Convergence Angle: 0.0516 °
 Grid Scale Factor: 0.99991012

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 359.726 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: Ground Level
 TVD Reference Elevation: 3355.000 ft above
 Seabed / Ground Elevation: 3355.000 ft above
 Magnetic Declination: 7.747 °
 Total Gravity Field Strength: 998.4872mgn (9.80665 Based)
 Total Magnetic Field Strength: 48288.303 nT
 Magnetic Dip Angle: 59.953 °
 Declination Date: June 26, 2013
 Magnetic Declination Model: BGGM 2013
 North Reference: Grid North
 Grid Convergence Used: 0.0516 °
 Total Corr Mag North->Grid North: 7.6954 °
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
SHL Cimarex Taos Federal #5H	0.00	0.00	359.73	0.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	N/A
	100.00	0.00	359.73	100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	200.00	0.00	359.73	200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	300.00	0.00	359.73	300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	400.00	0.00	359.73	400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	500.00	0.00	359.73	500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	600.00	0.00	359.73	600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	700.00	0.00	359.73	700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	800.00	0.00	359.73	800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	900.00	0.00	359.73	900.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1000.00	0.00	359.73	1000.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1100.00	0.00	359.73	1100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1200.00	0.00	359.73	1200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1300.00	0.00	359.73	1300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1400.00	0.00	359.73	1400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1500.00	0.00	359.73	1500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1600.00	0.00	359.73	1600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1700.00	0.00	359.73	1700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1800.00	0.00	359.73	1800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	1900.00	0.00	359.73	1900.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2000.00	0.00	359.73	2000.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2100.00	0.00	359.73	2100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2200.00	0.00	359.73	2200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2300.00	0.00	359.73	2300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2400.00	0.00	359.73	2400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2500.00	0.00	359.73	2500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2600.00	0.00	359.73	2600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2700.00	0.00	359.73	2700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2800.00	0.00	359.73	2800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	2900.00	0.00	359.73	2900.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	3000.00	0.00	359.73	3000.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3100.00	0.00	359.73	3100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3200.00	0.00	359.73	3200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3300.00	0.00	359.73	3300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3400.00	0.00	359.73	3400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3500.00	0.00	359.73	3500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3600.00	0.00	359.73	3600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3700.00	0.00	359.73	3700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3800.00	0.00	359.73	3800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	3900.00	0.00	359.73	3900.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4000.00	0.00	359.73	4000.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4100.00	0.00	359.73	4100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4200.00	0.00	359.73	4200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4300.00	0.00	359.73	4300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4400.00	0.00	359.73	4400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4500.00	0.00	359.73	4500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4600.00	0.00	359.73	4600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4700.00	0.00	359.73	4700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4800.00	0.00	359.73	4800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	4900.00	0.00	359.73	4900.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5000.00	0.00	359.73	5000.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5100.00	0.00	359.73	5100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5200.00	0.00	359.73	5200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5300.00	0.00	359.73	5300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5400.00	0.00	359.73	5400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5500.00	0.00	359.73	5500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5600.00	0.00	359.73	5600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5700.00	0.00	359.73	5700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5800.00	0.00	359.73	5800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	5900.00	0.00	359.73	5900.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6000.00	0.00	359.73	6000.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6100.00	0.00	359.73	6100.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6200.00	0.00	359.73	6200.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6300.00	0.00	359.73	6300.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6400.00	0.00	359.73	6400.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6500.00	0.00	359.73	6500.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6600.00	0.00	359.73	6600.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6700.00	0.00	359.73	6700.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6800.00	0.00	359.73	6800.00	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
KOP-Build 12"/100' DLS	6864.54	0.00	359.73	6864.54	0.00	0.00	0.00	424562.40	571355.70	N 32 10 1.79	W 104 14 10.75	0.00	0.00	0.00
