

ATS-08-463

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OCD-ARTESIA

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY - 5 2008
OCD-ARTESIA

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No NM-0556811	
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 162683		7. If Unit or CA Agreement, Name and No.	
3a. Address PO Box 140907; Irving, TX 75014		8. Lease Name and Well No Blasting Cap 13 Federal No. 1 37173	
3b. Phone No. (include area code) 972-401-3111		9. API Well No. 30-015- 36325	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 660' FSL & 375' FWL At proposed prod Zone 375' FSL & 375' FEL Horizontal Abo Test		10. Field and Pool, or Exploratory Abo Wildcat 97019	
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 13-16S-29E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 375'		12. County or Parish Eddy	
16. No of acres in lease 1480		13. State NM	
17. Spacing Unit dedicated to this well S2S2 160			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A		19. Proposed Depth Pilot Hole 7,650' MD 11,711' TVD 7,300'	
20. BLM/BIA Bond No. on File NM-2575			
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3,719' GR		22. Approximate date work will start* 5/1/2008	
23. Estimated duration 30-35 days			
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 Zeno Farris	Name (Printed/Typed) Zeno Farris	Date 03.19.08
Title Manager Operations Administration		
Approved By (Signature) /s/ James Stovall	Name (Printed/Typed)	Date APR 30 2008
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

holds legal or equitable title to those rights in the subject lease which would entitle the applicant to

APPROVAL FOR TWO YEARS

make it a crime for any person knowingly and willfully to make to any department or agency of the United States as to any matter within its jurisdiction.

NOTE: New Pit Rule
NMAC 19-15-17

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Roswell Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

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 October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 97019	Pool Name Abo Wildcat
Property Code 37173	Property Name BLASTING CAP "13" FEDERAL	Well Number 1
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3719'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	16 S	29 E		660	SOUTH	375	WEST	EDDY

Bottom Hole Location If Different From Surface

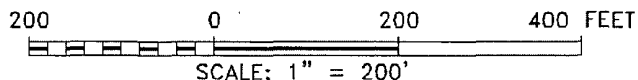
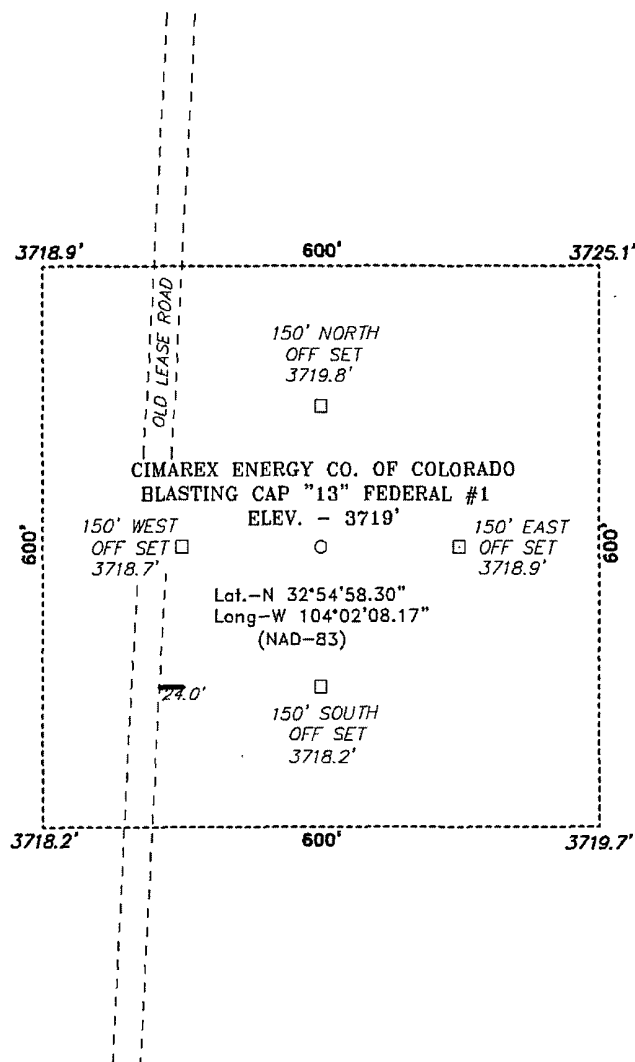
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	13	16 S	29 E		375	SOUTH	375	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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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>SURFACE LOCATION Lat - N32°54'58.30" Long - W104°02'08.17" NMSPCE- N 697175.6 E 632701.5 (NAD-83)</p>		<p>BOTTOM HOLE LOCATION Lat - N32°54'55.4" Long - W104°01'15.0" NMSPCE- N 696893.611 E 637234.462 (NAD-83)</p>	
<p>NM-0556811</p>			
<p>Diagram showing well location and acreage dedication plat with dimensions: 18.9', 3725.1', 375', 18.2', 3719.7', 4541.7', 375'.</p>			
<p>OPERATOR CERTIFICATION</p> <p>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 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><u>Zeno Farris</u> 03-20-08 Signature Date</p> <p><u>Zeno Farris</u> Printed Name</p>			
<p>SURVEYOR CERTIFICATION</p> <p>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>JANUARY 18, 2008 Date Signed</p> <p><u>Gary L. Jones</u> Signature Professional Surveyor 7977</p> <p>19028</p> <p>Certificate No. Gary L. Jones 7977</p> <p>Basin Surveys</p>			

SECTION 13, TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF US HWY 82 AND BARNIVAL
DRAW, GO NORTH ON BARNIVAL DRAW FOR 6.8 MILES
TO LEASE ROAD, ON LEASE ROAD GO EAST 2.5
MILES TO LEASE ROAD, GO SOUTH FOR 0.5 MILES
TO LEASE ROAD, ON LEASE ROAD GO EAST 0.9
MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTH
0.2 MILES TO PROPOSED LEASE ROAD.

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

W.O. Number: 19028 Drawn By: J. SMALL

Date: 01-22-2008 Disk: JMS 19028W

CIMAREX ENERGY CO. OF COLORADO


REF: BLASTING CAP "13" FEDERAL #1 / WELL PAD TOPO

THE BLASTING CAP "13" FEDERAL #1 LOCATED 660'
FROM THE SOUTH LINE AND 375' FROM THE WEST LINE OF
SECTION 13, TOWNSHIP 16 SOUTH, RANGE 29 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-19-2008 Sheet 1 of 1 Sheets

Application to Drill
Cimarex Energy Co. of Colorado
Blasting Cap 13 Federal No. 1
Unit M, Section 13
T16S-R29E, 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 660' FSL & 375' FWL
BHL ~~1980' FSL & 330' FEL~~ *375' S 375'* 
- 2 Elevation above sea level: 3719' 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: Pilot Hole 7,650' MD 11,711' TVD 7,300'
- 6 Estimated tops of geological markers:

Queen	2,200'
San Andres	2,950'
Abo Shale	6,020'
Lower Abo Dolomite	7,240'
Wolfcamp	7,350'
- 7 Possible mineral bearing formation:
Abo Oil Primary

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 340' <i>See COA</i>	8.4 - 8.6	28-29	May lose circ	Fresh water gel spud mud
340' to 2,650'	10.0	28-29	May lose circ	Brine Water
2,650' to 7,650'	8.4 - 9.5	29-32	NC	Fresh water and brine, use hi-vis sweeps to keep hole clean
0' to MD 11,711' TVD 7,300'	8.4 - 9.5	29-33	NC	2% KCL

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. Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until production casing is run and cemented.

8a. Proposed drilling Plan

Drill 8 3/4" hole to 7,650' (pilot hole) and cement (see page 2 - Application to Drill). Set whipstock plug @ 7,070.' Mill window from 7,055' to 7,065.' Kick off 6 1/2" lateral @ 7,060.' Drill 6 1/2" hole to MD 11,711' and TVD 7,300.' Install 4 1/2" **Peak Completion Assembly**, 500' of BTC from TOL through the curve and LTC thereafter to TD. Lateral length 4,542.' Strata-Pak RSBP @ 6,953' (TOL).

Application to Drill
Cimarex Energy Co. of Colorado
Blasting Cap 13 Federal No. 1
Unit M, Section 13
T16S-R29E, Eddy County, NM

9 Casing & Cementing Program:

Hole Size	Depth	Casing OD	Weight	Thread	Collar	Grade
17½"	0 to 340' ^{See COA}	New 13⅝"	48#	8-R	STC	H-40
12¼"	0 to 2,650'	New 9⅝"	40#	8-R	LTC	J/K-55
8¾"	0 to 7,650'	New 7"	26#	8-R	LTC	P-110
6⅝"	0 to MD 11,711' TVD 7,300'	New 4½"	11.6#	8-R	LTC/BTC	P-110

10 Cementing & Setting Depth:

13⅝"	Surface	<div> <div>See COA</div> <div> <u>Lead:</u> 110 sx Thixotropic/Premium Plus + 1% CaCl + 0.125# Poly-e-flake (wt 14.2, yld 1.64) <u>Tail:</u> 220 sx Premium Plus + 2% CaCl (wt 14.8, yld 1.35) TOC Surface </div> </div>
9⅝"	Intermediate	<u>Lead:</u> 450 sx Interfill C + 0.125# Poly-e-flake (wt 11.9, yld 2.45) <u>Tail:</u> 215 sx Prem Plus + 1% CaCl (wt 14.8, yld 1.33) TOC Surface
7"	Pilot Hole	<u>Lead:</u> 270 sx Interfill H + 0.1% HR-7 + 0.125# Poly-e-flake (wt 11.9, yld 2.76) <u>Tail:</u> 170 sx Super H + 0.5% Halad-344 + 0.4% CFR-3 + 1# Salt + 5# Gilsonite + 0.125# Poly-e-flake + 0.35% HR-7 (wt 13.2, yld 1.61) TOC 2300'
4½"	Liner	No cement needed. Peak completion assembly.

See COA → Fresh water will be protected by setting 13⅝" casing at ~~340'~~ and cementing to Surface
 Hydrocarbon zones will be protected by setting 9⅝" casing at 2,650' and cementing to Surface
 and by setting 7" casing at 7,650' and cementing to 2300'

Cimarex uses the following minimum safety factors:

Burst	Collapse	Tension
1.125	1.125	1.80

11 Pressure control Equipment:

Exhibit "E". A 13⅝" 5000 PSI working pressure B.O.P. 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 below 6000'. 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 nipped up 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. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system.

We are requesting a variance for testing the 13⅝" surface casing from Onshore Order No. 2, which states that all casing strings below the conductor shall be pressure tested to 0.22 psi per foot or 1500 psi, whichever is greater, but not to exceed 70% of the manufacturer's stated maximum internal yield. We are requesting to test the 13⅝" casing to 1000 psi using rig pumps. The BOP will be tested to 5000 PSI by an independent service company.

Application to Drill
Blasting Cap 13 Federal No. 1
Cimarex Energy Co. of Colorado
Unit M, Section 13
T16S-R29E, Eddy County, NM

12 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 2,650' to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

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 Abo 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 2300 psi Estimated BHT 110°

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

Drilling expected to take 30-35 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 total depth over possible pay intervals.

Abo pay will be perforated and stimulated.

The proposed well will be tested and potentialed as an oil well.



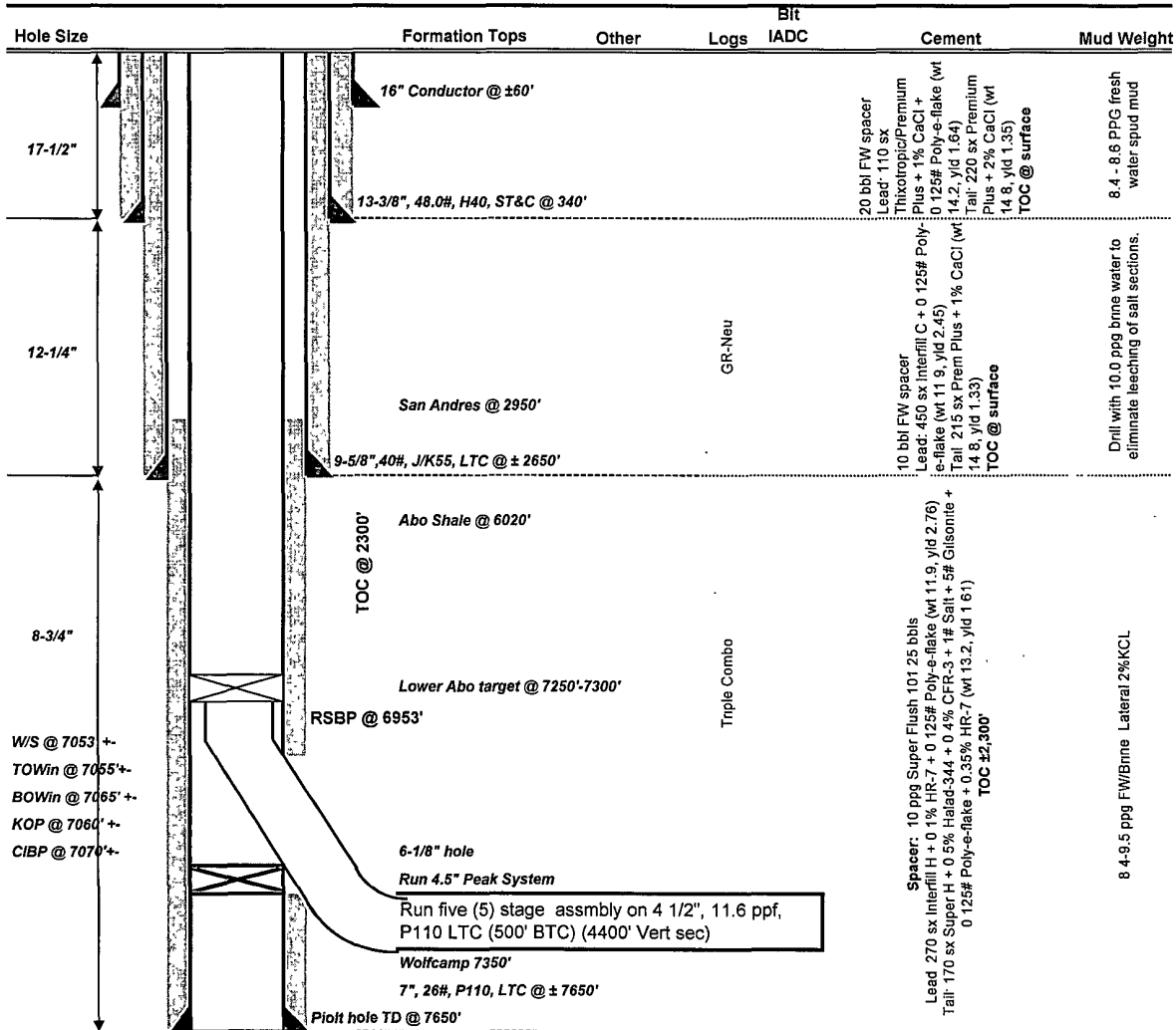
DRILLING PROGNOSIS Cimarex Energy Company

3/19/2008

Well: **Blasting Cap 13 Fed 1**
Location: **13-16S-29E**
County, State: **Eddy County, NM**
Surface Location: **660 FSL, 375 FWL**
Bottomhole Loc: **375 FSL, 375 FEL**
E-Mail:
Wellhead:

Lse Serial #:
Field:
Objective:
TVD/MD: **7300 / 11711**
Cementing: **Halliburton**
Mud:
Motors:
OH Logs
Rlg: **Key 880**
Offset Wells:

Xmas Tree
Tubing:
Superintendent: **Dee Smith**
Engineer: **Mark Audas**



NOTES:

Install wellhead on 13-3/8" and NU BOP. Test this installation to 1000 psi w/ rig pump. Then after setting 9-5/8" in slips and installing the csg spool, NU BOP (5M) w/ rotating head and test BOP to 5M w/ test unit. Test casing.

Cement volumes for surface csg include a 100% excess in the open hole section. If drilling conditions deem necessary, fluid caliper hole and adjust volumes.

Cement volumes for intermediate csg include a 70% excess in the open hole section. If drilling conditions deem necessary, fluid caliper hole and adjust volumes.

Cement volumes for production csg include a 25% excess in the open hole section. Adjust volumes after caliper + 25% excess.

ALL INVOICES ARE TO SHOW **CIMAREX ENERGY** AS OPERATOR AND USE CIMAREX ACCOUNTING CODES.



Cimarex Energy Co. of Colorado

5215 North O'Connor Blvd. ♦ Suite 1500 ♦ Irving, TX 75039 ♦ (972) 401-3111 ♦ Fax (972) 443-6486

Mailing Address: P.O. Box 140907 ♦ Irving, TX 75014-0907

A subsidiary of Cimarex Energy Co. • A NYSE Listed Company • "XEC"

March 19, 2008

Oil Conservation Division
District II Office
1301 W. Grand Ave.
Artesia, New Mexico 88210
Attn: Ms. Kimberly Wilson

Re: Statewide Rule 118
Hydrogen Sulfide Gas Contingency Plan
Proposed Blasting Cap 13 Federal No. 1 Well

Dear Ms. Wilson:

In accordance with NMAC 19.15.3.118 C. (1) governing the determination of the hydrogen sulfide concentration in gaseous mixtures in each of its operations, Cimarex Energy Co. of Colorado does not anticipate that there will be enough H₂S from the surface to the Abo formations to meet the OCD's minimum requirements for the submission of a contingency plan for the drilling and completion of the following test(s):

Blasting Cap 13 Federal No. 1
13-16S-29E
SHL 660' FSL & 375' FWL
BHL 375' FSL & 375' FEL
Eddy County, NM

If anything further is needed regarding this issue, or if you have any questions, please feel free to contact the undersigned at 972-443-6489.