	6900.00	4.26	359.73	6899.97	1.32	1.32	-0.01	424563.72	571355.69	N 32 10 1.80	W 104 14 10.75	1.32	359.73	12.00
	7000.00	16.26	359.73	6998.19	19.09	19.09	-0.09	424581.48	571355.61	N 32 10 1.98	W 104 14 10.75	19.09	359.73	12.00
	7100.00	28.26	359.73	7090.57	56.89	56.89	-0.27	424619.29	571355.43	N 32 10 2.35	W 104 14 10.76	56.89	359.73	12.00
	7200.00	40.26	359.73	7173.07	113.08	113.07	-0.54	424675.46	571355.16	N 32 10 2.91	W 104 14 10.76	113.08	359.73	12.00
	7300.00	52.26	359.73	7242.09	185.19	185.18	-0.89	424747.57	571354.81	N 32 10 3.62	W 104 14 10.76	185.19	359.73	12.00
	7400.00	64.26	359.73	7294.61	270.07	270.07	-1.30	424832.44	571354.40	N 32 10 4.46	W 104 14 10.77	270.07	359.73	12.00
	7500.00	76.26	359.73	7328.33	364.02	364.02	-1.75	424926.38	571353.95	N 32 10 5.39	W 104 14 10.77	364.02	359.73	12.00
	7600.00	88.26	359.73	7341.78	462.93	462.92	-2.22	425025.28	571353.48	N 32 10 6.37	W 104 14 10.77	462.93	359.73	12.00
Landing point	7612.25	89.73	359.73	7342.00	475.17	475.17	-2.28	425037.52	571353.42	N 32 10 6.49	W 104 14 10.77	475.17	359.73	12.00
	7700.00	89.73	359.73	7342.42	562.92	562.92	-2.70	425125.27	571353.00	N 32 10 7.36	W 104 14 10.78	562.92	359.73	0.00
	7800.00	89.73	359.73	7342.90	662.92	662.92	-3.18	425225.25	571352.52	N 32 10 8.35	W 104 14 10.78	662.92	359.73	0.00
	7900.00	89.73	359.73	7343.38	762.92	762.91	-3.66	425325.24	571352.04	N 32 10 9.34	W 104 14 10.79	762.92	359.73	0.00
	8000.00	89.73	359.73	7343.86	862.92	862.91	-4.14	425425.23	571351.56	N 32 10 10.33	W 104 14 10.79	862.92	359.73	0.00
	8100.00	89.73	359.73	7344.34	962.92	962.91	-4.62	425525.22	571351.08	N 32 10 11.31	W 104 14 10.80	962.92	359.73	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	8200.00	89.73	359.73	7344.82	1062.92	1062.91	-5.10	425625.21	571350.60	N 32 10 12.30	W 104 14 10.80	1062.92	359.73	0.00
	8300.00	89.73	359.73	7345.30	1162.92	1162.90	-5.58	425725.20	571350.12	N 32 10 13.29	W 104 14 10.81	1162.92	359.73	0.00
	8400.00	89.73	359.73	7345.78	1262.92	1262.90	-6.06	425825.19	571349.64	N 32 10 14.28	W 104 14 10.81	1262.92	359.73	0.00
	8500.00	89.73	359.73	7346.26	1362.91	1362.90	-6.54	425925.17	571349.16	N 32 10 15.27	W 104 14 10.81	1362.91	359.73	0.00
	8600.00	89.73	359.73	7346.74	1462.91	1462.90	-7.02	426025.16	571348.68	N 32 10 16.26	W 104 14 10.82	1462.91	359.73	0.00
	8700.00	89.73	359.73	7347.21	1562.91	1562.89	-7.50	426125.15	571348.20	N 32 10 17.25	W 104 14 10.82	1562.91	359.73	0.00
	8800.00	89.73	359.73	7347.69	1662.91	1662.89	-7.98	426225.14	571347.72	N 32 10 18.24	W 104 14 10.83	1662.91	359.73	0.00
	8900.00	89.73	359.73	7348.17	1762.91	1762.89	-8.46	426325.13	571347.25	N 32 10 19.23	W 104 14 10.83	1762.91	359.73	0.00
	9000.00	89.73	359.73	7348.65	1862.91	1862.89	-8.93	426425.12	571346.77	N 32 10 20.22	W 104 14 10.84	1862.91	359.73	0.00
	9100.00	89.73	359.73	7349.13	1962.91	1962.89	-9.41	426525.10	571346.29	N 32 10 21.21	W 104 14 10.84	1962.91	359.73	0.00
	9200.00	89.73	359.73	7349.61	2062.91	2062.88	-9.89	426625.09	571345.81	N 32 10 22.20	W 104 14 10.85	2062.91	359.73	0.00
	9300.00	89.73	359.73	7350.09	2162.91	2162.88	-10.37	426725.08	571345.33	N 32 10 23.19	W 104 14 10.85	2162.91	359.73	0.00
	9400.00	89.73	359.73	7350.56	2262.90	2262.88	-10.85	426825.07	571344.85	N 32 10 24.18	W 104 14 10.86	2262.90	359.73	0.00
	9500.00	89.73	359.73	7351.04	2362.90	2362.88	-11.33	426925.06	571344.37	N 32 10 25.17	W 104 14 10.86	2362.90	359.73	0.00
	9600.00	89.73	359.73	7351.52	2462.90	2462.87	-11.81	427025.05	571343.89	N 32 10 26.16	W 104 14 10.86	2462.90	359.73	0.00
	9700.00	89.73	359.73	7352.00	2562.90	2562.87	-12.29	427125.04	571343.42	N 32 10 27.15	W 104 14 10.87	2562.90	359.73	0.00
	9800.00	89.73	359.73	7352.48	2662.90	2662.87	-12.76	427225.02	571342.94	N 32 10 28.14	W 104 14 10.87	2662.90	359.73	0.00
	9900.00	89.73	359.73	7352.96	2762.90	2762.87	-13.24	427325.01	571342.46	N 32 10 29.13	W 104 14 10.88	2762.90	359.73	0.00
	10000.00	89.73	359.73	7353.43	2862.90	2862.86	-13.72	427425.00	571341.98	N 32 10 30.12	W 104 14 10.88	2862.90	359.73	0.00
	10100.00	89.73	359.73	7353.91	2962.90	2962.86	-14.20	427524.99	571341.50	N 32 10 31.10	W 104 14 10.89	2962.90	359.73	0.00
	10200.00	89.73	359.73	7354.39	3062.90	3062.86	-14.68	427624.98	571341.02	N 32 10 32.09	W 104 14 10.89	3062.90	359.73	0.00
	10300.00	89.73	359.73	7354.87	3162.89	3162.86	-15.16	427724.97	571340.55	N 32 10 33.08	W 104 14 10.90	3162.89	359.73	0.00
	10400.00	89.73	359.73	7355.34	3262.89	3262.86	-15.63	427824.96	571340.07	N 32 10 34.07	W 104 14 10.90	3262.89	359.73	0.00
	10500.00	89.73	359.73	7355.82	3362.89	3362.85	-16.11	427924.94	571339.59	N 32 10 35.06	W 104 14 10.91	3362.89	359.73	0.00
	10600.00	89.73	359.73	7356.30	3462.89	3462.85	-16.59	428024.93	571339.11	N 32 10 36.05	W 104 14 10.91	3462.89	359.73	0.00
	10700.00	89.73	359.73	7356.77	3562.89	3562.85	-17.07	428124.92	571338.63	N 32 10 37.04	W 104 14 10.91	3562.89	359.73	0.00
	10800.00	89.73	359.73	7357.25	3662.89	3662.85	-17.55	428224.91	571338.16	N 32 10 38.03	W 104 14 10.92	3662.89	359.73	0.00
	10900.00	89.73	359.73	7357.73	3762.89	3762.84	-18.02	428324.90	571337.68	N 32 10 39.02	W 104 14 10.92	3762.89	359.73	0.00
	11000.00	89.73	359.73	7358.21	3862.89	3862.84	-18.50	428424.89	571337.20	N 32 10 40.01	W 104 14 10.93	3862.89	359.73	0.00
	11100.00	89.73	359.73	7358.68	3962.88	3962.84	-18.98	428524.88	571336.72	N 32 10 41.00	W 104 14 10.93	3962.88	359.73	0.00
	11200.00	89.73	359.73	7359.16	4062.88	4062.84	-19.46	428624.86	571336.25	N 32 10 41.99	W 104 14 10.94	4062.88	359.73	0.00
	11300.00	89.73	359.73	7359.64	4162.88	4162.83	-19.93	428724.85	571335.77	N 32 10 42.98	W 104 14 10.94	4162.88	359.73	0.00
	11400.00	89.73	359.73	7360.11	4262.88	4262.83	-20.41	428824.84	571335.29	N 32 10 43.97	W 104 14 10.95	4262.88	359.73	0.00
	11500.00	89.73	359.73	7360.59	4362.88	4362.83	-20.89	428924.83	571334.81	N 32 10 44.96	W 104 14 10.95	4362.88	359.73	0.00
	11600.00	89.73	359.73	7361.06	4462.88	4462.83	-21.36	429024.82	571334.34	N 32 10 45.95	W 104 14 10.95	4462.88	359.73	0.00
	11700.00	89.73	359.73	7361.54	4562.88	4562.83	-21.84	429124.81	571333.86	N 32 10 46.94	W 104 14 10.96	4562.88	359.73	0.00
Cimarex Taos Federal #5H PBHL	11796.40	89.73	359.73	7362.00	4659.28	4659.23	-22.30	429221.20	571333.40	N 32 10 47.89	W 104 14 10.96	4659.28	359.73	0.00