Yours truly,

Zeno Farris
Manager, Operations Administration



Planned Wellpath Report

No. 1H PWP 1

Page 1 of 3



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1 SHL
Area	Eddy County, NM	Well	No. 1
Field	(Blasting) SEC. 13, T16S, R29E	Wellbore	No. 1 PWB
Facility	Blasting Cap 13 Federal No. 1	Sidetrack from	No. 1 AWB OH at 7000.00 MD

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect@ 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999919	Report Generated	3/18/2008 at 1:52:19 PM
Convergence at slot	0.16° East	Database/Source file	WA_Midland/No. 1H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	632701.50	697175.60	32°54'58.306"N	104°02'08.165"W
Facility Reference Pt			632701.50	697175.60	32°54'58.306"N	104°02'08.165"W
Field Reference Pt			632701.50	697175.60	32°54'58.306"N	104°02'08.165"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1 SHL (RT) to Facility Vertical Datum	18.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 1 SHL (RT) to Ground Elev.	3737.00ft
Vertical Reference Pt	Rig on No. 1 SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 1 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Ground Elev.	Section Azimuth	93.56°



Planned Wellpath Report

No. 1H PWP 1

Page 2 of 3



INTEQ

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Facility	Blasting Cap 13 Federal No. 1	Sidetrack from	No. 1 AWB OH at 7000.00 MD

WELLPATH DATA (57 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	93.560	0.00	0.00	0.00	0.00	0.00	
2200.00†	0.000	93.560	2200.00	0.00	0.00	0.00	0.00	QUEEN
2950.00†	0.000	93.560	2950.00	0.00	0.00	0.00	0.00	SAN ANDRES
6020.00†	0.000	93.560	6020.00	0.00	0.00	0.00	0.00	ABO SHALE
7000.00†	0.000	93.560	7000.00	0.00	0.00	0.00	0.00	Tie On
7060.00	0.000	93.560	7060.00	0.00	0.00	0.00	0.00	KOP
7100.00†	12.000	93.560	7099.71	4.17	-0.26	4.17	30.00	
7200.00†	42.000	93.560	7187.79	49.06	-3.05	48.96	30.00	
7294.91†	70.472	93.560	7240.00	127.15	-7.89	126.90	30.00	LOWER ABO DOLOMITE
7300.00†	72.000	93.560	7241.64	131.97	-8.19	131.71	30.00	
7340.59†	84.176	93.560	7250.00	171.60	-10.65	171.27	30.00	LOWER ABO TARGET
7357.85	89.355	93.560	7250.97	188.84	-11.72	188.47	30.00	EOC
7400.00†	89.355	93.560	7251.45	230.98	-14.34	230.54	0.00	
7500.00†	89.355	93.560	7252.57	330.98	-20.55	330.34	0.00	
7600.00†	89.355	93.560	7253.70	430.97	-26.76	430.14	0.00	
7700.00†	89.355	93.560	7254.83	530.96	-32.97	529.94	0.00	
7800.00†	89.355	93.560	7255.95	630.96	-39.18	629.74	0.00	
7900.00†	89.355	93.560	7257.08	730.95	-45.38	729.54	0.00	
8000.00†	89.355	93.560	7258.21	830.95	-51.59	829.34	0.00	
8100.00†	89.355	93.560	7259.33	930.94	-57.80	929.14	0.00	
8200.00†	89.355	93.560	7260.46	1030.93	-64.01	1028.94	0.00	
8300.00†	89.355	93.560	7261.58	1130.93	-70.22	1128.74	0.00	
8400.00†	89.355	93.560	7262.71	1230.92	-76.43	1228.55	0.00	
8500.00†	89.355	93.560	7263.84	1330.91	-82.63	1328.35	0.00	
8600.00†	89.355	93.560	7264.96	1430.91	-88.84	1428.15	0.00	
8700.00†	89.355	93.560	7266.09	1530.90	-95.05	1527.95	0.00	
8800.00†	89.355	93.560	7267.21	1630.89	-101.26	1627.75	0.00	
8900.00†	89.355	93.560	7268.34	1730.89	-107.47	1727.55	0.00	
9000.00†	89.355	93.560	7269.47	1830.88	-113.68	1827.35	0.00	
9100.00†	89.355	93.560	7270.59	1930.88	-119.89	1927.15	0.00	
9200.00†	89.355	93.560	7271.72	2030.87	-126.09	2026.95	0.00	
9300.00†	89.355	93.560	7272.84	2130.86	-132.30	2126.75	0.00	
9400.00†	89.355	93.560	7273.97	2230.86	-138.51	2226.55	0.00	
9500.00†	89.355	93.560	7275.10	2330.85	-144.72	2326.35	0.00	
9600.00†	89.355	93.560	7276.22	2430.84	-150.93	2426.15	0.00	
9700.00†	89.355	93.560	7277.35	2530.84	-157.14	2525.95	0.00	
9800.00†	89.355	93.560	7278.48	2630.83	-163.34	2625.76	0.00	
9900.00†	89.355	93.560	7279.60	2730.82	-169.55	2725.56	0.00	
10000.00†	89.355	93.560	7280.73	2830.82	-175.76	2825.36	0.00	
10100.00†	89.355	93.560	7281.85	2930.81	-181.97	2925.16	0.00	
10200.00†	89.355	93.560	7282.98	3030.81	-188.18	3024.96	0.00	
10300.00†	89.355	93.560	7284.11	3130.80	-194.39	3124.76	0.00	
10400.00†	89.355	93.560	7285.23	3230.79	-200.60	3224.56	0.00	
10500.00†	89.355	93.560	7286.36	3330.79	-206.80	3324.36	0.00	
10600.00†	89.355	93.560	7287.48	3430.78	-213.01	3424.16	0.00	



Planned Wellpath Report

No. 1H PWP 1

Page 3 of 3



INTEQ

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Facility	Blasting Cap 13 Federal No. 1	Sidetrack from	No. 1 AWB OH at 7000.00 MD

WELLPATH DATA (57 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
10700.00†	89.355	93.560	7288.61	3530.77	-219.22	3523.96	0.00	
10800.00†	89.355	93.560	7289.74	3630.77	-225.43	3623.76	0.00	
10900.00†	89.355	93.560	7290.86	3730.76	-231.64	3723.56	0.00	
11000.00†	89.355	93.560	7291.99	3830.76	-237.85	3823.36	0.00	
11100.00†	89.355	93.560	7293.11	3930.75	-244.05	3923.16	0.00	
11200.00†	89.355	93.560	7294.24	4030.74	-250.26	4022.97	0.00	
11300.00†	89.355	93.560	7295.37	4130.74	-256.47	4122.77	0.00	
11400.00†	89.355	93.560	7296.49	4230.73	-262.68	4222.57	0.00	
11500.00†	89.355	93.560	7297.62	4330.72	-268.89	4322.37	0.00	
11600.00†	89.355	93.560	7298.75	4430.72	-275.10	4422.17	0.00	
11700.00†	89.355	93.560	7299.87	4530.71	-281.31	4521.97	0.00	
11711.39	89.355	93.560	7300.00†	4542.10	-282.01	4533.34	0.00	No. 1H BHL

HOLE & CASING SECTIONS Ref Wellbore: No. 1H PWB Ref Wellpath: No. 1H PWP 1

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	0.00	340.00	340.00	0.00	340.00	0.00	0.00	0.00	0.00
13.375in Casing	0.00	340.00	340.00	0.00	340.00	0.00	0.00	0.00	0.00
12.25in Open Hole	340.00	2650.00	2310.00	340.00	2650.00	0.00	0.00	0.00	0.00
9.625in Casing	340.00	2650.00	2310.00	340.00	2650.00	0.00	0.00	0.00	0.00
8.75in Open Hole	2650.00	7000.00	4350.00	2650.00	7000.00	0.00	0.00	0.00	0.00
6.125in Open Hole	7000.00	11711.39	4711.39	7000.00	7300.00	0.00	0.00	-282.01	4533.34

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 1 BHL	11711.39	7300.00	-282.01	4533.34	637234.46	696893.61	32°54'55.386"N	104°01'14.997"W	point

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: No. 1H PWP 1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	11711.39	NaviTrak (Standard)		No. 1 PWB



Cimarex Energy Co.

Location: Eddy County, NM
Field: (Blasting) SEC. 13, T16S, R29E
Facility: Blasting Cap 13 Federal No. 1

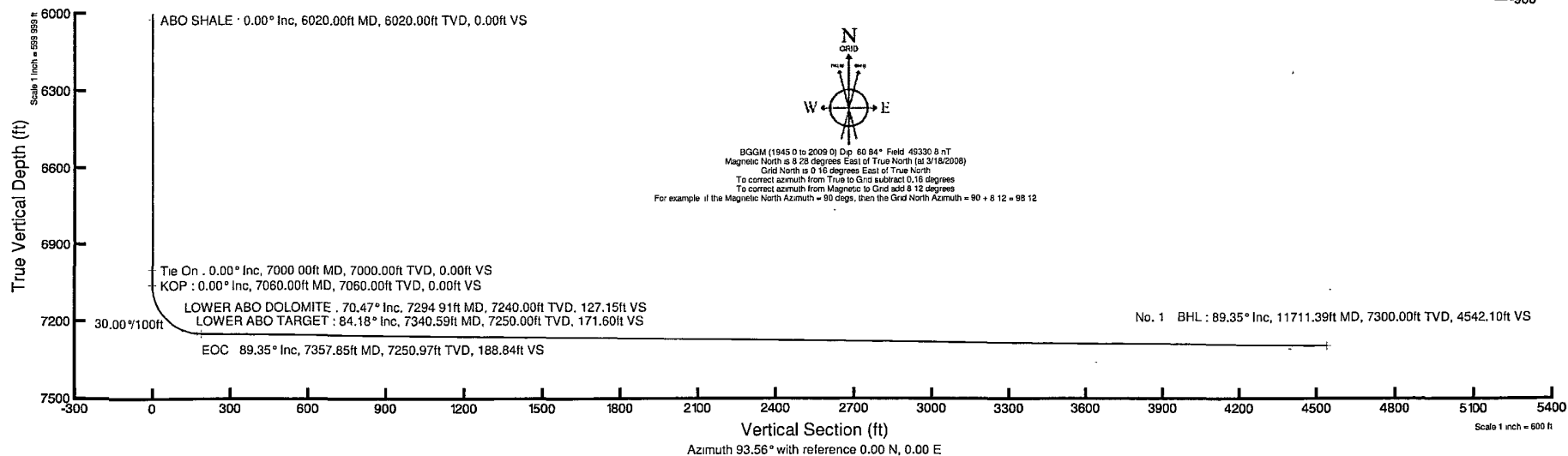
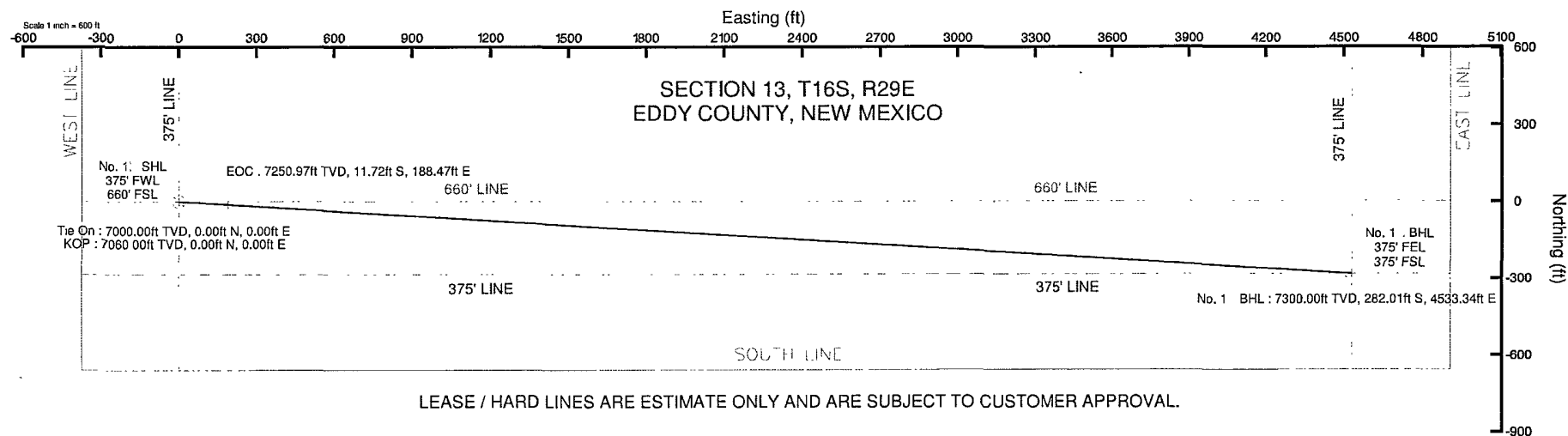
Slot: No. 1 SHL
Well: No. 1
Wellbore: No. 1 PWB



Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	7000.00	0.000	93.560	7000.00	0.00	0.00	0.00	0.00
KOP	7060.00	0.000	93.560	7060.00	0.00	0.00	0.00	0.00
EOC	7357.85	89.355	93.560	7250.97	-11.72	188.47	30.00	188.84
No. 1 BHL	11711.39	89.355	93.560	7300.00	-282.01	4533.34	0.00	4542.10

Plot reference wellpath is No. PWP 1	
True vertical depths are referenced to Rig on No. 1, SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3011) US feet
Measured depths are referenced to Rig on No. 1, SHL (RT)	North Reference: Grid north
Rig on No. 1H SHL (RT) to Ground Elev. 3737 feet	Scale: True distance
Ground Elev. to Mud line (Facility Blasting Cap 13 Federal No. 1) = 3719 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 3/18/2008



PROPOSED WELLPATH REPORT (CSV version)

Prepared by Baker Hughes INTEQ
Software System: WellArchitect®2.0

REFERENCE WELLPATH IDENTIFICATION

Operator Cimarex Energy Co.
Area Eddy County, NM
Field (Blasting) SEC. 13, T16S, R29E
Facility Blasting Cap 13 Federal No. 1H
Slot No. 1H SHL
Well No. 1H
Wellbore No. 1H PWB
Wellpath No. 1H PWP 1
Sidetrack No. 1 AWB OH at 7000.00 MD

REPORT SETUP INFORMATION

Projection NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
North Refe Grid
Scale 0.999919
Convergen 0.16° East
Software S WellArchitect®
User Victor Hernandez
Report Gen 3/18/2008 at 1:51:39 PM
DataBase/ WA_Midland/ev45.xml

WELLPATH	Local North	Local East	Grid East	Grid North	Latitude	Longitude
	[ft]	[ft]	[ft]	[ft]		
Slot Location	0	0	632701.5	697175.6	32°54'58.3	104°02'08.165"W
Facility Ref			632701.5	697175.6	32°54'58.3	104°02'08.165"W
Field Refer			632701.5	697175.6	32°54'58.3	104°02'08.165"W

WELLPATH DATUM

Calculation Minimum curvature
Horizontal Facility Center
Vertical Re Rig on No. 1H SHL (RT)
MD Refere Rig on No. 1H SHL (RT)
Field Vertic Ground Elev.
Rig on No. 18.00ft
Rig on No. 3737.00ft
Facility Ver 0.00ft
Section Or 0.00ft
Section Or 0.00ft
Section Az 93.56°

WELLPATH DATA	Wellbore: No. 1H PWB	Wellpath: No. 1H PWP 1	† = interpolated/extrapolated station					
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	DLS	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[°/100ft]	
0	0	93.56	0	0	0	0	0	0
† 2200	0	93.56	2200	0	0	0	0	0 QUEEN
† 2950	0	93.56	2950	0	0	0	0	0 SAN ANDRES
† 6020	0	93.56	6020	0	0	0	0	0 ABO SHALE
7000	0	93.56	7000	0	0	0	0	0 Tie On
7060	0	93.56	7060	0	0	0	0	0 KOP
† 7100	12	93.56	7099.71	4.17	-0.26	4.17	30	
† 7200	42	93.56	7187.79	49.06	-3.05	48.96	30	
† 7294.91	70.472	93.56	7240	127.15	-7.89	126.9	30	LOWER ABO DOLOMITE
† 7300	72	93.56	7241.64	131.97	-8.19	131.71	30	
† 7340.59	84.176	93.56	7250	171.6	-10.65	171.27	30	LOWER ABO TARGET
† 7357.85	89.355	93.56	7250.97	188.84	-11.72	188.47	30	EOC
† 7400	89.355	93.56	7251.45	230.98	-14.34	230.54	0	
† 7500	89.355	93.56	7252.57	330.98	-20.55	330.34	0	
† 7600	89.355	93.56	7253.7	430.97	-26.76	430.14	0	
† 7700	89.355	93.56	7254.83	530.96	-32.97	529.94	0	
† 7800	89.355	93.56	7255.95	630.96	-39.18	629.74	0	
† 7900	89.355	93.56	7257.08	730.95	-45.38	729.54	0	
† 8000	89.355	93.56	7258.21	830.95	-51.59	829.34	0	
† 8100	89.355	93.56	7259.33	930.94	-57.8	929.14	0	
† 8200	89.355	93.56	7260.46	1030.93	-64.01	1028.94	0	

†	8300	89.355	93.56	7261.58	1130.93	-70.22	1128.74	0
†	8400	89.355	93.56	7262.71	1230.92	-76.43	1228.55	0
†	8500	89.355	93.56	7263.84	1330.91	-82.63	1328.35	0
†	8600	89.355	93.56	7264.96	1430.91	-88.84	1428.15	0
†	8700	89.355	93.56	7266.09	1530.9	-95.05	1527.95	0
†	8800	89.355	93.56	7267.21	1630.89	-101.26	1627.75	0
†	8900	89.355	93.56	7268.34	1730.89	-107.47	1727.55	0
†	9000	89.355	93.56	7269.47	1830.88	-113.68	1827.35	0
†	9100	89.355	93.56	7270.59	1930.88	-119.89	1927.15	0
†	9200	89.355	93.56	7271.72	2030.87	-126.09	2026.95	0
†	9300	89.355	93.56	7272.84	2130.86	-132.3	2126.75	0
†	9400	89.355	93.56	7273.97	2230.86	-138.51	2226.55	0
†	9500	89.355	93.56	7275.1	2330.85	-144.72	2326.35	0
†	9600	89.355	93.56	7276.22	2430.84	-150.93	2426.15	0
†	9700	89.355	93.56	7277.35	2530.84	-157.14	2525.95	0
†	9800	89.355	93.56	7278.48	2630.83	-163.34	2625.76	0
†	9900	89.355	93.56	7279.6	2730.82	-169.55	2725.56	0
†	10000	89.355	93.56	7280.73	2830.82	-175.76	2825.36	0
†	10100	89.355	93.56	7281.85	2930.81	-181.97	2925.16	0
†	10200	89.355	93.56	7282.98	3030.81	-188.18	3024.96	0
†	10300	89.355	93.56	7284.11	3130.8	-194.39	3124.76	0
†	10400	89.355	93.56	7285.23	3230.79	-200.6	3224.56	0
†	10500	89.355	93.56	7286.36	3330.79	-206.8	3324.36	0
†	10600	89.355	93.56	7287.48	3430.78	-213.01	3424.16	0
†	10700	89.355	93.56	7288.61	3530.77	-219.22	3523.96	0
†	10800	89.355	93.56	7289.74	3630.77	-225.43	3623.76	0
†	10900	89.355	93.56	7290.86	3730.76	-231.64	3723.56	0
†	11000	89.355	93.56	7291.99	3830.76	-237.85	3823.36	0
†	11100	89.355	93.56	7293.11	3930.75	-244.05	3923.16	0
†	11200	89.355	93.56	7294.24	4030.74	-250.26	4022.97	0
†	11300	89.355	93.56	7295.37	4130.74	-256.47	4122.77	0
†	11400	89.355	93.56	7296.49	4230.73	-262.68	4222.57	0
†	11500	89.355	93.56	7297.62	4330.72	-268.89	4322.37	0
†	11600	89.355	93.56	7298.75	4430.72	-275.1	4422.17	0
†	11700	89.355	93.56	7299.87	4530.71	-281.31	4521.97	0
	11711.39	89.355	93.56	7300	4542.1	-282.01	4533.34	0 No. 1H B-