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	11796.404	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Taos Federal #5H Rev0 IK 26-June-

Drilling 12-1/4" hole
below 13 3/8" Casing

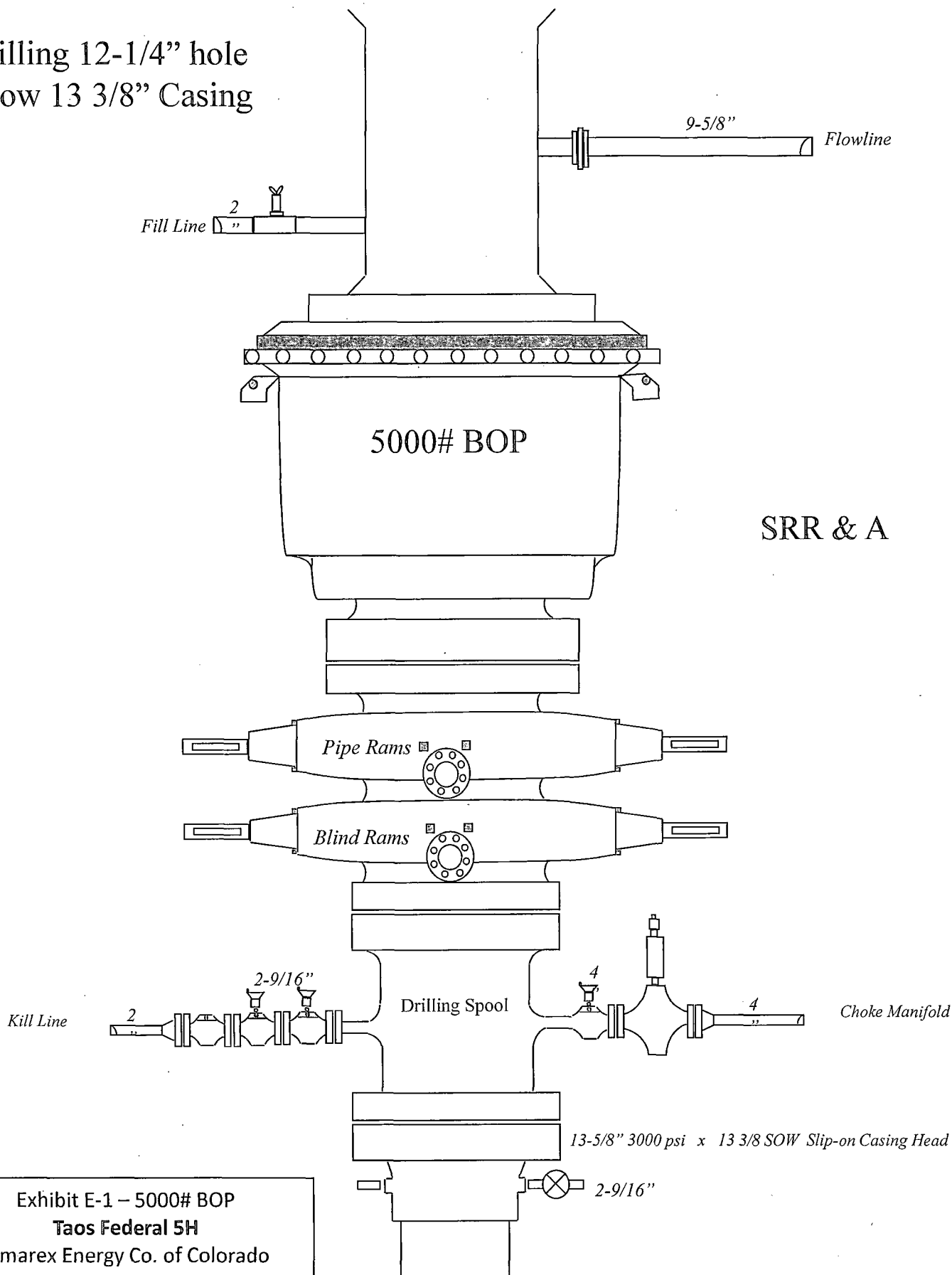


Exhibit E-1 – 5000# BOP
Taos Federal 5H
Cimarex Energy Co. of Colorado
31-24S-27E
SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
Eddy County, NM

4" hole Casing

2" Fill Line

9-5/8" Flowline

5000# BOP

SRR & A

Pipe Rams

Blind Rams

Drilling Spool

Wellhead Assembly

Choke Manifold

13-5/8" 3000 psi x 11" 5000 psi

13-5/8" 3000# psi x 13-3/8" SOW Slip-on Casing Head

2" 2-9/16" 4" 4"

5000# BOP
Federal 5H
Co. of Colorado
4S-27E
L & 524' FWL
11.8-500' FWL

Exhibit E-1 – 5000# BOP
Taos Federal 5H
 Cimarex Energy Co. of Colorado
 31-24S-27E
 SHL 310' FSL & 524' FWL
 BHL 330' FNL & 500' FWL
 Eddy County, NM