1

HOLE ANL	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	End N/S [ft]	Start E/W [ft]	End E/W [ft]
17.5in Ope	0	340	340	0	340	0	0	0	0
13.375in C	0	340	340	0	340	0	0	0	0
12.25in Op	340	2650	2310	340	2650	0	0	0	0
9.625in Ca	340	2650	2310	340	2650	0	0	0	0
8.75in Ope	2650	7000	4350	2650	7000	0	0	0	0
6.125in Op	7000	11711.39	4711.39	7000	7300	0	0	-282.01	4533.34

T A R G E T S

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape	Comment	Design Comments
(1) No. 1H	11711.39	7300	-282.01	4533.34	637234.5	696893.6	32°54'55.3	104°01'14.	point		

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: No. 1H PWP 1

Start MD End MD Pos Unc M Log Name/ Wellbore

[ft] [ft]
18 11711.39 NaviTrak (Standard) No. 1H PWB

PROPOSED WELLPATH REPORT (CSV version)

Prepared by Baker Hughes INTEQ
Software System: WellArchitect®2.0

REFERENCE WELLPATH IDENTIFICATION

Operator Cimarex Energy Co.
Area Eddy County, NM
Field (Blasting) SEC. 13, T16S, R29E
Facility Blasting Cap 13 Federal No. 1
Slot No. 1H SHL
Well No. 1H
Wellbore No. 1H PWB
Wellpath No. 1H PWP 1
Sidetrack No. 1 AWB OH at 7000.00 MD

REPORT SETUP INFORMATION

Projection NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
North Refe Grid
Scale 0.999919
Convergen 0.16° East
Software S WellArchitect®
User Victor Hernandez
Report Gei 3/18/2008 at 1:51:39 PM
DataBase/ WA_Midland/ev45.xml

WELLPATH	Local North	Local East	Grid East	Grid North	Latitude	Longitude
	[ft]	[ft]	[ft]	[ft]		
Slot Locati	0	0	632701.5	697175.6	32°54'58.3	104°02'08.165"W
Facility Rel			632701.5	697175.6	32°54'58.3	104°02'08.165"W
Field Refer			632701.5	697175.6	32°54'58.3	104°02'08.165"W

WELLPATH DATUM

Calculation Minimum curvature
Horizontal Facility Center
Vertical Re Rig on No. 1H SHL (RT)
MD Refere Rig on No. 1H SHL (RT)
Field Vertic Ground Elev.
Rig on No. 18.00ft
Rig on No. 3737.00ft
Facility Ver 0.00ft
Section Or 0.00ft
Section Or 0.00ft
Section Az 93.56°

WELLPATH	DATA	Wellbore: No. 1H PWB	Wellpath: No. 1H PWP 1	† = interpolated/extrapolated station					
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	DLS	Comments	
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[°/100ft]		
0	0	93.56	0	0	0	0	0	0	
† 2200	0	93.56	2200	0	0	0	0	0	QUEEN
† 2950	0	93.56	2950	0	0	0	0	0	SAN ANDRES
† 6020	0	93.56	6020	0	0	0	0	0	ABO SHALE
7000	0	93.56	7000	0	0	0	0	0	Tie On
7060	0	93.56	7060	0	0	0	0	0	KOP
† 7100	12	93.56	7099.71	4.17	-0.26	4.17	30		
† 7200	42	93.56	7187.79	49.06	-3.05	48.96	30		
† 7294.91	70.472	93.56	7240	127.15	-7.89	126.9	30		LOWER ABO DOLOMITE
† 7300	72	93.56	7241.64	131.97	-8.19	131.71	30		
† 7340.59	84.176	93.56	7250	171.6	-10.65	171.27	30		LOWER ABO TARGET
† 7357.85	89.355	93.56	7250.97	188.84	-11.72	188.47	30		EOC
† 7400	89.355	93.56	7251.45	230.98	-14.34	230.54	0		
† 7500	89.355	93.56	7252.57	330.98	-20.55	330.34	0		
† 7600	89.355	93.56	7253.7	430.97	-26.76	430.14	0		
† 7700	89.355	93.56	7254.83	530.96	-32.97	529.94	0		
† 7800	89.355	93.56	7255.95	630.96	-39.18	629.74	0		
† 7900	89.355	93.56	7257.08	730.95	-45.38	729.54	0		
† 8000	89.355	93.56	7258.21	830.95	-51.59	829.34	0		
† 8100	89.355	93.56	7259.33	930.94	-57.8	929.14	0		
† 8200	89.355	93.56	7260.46	1030.93	-64.01	1028.94	0		

†	8300	89.355	93.56	7261.58	1130.93	-70.22	1128.74	0
†	8400	89.355	93.56	7262.71	1230.92	-76.43	1228.55	0
†	8500	89.355	93.56	7263.84	1330.91	-82.63	1328.35	0
†	8600	89.355	93.56	7264.96	1430.91	-88.84	1428.15	0
†	8700	89.355	93.56	7266.09	1530.9	-95.05	1527.95	0
†	8800	89.355	93.56	7267.21	1630.89	-101.26	1627.75	0
†	8900	89.355	93.56	7268.34	1730.89	-107.47	1727.55	0
†	9000	89.355	93.56	7269.47	1830.88	-113.68	1827.35	0
†	9100	89.355	93.56	7270.59	1930.88	-119.89	1927.15	0
†	9200	89.355	93.56	7271.72	2030.87	-126.09	2026.95	0
†	9300	89.355	93.56	7272.84	2130.86	-132.3	2126.75	0
†	9400	89.355	93.56	7273.97	2230.86	-138.51	2226.55	0
†	9500	89.355	93.56	7275.1	2330.85	-144.72	2326.35	0
†	9600	89.355	93.56	7276.22	2430.84	-150.93	2426.15	0
†	9700	89.355	93.56	7277.35	2530.84	-157.14	2525.95	0
†	9800	89.355	93.56	7278.48	2630.83	-163.34	2625.76	0
†	9900	89.355	93.56	7279.6	2730.82	-169.55	2725.56	0
†	10000	89.355	93.56	7280.73	2830.82	-175.76	2825.36	0
†	10100	89.355	93.56	7281.85	2930.81	-181.97	2925.16	0
†	10200	89.355	93.56	7282.98	3030.81	-188.18	3024.96	0
†	10300	89.355	93.56	7284.11	3130.8	-194.39	3124.76	0
†	10400	89.355	93.56	7285.23	3230.79	-200.6	3224.56	0
†	10500	89.355	93.56	7286.36	3330.79	-206.8	3324.36	0
†	10600	89.355	93.56	7287.48	3430.78	-213.01	3424.16	0
†	10700	89.355	93.56	7288.61	3530.77	-219.22	3523.96	0
†	10800	89.355	93.56	7289.74	3630.77	-225.43	3623.76	0
†	10900	89.355	93.56	7290.86	3730.76	-231.64	3723.56	0
†	11000	89.355	93.56	7291.99	3830.76	-237.85	3823.36	0
†	11100	89.355	93.56	7293.11	3930.75	-244.05	3923.16	0
†	11200	89.355	93.56	7294.24	4030.74	-250.26	4022.97	0
†	11300	89.355	93.56	7295.37	4130.74	-256.47	4122.77	0
†	11400	89.355	93.56	7296.49	4230.73	-262.68	4222.57	0
†	11500	89.355	93.56	7297.62	4330.72	-268.89	4322.37	0
†	11600	89.355	93.56	7298.75	4430.72	-275.1	4422.17	0
†	11700	89.355	93.56	7299.87	4530.71	-281.31	4521.97	0
	11711.39	89.355	93.56	7300	4542.1	-282.01	4533.34	0 No. 1H Bt 1

HOLE ANI	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	End N/S	Start E/W	End E/W
	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]
17.5in Ope	0	340	340	0	340	0	0	0	0
13.375in C	0	340	340	0	340	0	0	0	0
12.25in Op	340	2650	2310	340	2650	0	0	0	0
9.625in Ca	340	2650	2310	340	2650	0	0	0	0
8.75in Ope	2650	7000	4350	2650	7000	0	0	0	0
6.125in Op	7000	11711.39	4711.39	7000	7300	0	0	-282.01	4533.34