Drilling Operations Choke Manifold 5M Service

Exhibit E-1 – Choke Manifold Diagram

Taos Federal 5H

Cimarex Energy Co. of Colorado

31-24S-27E

SHL 310' FSL & 524' FWL

BHL 330' FNL & 500' FWL

Eddy County, NM

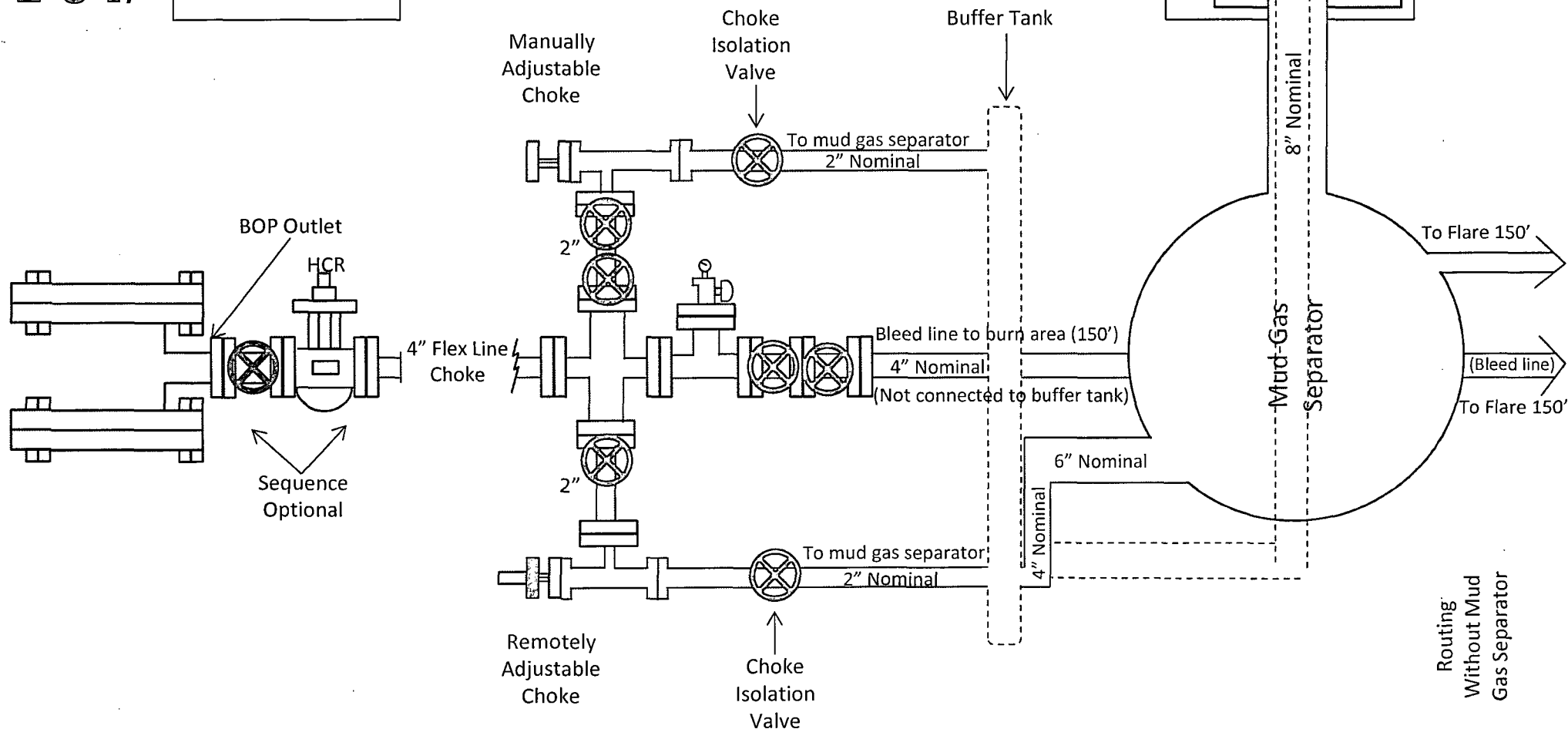


Exhibit F – Co-Flex Hose
Taos Federal 5H
Cimarex Energy Co. of Colorado
31-24S-27E
SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
Eddy County, NM