T A R G E T S

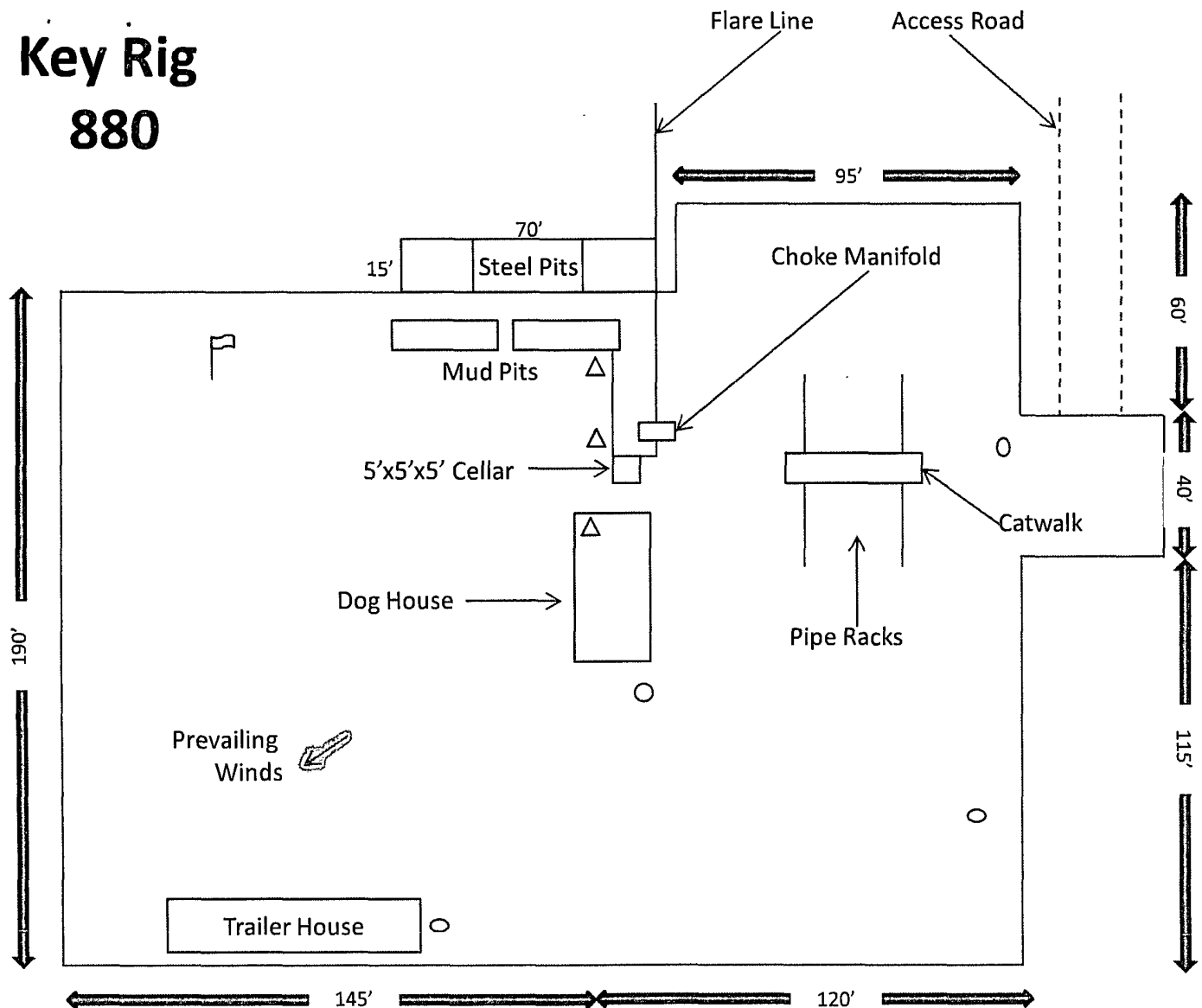
Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment	Design Comments
	[ft]	[ft]	[ft]	[ft]	[srv ft]	[srv ft]					
(1) No. 1H	11711.39	7300	-282.01	4533.34	637234.5	696893.6	32°54'55.3	104°01'14.	point		

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: No. 1H PWP 1

Start MD End MD Pos Unc M Log Name/ Wellbore

[ft] [ft]
18 11711.39 NaviTrak (Standard) No. 1H PWB

Key Rig 880







-  Wind Direction Indicators
(wind sock or streamers)
-  H2S Monitors
(alarms at bell nipple and shale shaker)
-  Briefing Areas
-  Remote BOP Closing Unit

Exhibit D – Rig Diagram
Blasting Cap 13 Federal No. 1
 Cimarex Energy Co. of Colorado
 13-16S-29E
 SHL 660' FSL & 375' FWL
 BHL 375' FSL & 375' FEL
 Eddy County, NM

SR & A

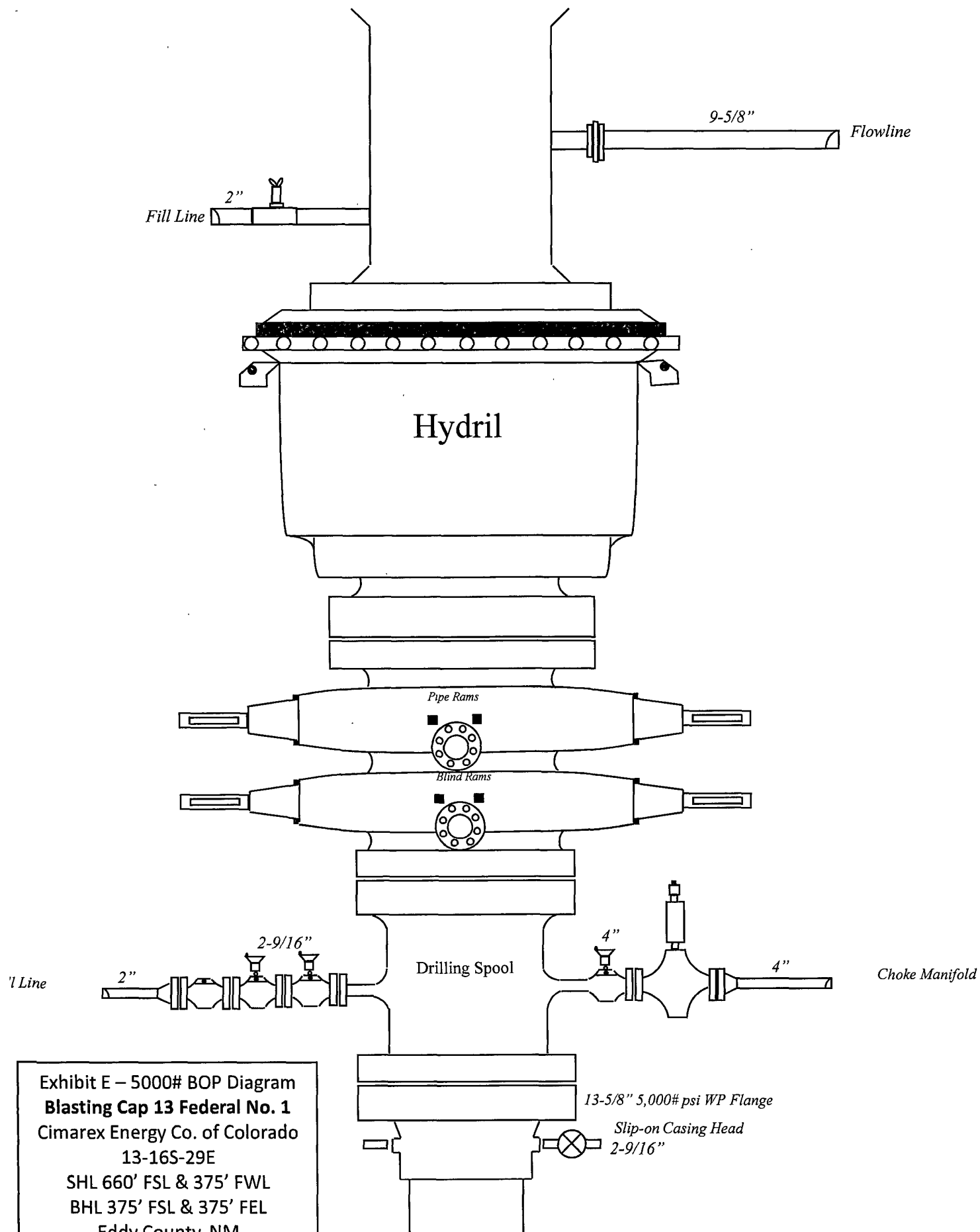


Exhibit E – 5000# BOP Diagram
Blasting Cap 13 Federal No. 1
 Cimarex Energy Co. of Colorado
 13-16S-29E
 SHL 660' FSL & 375' FWL
 BHL 375' FSL & 375' FEL
 Eddy County, NM

**DRILLING OPERATIONS
CHOKE MANIFOLD
5M SERVICE**

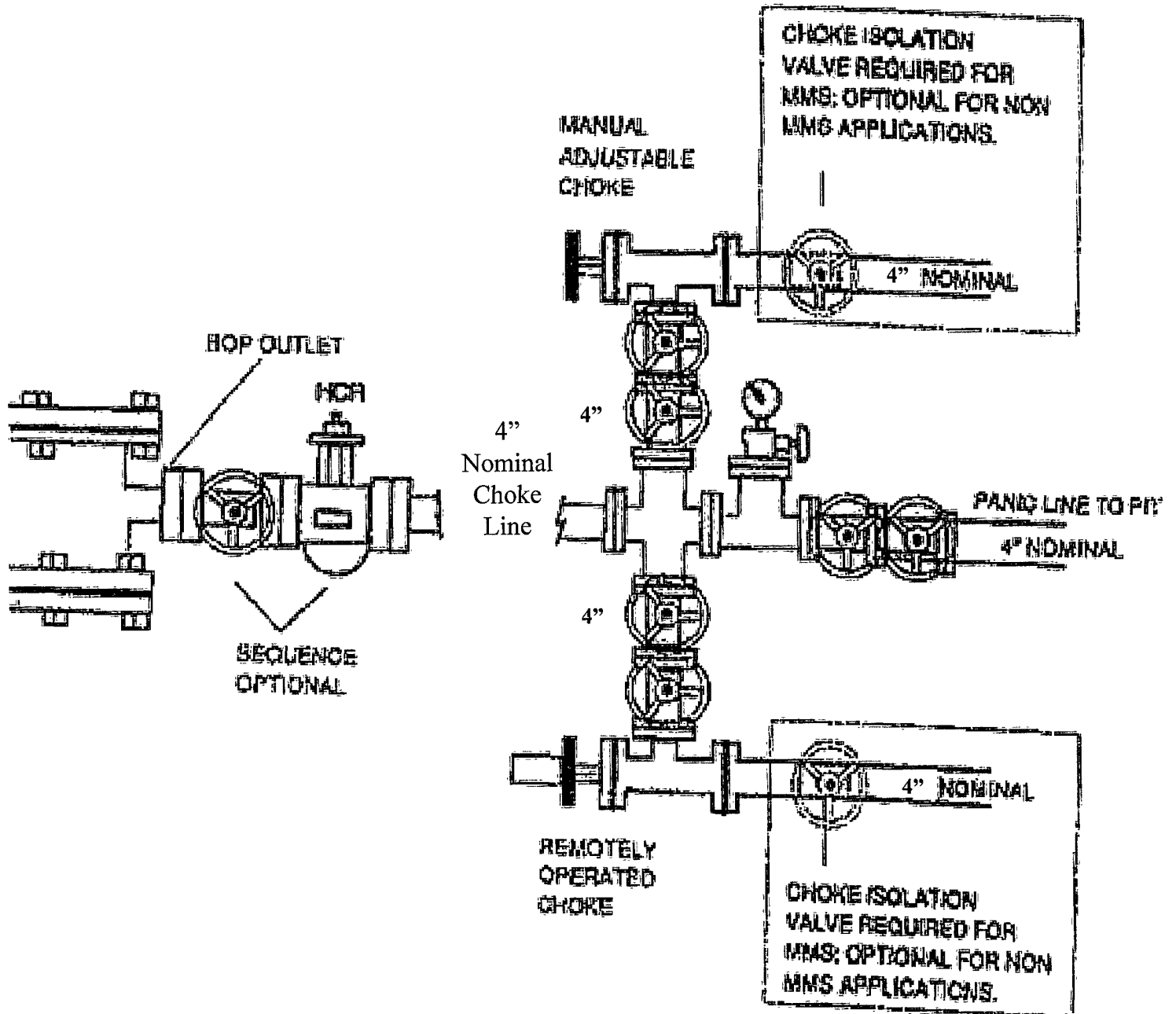


Exhibit E-1 – Choke Manifold Diagram
Blasting Cap 13 Federal No. 1
 Cimarex Energy Co. of Colorado
 13-16S-29E
 SHL 660' FSL & 375' FWL
 BHL 375' FSL & 375' FEL
 Eddy County, NM

Hydrogen Sulfide Drilling Operations Plan
Cimarex Energy Co. of Colorado
Blasting Cap 13 Federal No. 1
Unit M, Section 13
T16S-R29E, Eddy County, NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
- 2 H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
- 3 Windsock and/or wind streamers
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
- 4 Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H₂S present in dangerous concentration). Only emergency personnel admitted to location.
- 5 Well control equipment
 - A. See exhibit "E"
- 6 Communication
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing

No DSTs or cores are planned at this time.
- 8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H₂S scavengers if necessary.

H₂S Contingency Plan
Blasting Cap 13 Federal No. 1
Cimarex Energy Co. of Colorado
Unit M, Section 13
T16S-R29E, 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
Blasting Cap 13 Federal No. 1
 Cimarex Energy Co. of Colorado
 Unit M, Section 13
 T16S-R29E, 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
Doug Park	Drilling Manager	972-443-6463	972-333-1407
Dee Smith	Drilling Super	972-443-6491	972-882-1010
Jim Evans	Drilling Super	972-443-6451	972-465-6564
Dorsey Rogers	Field Super		505-200-6105
Roy Shirley	Field Super		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		

Surface Use Plan
Cimarex Energy Co. of Colorado
Blasting Cap 13 Federal No. 1
Unit M, Section 13
T16S-R29E, Eddy County, NM

- 1 Existing Roads: Area maps, Exhibit "B" is a reproduction of Eddy Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
 - A. Exhibit "A" shows the proposed well site as staked.
 - B. From the junction of US Hwy 82 and Barnival Draw, go North on Barnival Draw for 6.8 miles to lease road. On lease road, go East 2.5 miles to lease road. Go South 0.5 miles to lease road. On lease road, go East 0.9 miles to lease road. On lease road, go South 0.2 miles to proposed lease road.
- 2 Planned Access Roads: 24' of on-lease access road is proposed.
- 3 Location of Existing Wells in a One-Mile Radius - Exhibit A
 - A. Water wells - None known
 - B. Disposal wells - None known
 - C. Drilling wells - None known
 - D. Producing wells - As shown on Exhibit "A"
 - E. Abandoned wells - As shown on Exhibit "A"
- 4 If on completion this well is a producer, Cimarex Energy Co. of Colorado will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied by a Sundry Notice.
- 5 Location and Type of Water Supply:

Water will be purchased locally from a commercial source and trucked over the access roads or piped in flexible lines laid on top of the ground.
- 6 Source of Construction Material:

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

Surface Use Plan
Cimarex Energy Co. of Colorado
Blasting Cap 13 Federal No. 1
Unit M, Section 13
T16S-R29E, Eddy County, NM

8 Ancillary Facilities:

- A. No camps or airstrips to be constructed.

9 Well Site Layout:

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

10 Plans for Restoration of Surface:

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

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

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

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

11 Other Information

- A. Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak.
- B. The wellsite is on surface owned by Department of the Interior, Bureau of Land Management. The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.
- C. An Archaeological survey will be conducted on the location and proposed roads, and this report will be filed with the Bureau of Land Management in the Carlsbad BLM office.
- D. There are no known dwellings within 1½ miles of this location.

Operator Certification Statement
Cimarex Energy Co. of Colorado
Blasting Cap 13 Federal No. 1
Unit M, Section 13
T16S-R29E, Eddy County, NM

Operator's Representative

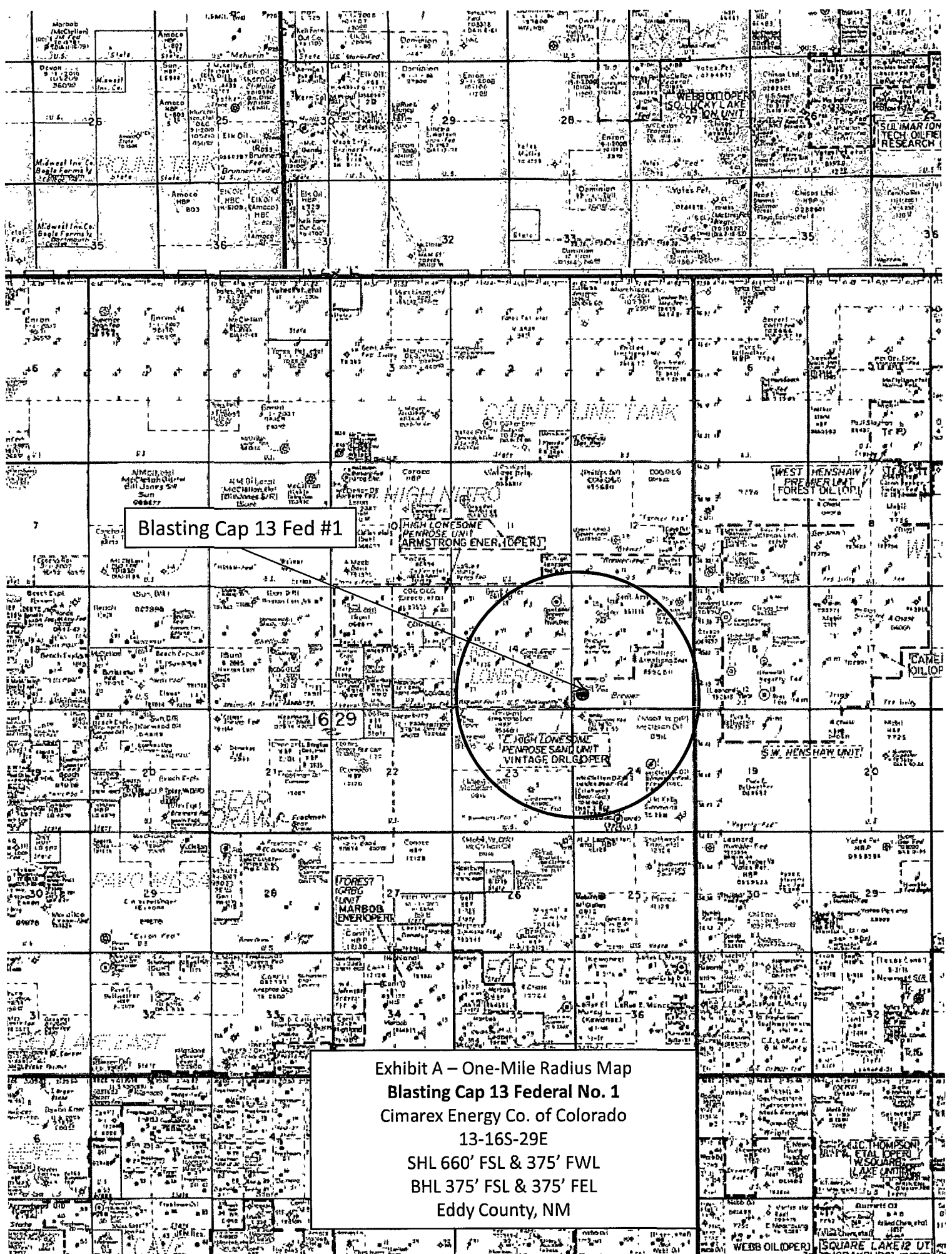
Cimarex Energy Co. of Colorado
P.O. Box 140907
Irving, TX 75014
Office Phone: (972) 443-6489
Zeno Farris