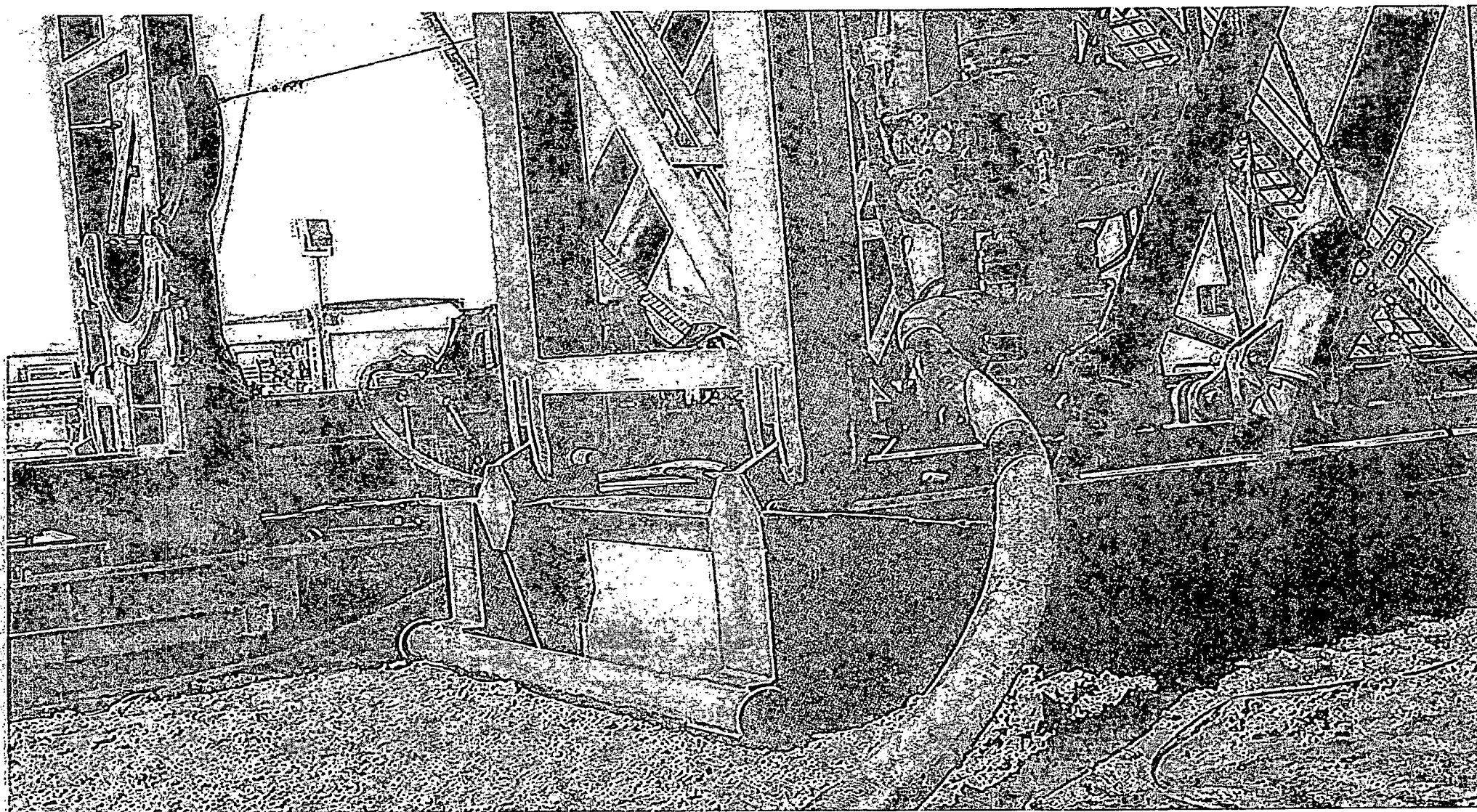


Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Taos Federal 5H
 Cimarex Energy Co. of Colorado
 31-24S-27E

SHL 310' FSL & 524' FWL
 BHL 330' FNL & 500' FWL
 Eddy County, NM



**Midwest Hose
& Specialty, Inc.**

INTERNAL HYDROSTATIC TEST REPORT

Customer: Oderco Inc.		P.O. Number: odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI		BURST PRESSURE 0 PSI
COUPLINGS			
Stem Part No. OKC OKC		Ferrule No. OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date: 3/8/2011	Tested: <i>A. Jaime Sauer</i>		Approved: <i>[Signature]</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

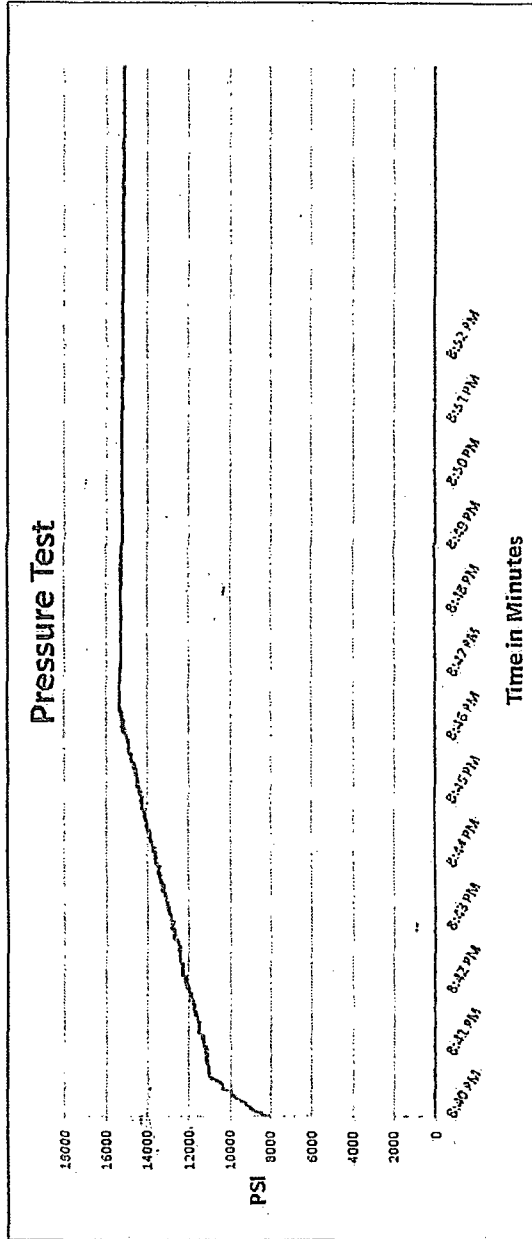
Hose Specifications

Hose Type: C.S.H.
I.D.: 4"
Working Pressure: 10000 PSI
Length: 45'
O.D.: 6.09"
Burst Pressure: Standard Safety Multiplier Applies

Verification

Type of Fittings: 41/16 10K
Die Size: 6.38"
Hose Serial #: 5544
Coupling Method: Swage
Final O.D.: 6.25"
Hose Assembly Serial #: 79793

Pressure Test



Test Pressure: 15000 PSI
Time Held at Test Pressure: 11 Minutes
Actual Burst Pressure: 15463 PSI
Peak Pressure: 15463 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Zac McConnell

Approved By: Kim Thomas

March 3, 2011

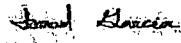
Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Taos Federal 5H
Cimarex Energy Co. of Colorado
31-24S-27E
SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
Eddy County, NM

Exhibit F-2 – Co-Flex Hose
Taos Federal 5H
Cimarex Energy Co. of Colorado
31-24S-27E
SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
Eddy County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	3/8/2011	
<p>We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards</p> <p>Supplier: Midwest Hose & Specialty, Inc. 10640 Tanner Road Houston, Texas 77041</p>		
Comments:		
Approved:		Date:
		3/8/2011



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Taos Federal 5H
Cimarex Energy Co. of Colorado
31-24S-27E
SHL 310' FSL & 524' FWL
BHL 330' FNL & 500' FWL
Eddy County, NM

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.

30-015-

5. Indicate Type of Lease

STATE ☐

FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name
Taos Federal

8. Well Number

5H

9. OGRID Number

162683

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator

Cimarex Energy Co. of Colorado

3. Address of Operator

600 N. Marienfeld Street, Suite 600; Midland, TX 79701

10. Pool name or Wildcat

Wildcat Bone Spring

4. Well Location

Unit Letter M : 310 feet from the South line and 524 feet from the West line
Section 31 Township 24S Range 27E NMPM EDDY County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3355' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: Drilled with Closed Loop System ☒

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

During this procedure we plan to use the Closed Loop Pit.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Paula Brunson TITLE Regulatory Compliance DATE 07/24/2013

Type or print name Paula Brunson E-mail address: pbrunson@cimarex.com PHONE: 432-571-7848

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Ditch and Berm Water Redirect