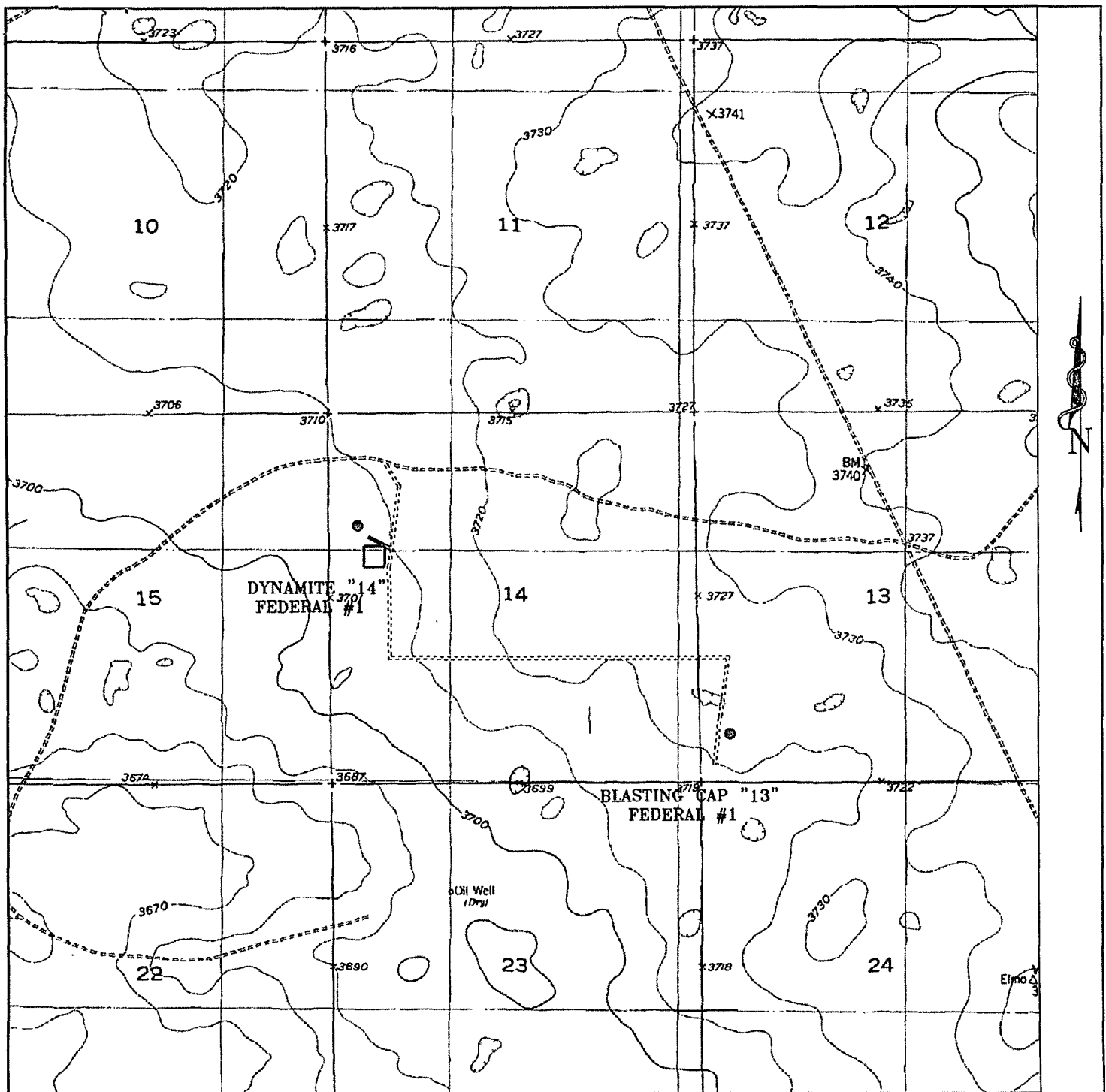
CERTIFICATION: I hereby certify that the statements and plans made in this APD are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Cimarex Energy Co. of Colorado and/or its contractors/subcontractors and is in conformity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

NAME: Zeno Farris
Zeno Farris

DATE: March 19, 2008

TITLE: Manager Operations Administration





BLASTING CAP "13" FEDERAL #1
 Located 660' FSL and 375' FSL *FELW BA*
 Section 14, Township 16 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number: JMS 19028T

Survey Date: 01-19-2008

Scale: 1" = 2000'

Date: 01-22-2008

CIMAREX
ENERGY CO.
OF COLORADO

Exhibit C

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CIMAREX ENERGY CO OF COLORADO
LEASE NO.:	NM-0556811
WELL NAME & NO.:	Blasting Cap 13 Federal No. 1
SURFACE HOLE FOOTAGE:	660' FSL & 375' FEL
BOTTOM HOLE FOOTAGE:	375'' FSL & 375'' FEL
LOCATION:	Section 7, T. S., R. E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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
- ☐ Construction
 - Notification
 - Topsoil
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ Road Section Diagram
- ☒ Drilling
- ☐ Production (Post Drilling)
 - Well Structures & Facilities
- ☐ Reserve Pit Closure/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. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 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 stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 70' X 15' on the North side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 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. 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 thirty (30) 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.

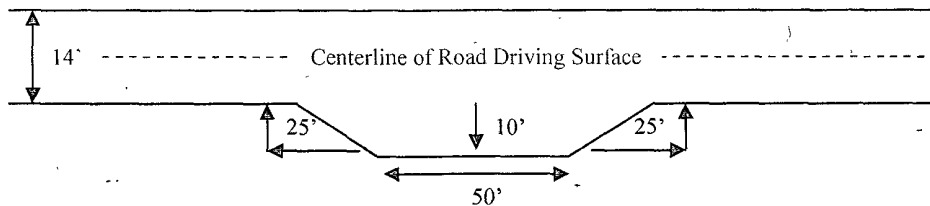
Ditching

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 be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

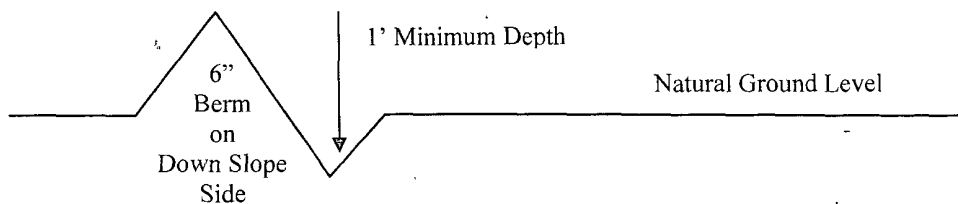


Drainage

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 culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

Where entry is required 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 fence(s).

Public Access

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

VI. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Chaves and Roosevelt Counties, T16S Eddy County**

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
(575) 627-0205 and (575) 361-2822.

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. If Hydrogen Sulfide is encountered, please 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.
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 are located, this does not include the dog house or stairway area.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work.

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

Possible debris flows in the Rustler formation

Possible lost circulation in the Grayburg and San Andres formations.

Possible high pressure gas bursts from the Wolfcamp formation – applicable to pilot hole.

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 the salt is penetrated, set casing 25' above the salt. Rustler is in a structural low in this area. Fresh water mud to setting depth. Additional cement may be required.

~~Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing.~~

- 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time 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. (This is to include the lead cement).
 - 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, a 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-d above.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

3. The minimum required fill of cement behind the 7 inch production casing is:
☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Formation below the kick off point to be tested according to Onshore Order 2.III.B.1.i.

Tag cement at bottom of pilot hole and report on subsequent report. NOTE: Pilot hole will require proper plug when well is plugged.

4. The minimum required fill of cement behind the 4-1/2 inch production casing is:

☒ Not required as operator is using Peak Iso-Pak liner. **Seal on Peak Systems Iso-Pack liner is to be tested per Onshore Oil and Gas Order 2.III.B.1.b. Please call BLM for witness of seal test.**

5. 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. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.
 - d. 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.
 - e. A variance to test only the surface casing to the reduced pressure of **1000 psi** with the rig pumps is approved. **The BOP will be tested to 5000 psi by an independent service company.**

WWI 042608

VII. 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.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

VIII. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

~~At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location.~~

~~Any reductions 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 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.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture 2, for Sandy 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 of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/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>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
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
(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well-pad shall be accomplished in accordance with the private surface land owner agreement.