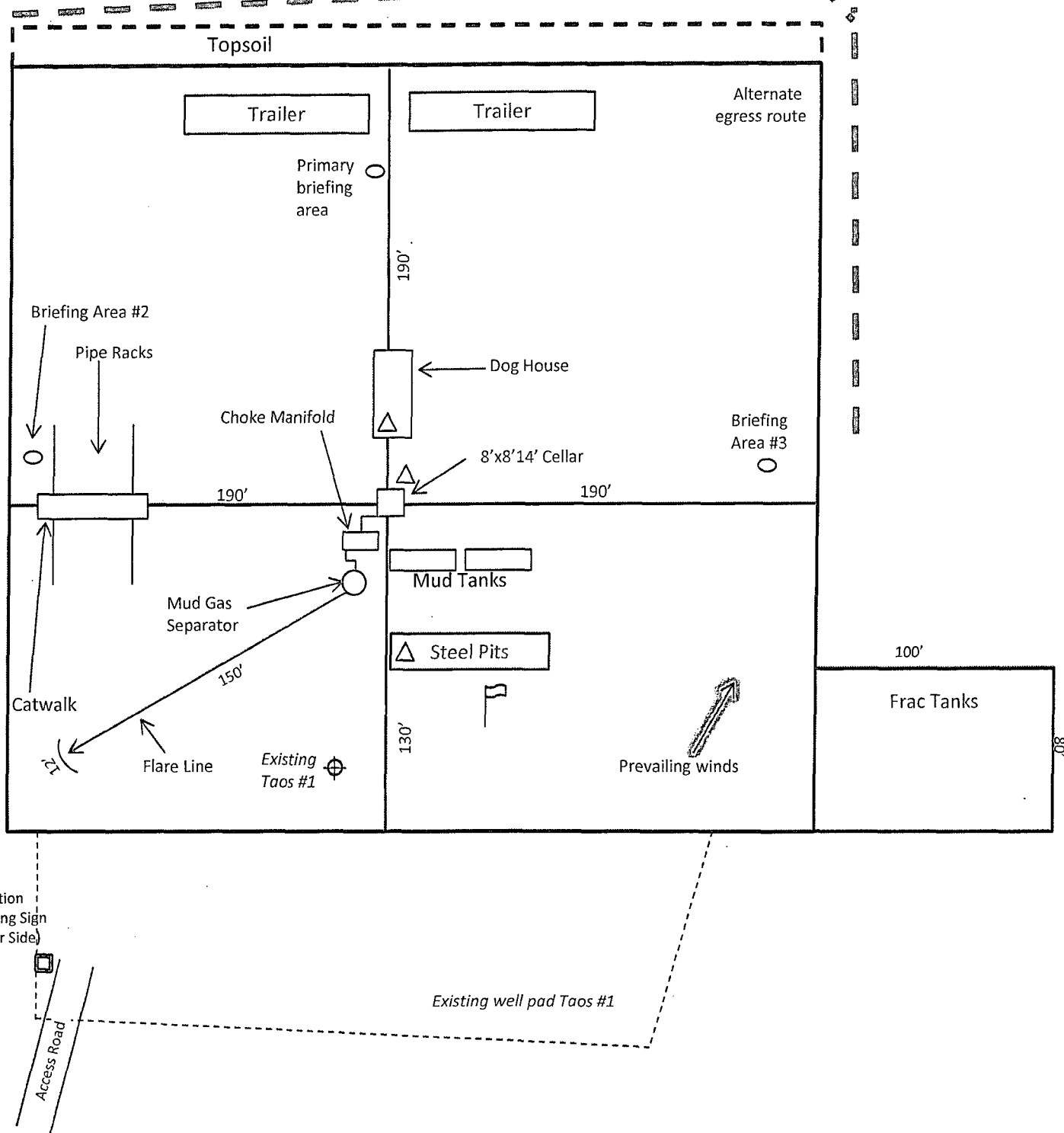


Exhibit D – Rig Diagram
Taos Federal 5H
 Cimarex Energy Co. of Colorado
 31-24S-27E
 SHL 310' FSL & 524' FWL
 BHL 330' FNL & 500' FWL
 Eddy County, NM



Wind Direction Indicators
 (wind sock or streamers)

• H2S Monitors
 (alarms at bell nipple and shale shaker)

Briefing Areas

- 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. Principal and operation of H₂S detectors, warning system and briefing areas.
 - D. Evacuation procedure, routes and first aid.
 - E. Proper use of safety equipment & life support systems
 - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.
- 2 H₂S Detection and Alarm Systems:
 - A: H₂S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H₂S detectors may be placed as deemed necessary.
 - B.
An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
 - A. Windsock at mudpit area should be high enough to be visible.
 - B.
Windsock on the rig floor and / or top doghouse 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 H₂S trained and certified personnel admitted to location.
- 5 Well control equipment:
 - A. See exhibit "E-1"
- 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 separator will be brought into service along with H₂S scavengers if necessary.

H₂S Contingency Plan
Taos Federal 5H
Cimarex Energy Co. of Colorado
UL: M; Sec 31-24S-27E
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 (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.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	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

Taos Federal 5H

Cimarex Energy Co. of Colorado

UL: M; Sec 31-24S-27E

Eddy County, NM

Company Office

Cimarex Energy Co. of Colorado	800-969-4789
Co. Office and After-Hours Menu	

Key Personnel

Name	Title	Office	Mobile
Larry Seigrist	Drilling Manager	432-620-1934	580-243-8485
Doug McQuitty	Drilling Superintendent	432-620-1933	806-640-2605
Scott Lucas	Drilling Superintendent	432-620-1989	432-894-5572
Conner Cromeens	Construction Foreman		432-270-0313
Roy Shirley	Construction Superintendent		432-634-2136

Artesia

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 Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283

Carlsbad

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 Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

Santa Fe

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

National

National Emergency Response Center (Washington, D.C.)	800-424-8802
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Medical

Flight for Life - 4000 24th St.; Lubbock, TX	806-743-9911
Aerocare - R3, Box 49F; Lubbock, TX	806-747-8923
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433
SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949

Other

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		

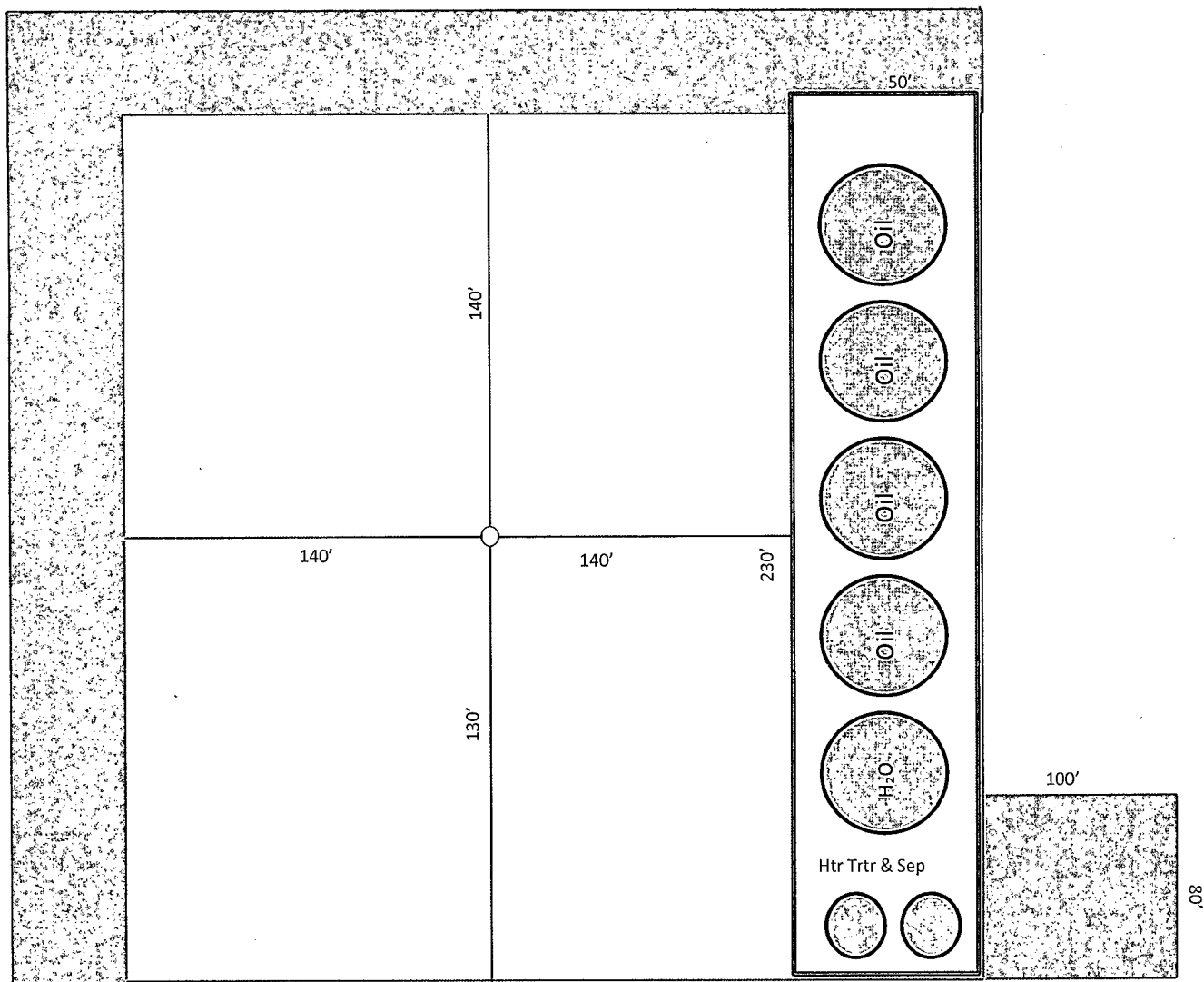
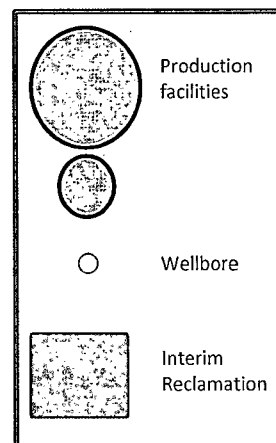


Exhibit D-1 - Interim Reclamation Diagram
Taos Federal 5H
 Cimarex Energy Co. of Colorado
 31-24S-27E
 SHL 310' FSL & 524' FWL
 BHL 330' FNL & 500' FWL
 Eddy County, NM



Surface Use Plan of Operations
Taos Federal 5H
Cimarex Energy Co. of Colorado
UL: M; Sec 31-24S-27E
Eddy County, NM

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what is submitted in this surface use plan without approval. If any other disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be submitted for approval prior to any new surface disturbance.

1. Existing Roads:

Area maps: Exhibit "B" - reproduction of Eddy Co. General Highway Map. Exhibit "C" - reproduction of a USGS Topographic Map. Exhibit "C-1" - well site layout map. Exhibits "C," C-1" - existing roads map.

- A. The maximum width of the driving surface will be ^{see C-1} 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. Existing access road route to the proposed project is depicted on the public access point map if applicable. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of the surface use plan.
 - 1. Driving Directions: From the junction of Black River Village and Old Cavern Hwy, go south on Old Cavern Hwy for 4.3 miles to lease road, on lease road go west 0.8 miles turning north 0.4 miles turning northeasterly 0.4 miles to proposed well location.
- C. If existing roads are used, the operator will improve or maintain existing roads in a condition the same as or better than before the operations began. The operator will repair pot holes, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.
- D. The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

2. New or Reconstructed Access Roads:

No new access road planned.

3. Planned Electric Line:

Cimarex Energy plans to construct an off-lease electric line to service the well. The proposed electric line does cross lease boundaries, a right of way grant will be submitted to and obtained from the BLM.

4. 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" |
| E. Abandoned wells - | As shown on Exhibits "A" |

5. Location of Existing or 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. Any changes to the facility will be submitted via sundry notice.

6. Location and Type of Water Supply:

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

7. Source of Construction Material:

If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu yds is the max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- A. When caliche is found, material will be stockpiled within the pad site to build the location and road.
- B. An approximate 120' x 120' area is used within the proposed well site to remove caliche.
- C. Subsoil is removed and piled alongside the 120' by 120' area within the pad site.
- D. When caliche is found, material will be stockpiled within the pad site to build the location and road.
- E. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- F. Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in Exhibit D – Rig Layout Diagram.

In the event that no caliche is found onsite, caliche will be hauled in from a BLM-approved caliche pit.

8. Ancillary Facilities:

- A. No camps or airstrips to be constructed.

9. Well Site Layout:

- A. Exhibit "D" shows location and rig layout.
- B. Exhibit "C-1", Exhibit "D", and Exhibit "D-1" shows the well pad dimensions, well pad orientation, proposed access road, frac tank farm, and top soil stock pile. Exhibit "C-1" is drawn to scale.
 1. Proposed and existing structures within the 600' X 600' surveyed area.
- C. Mud pits in the closed circulation 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. See Exhibit "D-1".
- F. A ditch and berm will be constructed around the north and east portion of the pad to divert water off of pad.

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 producer, those areas of the location not essential to production 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 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 known dwellings within 1½ miles of this location.

12. On Site Notes and Information:

On April 30, 2013, a BLM onsite meeting was held with Barry Hunt, Cimarex representative; Legion Brumley with the BLM, Lisa Ogden (grazing lessee), and Basin Suveys. The permitted location was approved. The location was spotted 100' NNE of the Taos #1 well. V-door west. Top soil north. Battery east. Interim reclamation: north & west. Construct a ditch and berm around the north and east portion of pad to divert water off of pad. Fac pad SE corner.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Co. of Colorado
LEASE NO.:	NMNM-96208
WELL NAME & NO.:	Taos Federal 5H
SURFACE HOLE FOOTAGE:	0310' FSL & 0524' FWL
BOTTOM HOLE FOOTAGE	0330' FNL & 0500' FWL
LOCATION:	Section 31, T. 24 S., R 27 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Hydrology**
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Cement Requirements
 - Medium Cave/Karst
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 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Hydrology

As the pad is expanded to the north the drainage will have to be redirected around the northern portion of the pad.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

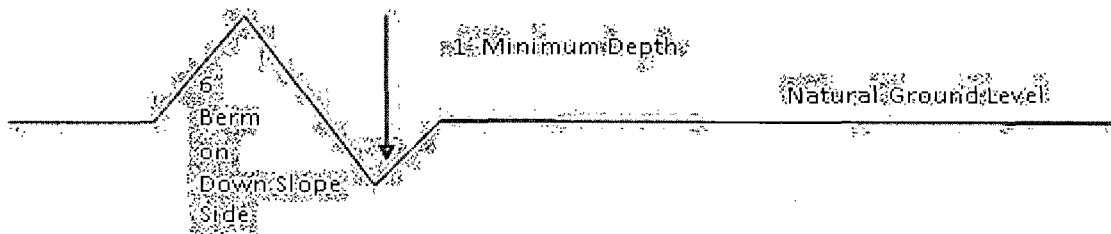
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culverts shall be installed at deep waterway channel flow crossings through the road.

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings.

Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

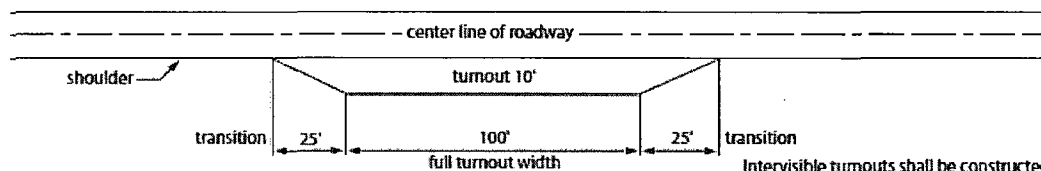
Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

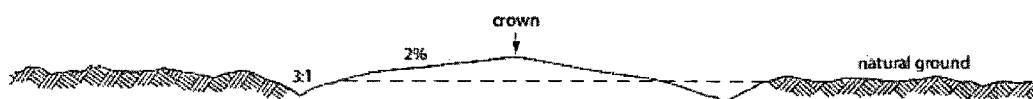
1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

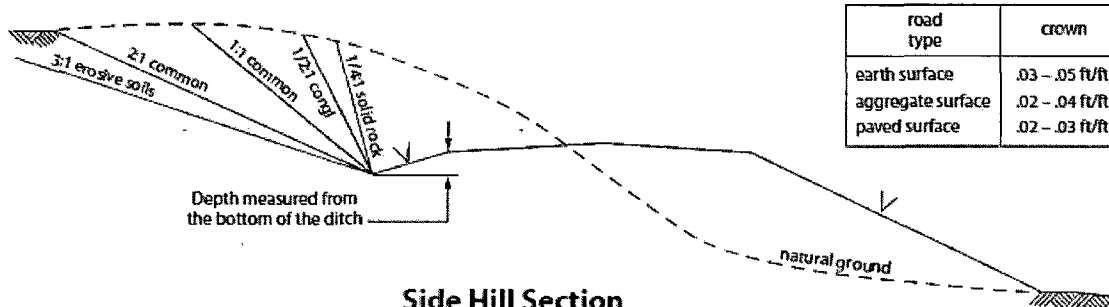


Typical Turnout Plan

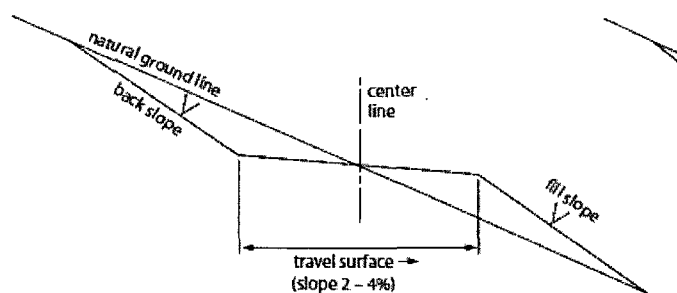
Intervisble turnouts shall be constructed on all single lane roads on all blind curves with additional tunouts as needed to keep spacing below 1000 feet.



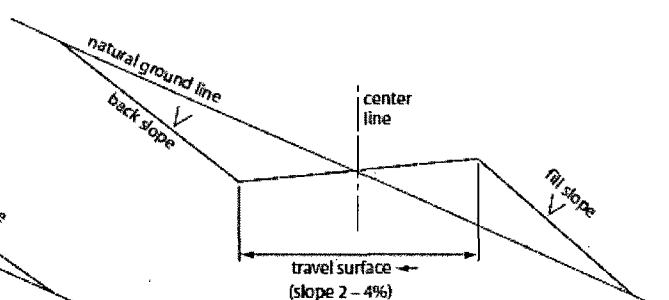
Level Ground Section



Side Hill Section



Typical Outsloped Section



Typical Insloped Section

Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately-around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst

Possibility of water flows in the Castile, Delaware, and Bone Spring.

Possibility of lost circulation in the Castile, Salado, Delaware, and Bone Spring.

1. The **13-3/8** inch surface casing shall be set at approximately **450** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers approved as written.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 23% - Additional cement may be required.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi (Installing 5M, testing to 3,000 psi)**.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.

- e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 091913

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES (No pipelines were applied for in the APD)

C. ELECTRIC LINES (No electric lines were applied for in the APD)

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed