ATS-10-110

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JAN 05 2010
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OCD-HOBBS

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No
LC-063586

6 If Indian, Allotee or Tribe Name

1a. Type of Work. ☒ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.

1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. <37971>
Southern California 29 Federal No. 15

2 Name of Operator
Cimarex Energy Co. of Colorado <162683>

9. API Well No
30-025- 39634

3a. Address
600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. *(include area code)*
432-571-7800

10. Field and Pool, or Exploratory
Lusk; Bone Spring, South

4. Location of Well *(Report location clearly and in accordance with any State requirements *)*
At Surface 375 FSL & 330 FWL Unit M
At proposed prod Zone 330 FSL & 330 FEL Unit P Horizontal Bone Spring test

11. Sec , T. R. M. or Blk. and Survey or Area
29-19S-32E

14 Distance in miles and direction from nearest town or post office*

12. County or Parish
Lea

13 S
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line if any)	16 No of acres in lease	17. Spacing Unit dedicated to this well
330'	640	S2S2 160 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	**19 Proposed Depth**	**20. BLM/BIA Bond No on File**
N/A	Pilot Hole 9550' MD 13517' TVD 8950'	NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc)	**22. Approximate date work will start***	**23 Estimated duration**
3545' GR	01.15.09	25-30 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
2. A Drilling Plan
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)
4. Bond to cover the operations unless covered by an existing bond on f Item 20 above).
5. Operator Certification
6. Such other site specific information and/or plans as may be required authorized officer

25. Signature	Name *(Printed/Typed)*	Date
Zeno Farris	Zeno Farris	12.07.09

Title
Manager Operations Administration

Approved By *(Signature)*	Name (Printed/Typed)	Date
/s/ James A. Amos	/s/ James A. Amos	DEC 29 2009
Title FOR FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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.

APPROVAL FOR TWO YEARS

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.

* *(Instructions on page 2)*

CAPITAN CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

API Number has been assigned by OCD for **DRILLING ONLY**: your company has too many wells in violation of the Inactive well Rule 19 15 25 8 NMAC You must bring your Inactive well list to 10 or less before you can produce this well

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

RECEIVED
JAN 05 2010
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State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised October 15, 2009

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-39634	41460	Lusk; Bone Spring, S

Property Code	Property Name	Well Number
37971	SOUTHERN CALIFORNIA "29" FEDERAL	15

OGRID No.	Operator Name	Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	3545'

Surface Location

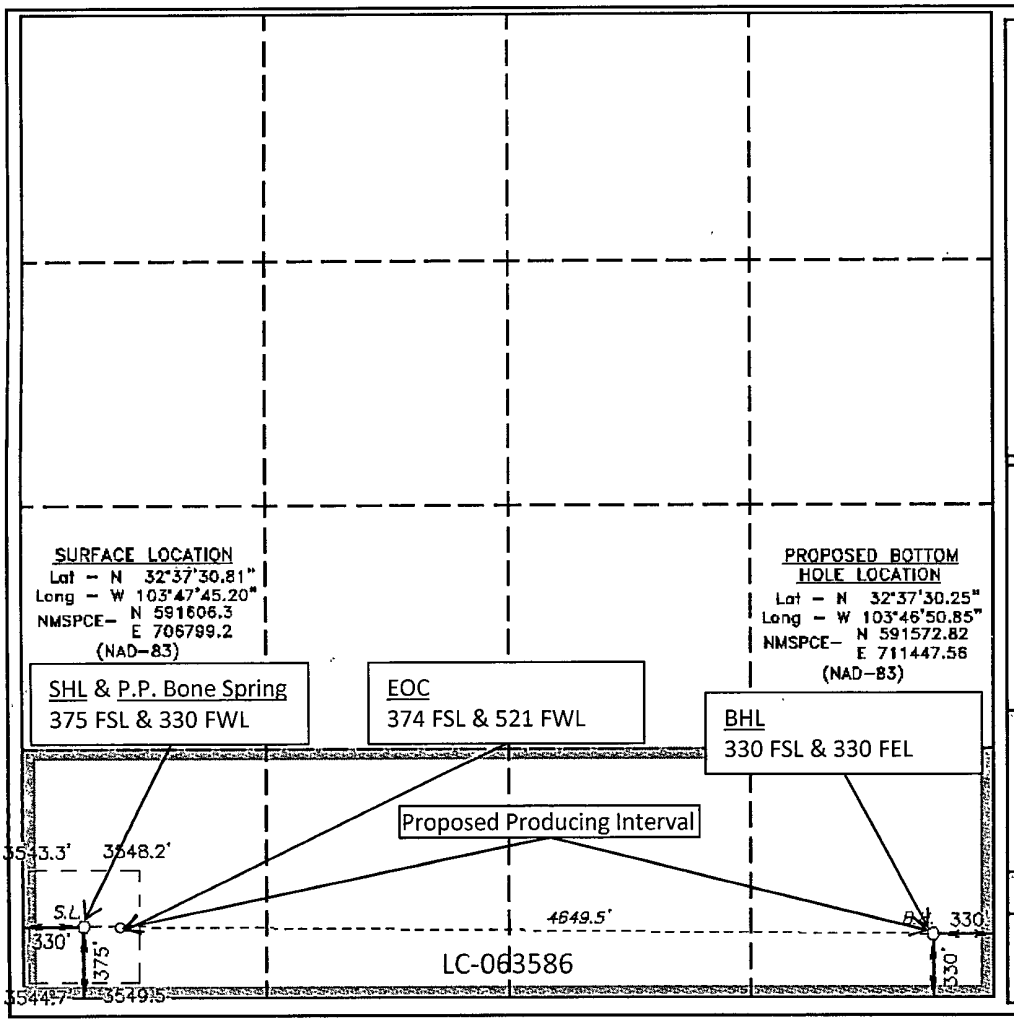
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	19 S	32 E		375	SOUTH	330	WEST	LEA

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	29	19 S	32 E		330	SOUTH	330	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



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

Zeno Farris 12/7/2009

Signature Date

Zeno Farris

Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

NOVEMBER 6, 2009

Date Surveyed

Signature & Seal of Professional Surveyor

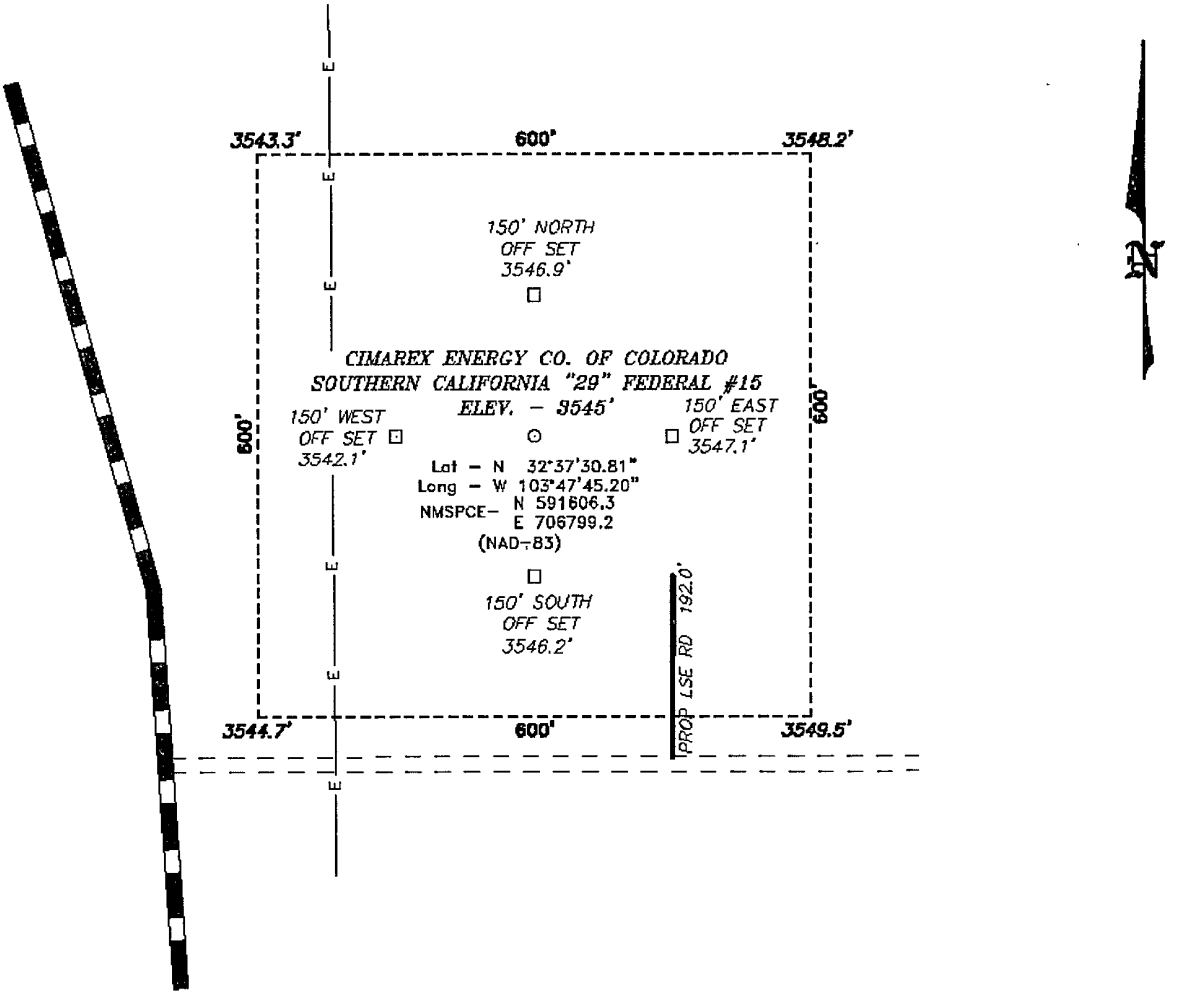
NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. 21058

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 29, TOWNSHIP 19 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF HWY 243 AND MALJAMAR, GO NORTH ON MALJAMAR FOR 3.8 MILES TO LEASE ROAD, ON LEASE ROAD GO EAST 0.1 MILES TO PROPOSED LEASE ROAD.

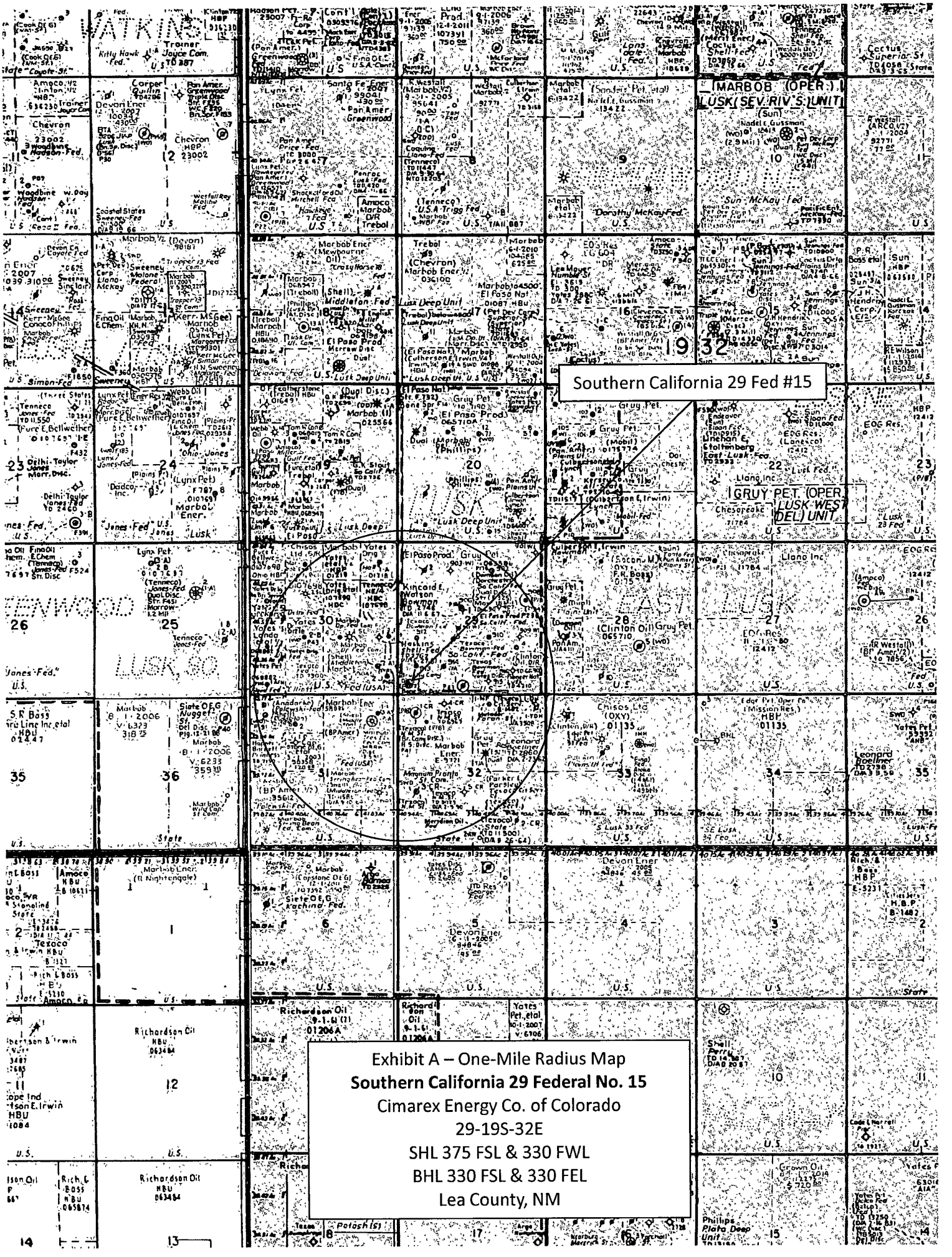
CIMAREX ENERGY CO. OF COLORADO

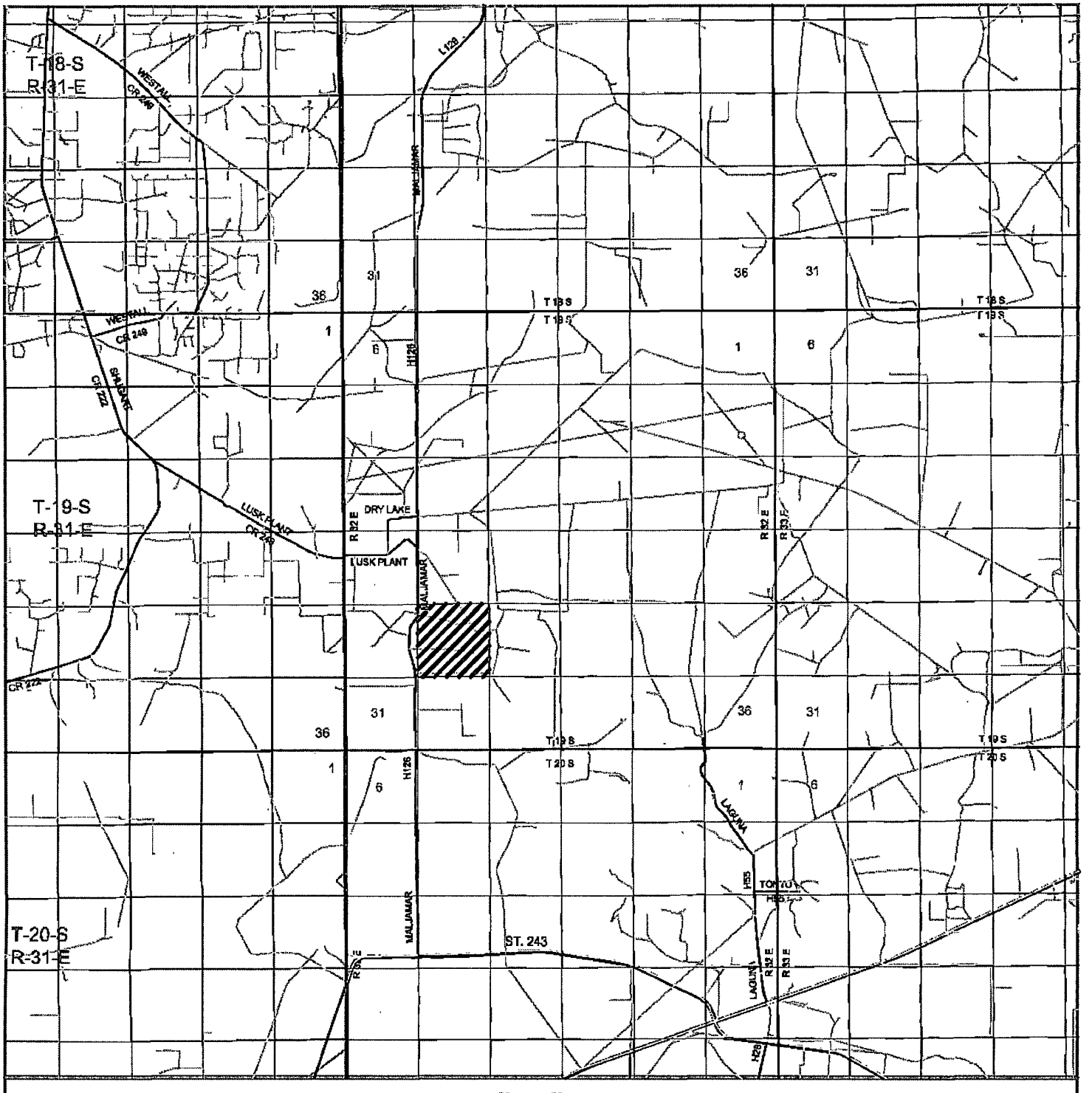
REF: SOUTHERN CALIFORNIA "29" FEDERAL #15 / WELL PAD TOPO

THE SOUTHERN CALIFORNIA "29" FEDERAL #15 LOCATED 375' FROM THE SOUTH LINE AND 330' FROM THE WEST LINE OF SECTION 29, TOWNSHIP 19 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

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

W.O. Number: 21958	Drawn By: J. SMALL		
Date: 11-23-2009	Disk: JMS 21958	Survey Date: 11-19-2009	Sheet 1 of 1 Sheets


Southern California 29 Fed #15
MARBOB (OPER.)
LUSK (SEV. RIV. S.) UNIT
GRUY PET. (OPER.)
LUSK WEST (DEL) UNIT
LUSK
Exhibit A – One-Mile Radius Map
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
29-19S-32E
SHL 375 FSL & 330 FWL
BHL 330 FSL & 330 FEL
Lea County, NM



SOUTHERN CALIFORNIA "29" FEDERAL #15
Located 375' FSL and 330' FWL
Section 29, Township 19 South, Range 32 East,
N.M.P.M., Lea County, New Mexico.

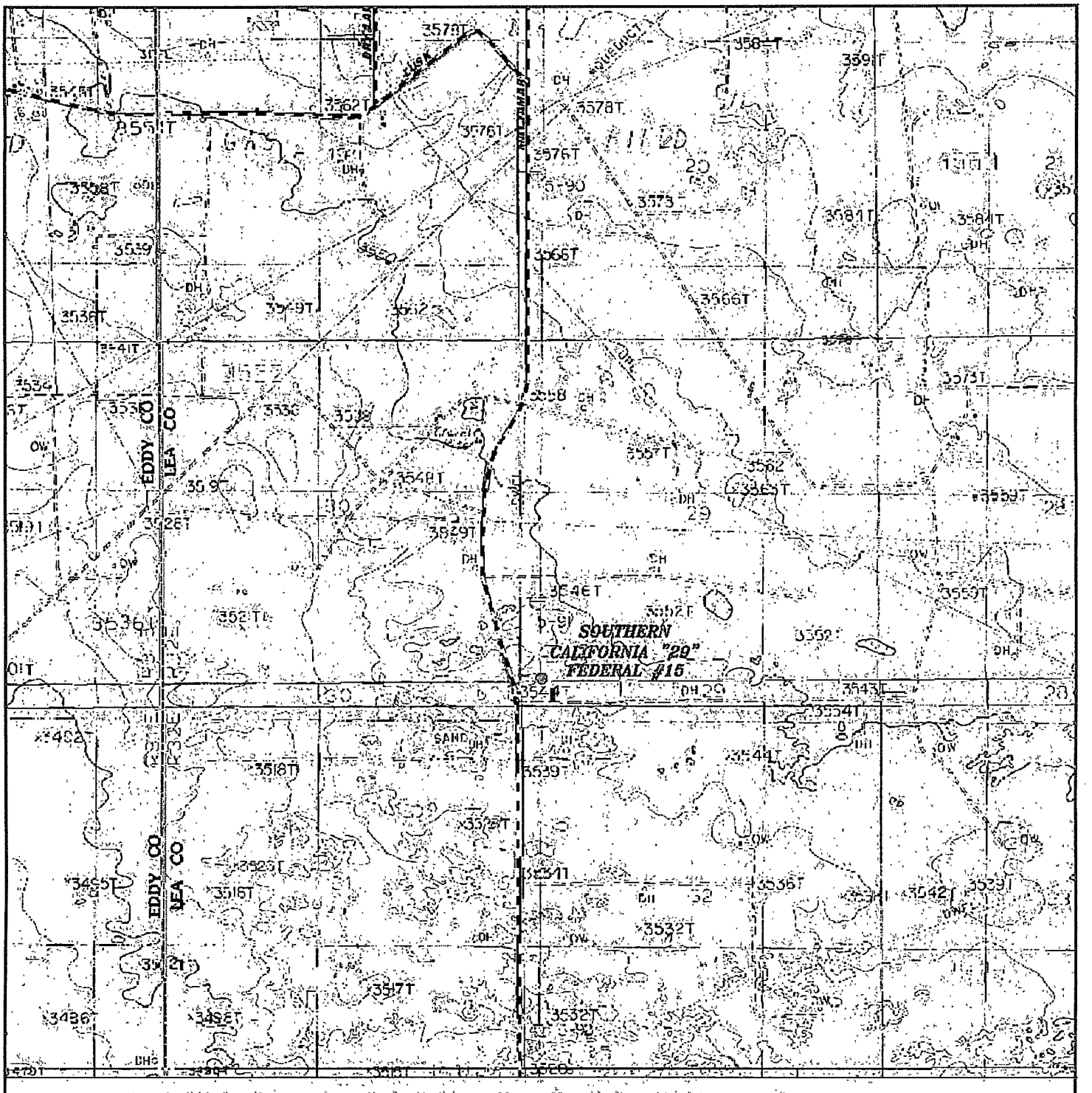
basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

W.O. Number:	JMS 21958
Survey Date:	11-19-2009
Scale:	1" = 2 Miles
Date:	11-23-2009

N

CIMAREX ENERGY CO. OF COLORADO

Exhibit B



SOUTHERN CALIFORNIA "29" FEDERAL #15
Located 375' FSL and 330' FWL
Section 29, Township 19 South, Range 32 East,
N.M.P.M., Lea County, New Mexico.

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

W.O. Number:	JMS 21958
Survey Date:	11-19-2009
Scale:	1" = 2000'
Date:	11-23-2009

N

CIMAREX ENERGY CO. OF COLORADO

Exhibit C

Application to Drill
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
Unit M, Section 29
T19S-R32E, Lea 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 375 FSL & 330 FWL
BHL 330 FSL & 330 FEL

2 Elevation above sea level: 3545' GR

3 Geologic name of surface formation: Quaternery 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 9550' MD 13517' TVD 8950'

6 Estimated tops of geological markers:

Rustler	882'	7 Rivers	2725'
Capitan	2844'	Delaware Sands	4400'
T. Salt	4500'	Bone Spring	7201'
B. Salt	2224'	FBSS	8400'
Yates	2387'	SBSS	9050'

7 Possible mineral bearing formation:
Bone Spring Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 920'	8.4 - 8.6	28	NC	FW
920' to ~~4000'~~ 3175	10.0	30-32	NC	Brine water
~~4000'~~ to 9550'	8.4 - 9.5	30-32	NC	FW, brine
8759' to 13517'	8.4	28-32	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.

Proposed drilling Plan
After drilling and setting surface casing, drill to vertical TD 9550' and log. Set 7" casing to 87000' and cross over to 2⅞" 2000 psi IJ fiberglass tubing underneath to 9550' and cement in place. Drill out of the bottom of the 7" with a 6⅛" bit and through cement and fiberglass tubing to KOP @ 8759' and kick off to drill the lateral. The fiberglass tubing effectively circulates cement to surface and plugs back the open hole.

Application to Drill
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
Unit M, Section 29
T19S-R32E, Lea County, NM

9 Casing & Cementing Program:

String	Hole Size	Depth			Casing OD		Weight	Collar	Grade
Surface	17½"	0'	to	920'	New	13⅜"	48#	STC	H-40
Intermediate	12¼"	0'	to	~~4000'~~ 3175	New	9⅝"	40#	LTC	J/K-55
Production	8¾"	0'	to	8700'	New	7"	26#	LTC	P-110
Production	8¾"	8700'	to	9550'	New	2⅞"	2.18#	0	IJ
Lateral Pt. 1	6⅛"	8600'	to	9059'	New	4½"	11.6#	**BTC**	P-110
Lateral Pt. 2	6⅛"	9059'	to	13517'	New	4½"	11.6#	**LTC**	P-110

See COA →

10 Cementing: See COA

Surface 820 sx Premium Plus + 2% $CaCl_2$ (wt 14.8, yld 1.35)
TOC Surface

Intermediate Lead: 215 sx Econocem + 3% Salt + 2% $CaCl_2$ + 3 lbm/sk Gilsonite (wt 11.7, yld 2.06)
Tail: 650 sks Premium Plus + 1% $CaCl_2$ (wt 14.8, yld 1.34)
TOC Surface

See COA

Production Lead: 460 sx EconoCem + 3% Salt + 5 lbm/sk gilsonite (wt 13.0, yld 1.71)
Tail: 400 sx HalCem (wt 14.8, yld 1.34)
TOC 3800'

Lateral No cement needed. Peak completion assembly.

Fresh water zones will be protected by setting 13⅜" casing at 920' and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 4000' and cementing to surface, and by setting 7" casing at 700' and fiberglass to 9550' and cementing to 3800.'

Collapse Factor	*Burst Factor*	*Tension Factor*
1.125	1.125	1.6

11 Pressure control Equipment:
Exhibit "E". A 13⅜" 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 nippled 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.

12 Testing, Logging and Coring Program: See COA

A. Mud logging program: 2 man unit from 4000' 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 H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S Safety package on all wells, attached is an "H_2S 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 **3000 psi** Estimated BHT **130°**

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.
Bone Spring pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **an oil well.**

Cimarex Energy Co.

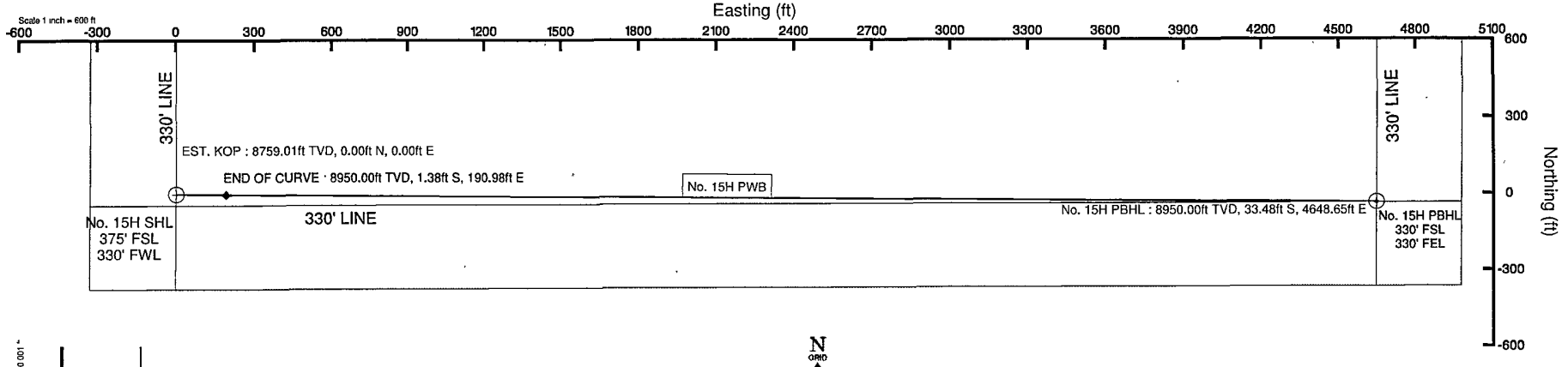
Location: Lea County, NM
Field: (SC) Sec 29, T19S, R32E
Facility: Southern California 29 Fed No. 15H

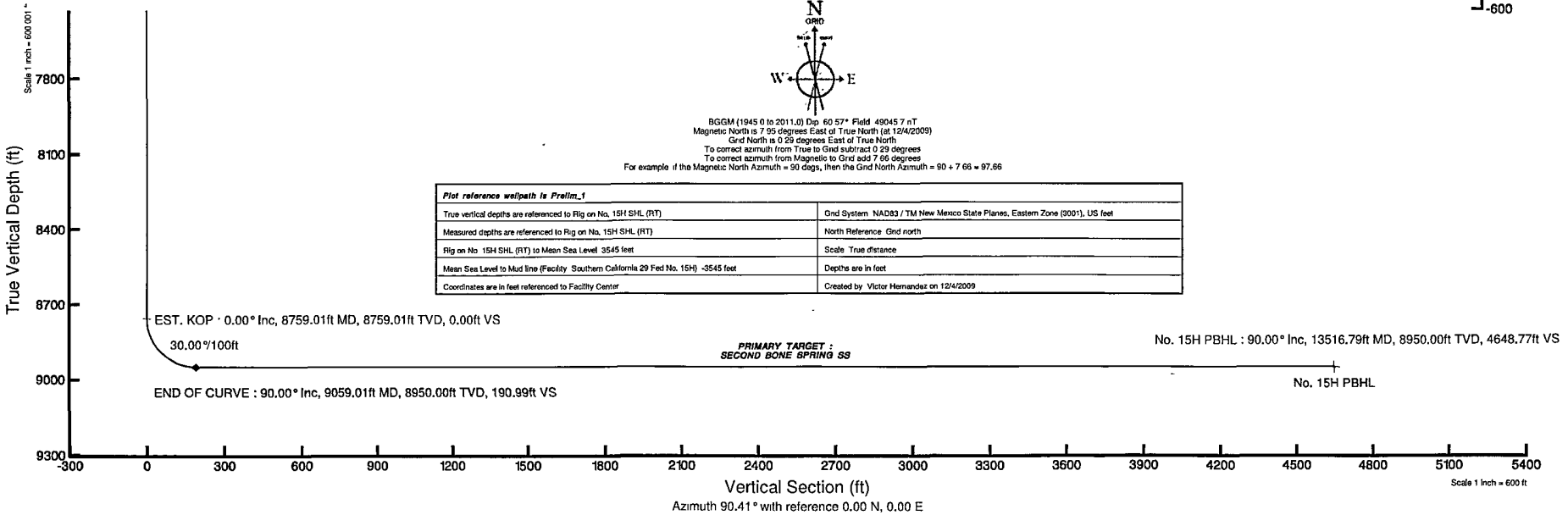
Slot: No. 15H SHL
Well: No. 15H
Wellbore: No. 15H PWB

BAKER HUGHES INTEQ

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	90.413	0.00	0.00	0.00	0.00	0.00
EST. KOP	8759.01	0.000	90.413	8759.01	0.00	0.00	0.00	0.00
END OF CURVE	9059.01	90.000	90.413	8950.00	-1.38	190.98	30.00	190.99
No. 15H PBHL	13516.79	90.000	90.413	8950.00	-33.48	4648.65	0.00	4648.77





N GRID
W E

BGGM (1945.0 to 2011.0) Dip 60.57° Field 49045.7 nT
Magnetic North is 7.95 degrees East of True North (at 12/4/2009)
Grid North is 0.29 degrees East of True North
To correct azimuth from True to Grid subtract 0.29 degrees
To correct azimuth from Magnetic to Grid add 7.66 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.66 = 97.66

Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No. 15H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 15H SHL (RT)	North Reference: Grid north
Rig on No. 15H SHL (RT) to Mean Sea Level: 3545 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Southern California 29 Fed No. 15H): -3545 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 12/4/2009

Azimuth 90.41° with reference 0.00 N, 0.00 E

Planned Wellpath Report

Prelim_1

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 15H SHL**
Area	**Lea County, NM**	Well	**No. 15H**
Field	**(SC) Sec 29, T19S, R32E**	Wellbore	**No. 15H PWB**
Facility	**Southern California 29 Fed No. 15H**		

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	**0.99994**	Report Generated	**12/4/2009** at **9:24:24 AM**
Convergence at slot	**0.29° East**	Database/Source file	**WellArchitectDB/No._15H_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**	706799.20	591606.30	32°37'30.812"N	103°47'45.203"W
Facility Reference Pt			**706799.20**	**591606.30**	32°37'30.812"N	103°47'45.203"W
Field Reference Pt			**706799.20**	**591606.30**	32°37'30.812"N	103°47'45.203"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on No. 15H SHL (RT) to Facility Vertical Datum	**0.00ft**
Horizontal Reference Pt	**Facility Center**	Rig on No. 15H SHL (RT) to Mean Sea Level	**3545.00ft**
Vertical Reference Pt	**Rig on No. 15H SHL (RT)**	Facility Vertical Datum to Mud Line (Facility)	**0.00ft**
MD Reference Pt	**Rig on No. 15H SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**90.41°**

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 15H SHL
Area	Lea County, NM	Well	No. 15H
Field	(SC) Sec 29, T19S, R32E	Wellbore	No. 15H PWB
Facility	Southern California 29 Fed No. 15H		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
0.00	0.000	90.413	0.00	0.00	0.00	0.00	706799.20	591606.30	0.00	Tie On
100.00†	0.000	90.413	100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
200.00†	0.000	90.413	200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
300.00†	0.000	90.413	300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
400.00†	0.000	90.413	400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
500.00†	0.000	90.413	500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
600.00†	0.000	90.413	600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
700.00†	0.000	90.413	700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
800.00†	0.000	90.413	800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
900.00†	0.000	90.413	900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1000.00†	0.000	90.413	1000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1100.00†	0.000	90.413	1100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1200.00†	0.000	90.413	1200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1300.00†	0.000	90.413	1300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1400.00†	0.000	90.413	1400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1500.00†	0.000	90.413	1500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1600.00†	0.000	90.413	1600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1700.00†	0.000	90.413	1700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1800.00†	0.000	90.413	1800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
1900.00†	0.000	90.413	1900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2000.00†	0.000	90.413	2000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2100.00†	0.000	90.413	2100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2200.00†	0.000	90.413	2200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2300.00†	0.000	90.413	2300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2400.00†	0.000	90.413	2400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2500.00†	0.000	90.413	2500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2600.00†	0.000	90.413	2600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2700.00†	0.000	90.413	2700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2800.00†	0.000	90.413	2800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
2900.00†	0.000	90.413	2900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	

Planned Wellpath Report

Prelim_1

CIMAREX

BAKER HUGHES INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 15H SHL
Area	Lea County, NM	Well	No. 15H
Field	(SC) Sec 29, T19S, R32E	Wellbore	No. 15H PWB
Facility	Southern California 29 Fed No. 15H		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
3000.00†	0.000	90.413	3000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3100.00†	0.000	90.413	3100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3200.00†	0.000	90.413	3200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3300.00†	0.000	90.413	3300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3400.00†	0.000	90.413	3400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3500.00†	0.000	90.413	3500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3600.00†	0.000	90.413	3600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3700.00†	0.000	90.413	3700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3800.00†	0.000	90.413	3800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
3900.00†	0.000	90.413	3900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4000.00†	0.000	90.413	4000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4100.00†	0.000	90.413	4100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4200.00†	0.000	90.413	4200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4300.00†	0.000	90.413	4300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4400.00†	0.000	90.413	4400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4500.00†	0.000	90.413	4500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4600.00†	0.000	90.413	4600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4700.00†	0.000	90.413	4700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4800.00†	0.000	90.413	4800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
4900.00†	0.000	90.413	4900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5000.00†	0.000	90.413	5000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5100.00†	0.000	90.413	5100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5200.00†	0.000	90.413	5200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5300.00†	0.000	90.413	5300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5400.00†	0.000	90.413	5400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5500.00†	0.000	90.413	5500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5600.00†	0.000	90.413	5600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5700.00†	0.000	90.413	5700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5800.00†	0.000	90.413	5800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
5900.00†	0.000	90.413	5900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 15H SHL
Area	Lea County, NM	Well	No. 15H
Field	(SC) Sec 29, T19S, R32E	Wellbore	No. 15H PWB
Facility	Southern California 29 Fed No. 15H		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
6000.00†	0.000	90.413	6000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6100.00†	0.000	90.413	6100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6200.00†	0.000	90.413	6200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6300.00†	0.000	90.413	6300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6400.00†	0.000	90.413	6400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6500.00†	0.000	90.413	6500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6600.00†	0.000	90.413	6600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6700.00†	0.000	90.413	6700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6800.00†	0.000	90.413	6800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
6900.00†	0.000	90.413	6900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7000.00†	0.000	90.413	7000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7100.00†	0.000	90.413	7100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7200.00†	0.000	90.413	7200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7300.00†	0.000	90.413	7300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7400.00†	0.000	90.413	7400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7500.00†	0.000	90.413	7500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7600.00†	0.000	90.413	7600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7700.00†	0.000	90.413	7700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7800.00†	0.000	90.413	7800.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
7900.00†	0.000	90.413	7900.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8000.00†	0.000	90.413	8000.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8100.00†	0.000	90.413	8100.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8200.00†	0.000	90.413	8200.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8300.00†	0.000	90.413	8300.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8400.00†	0.000	90.413	8400.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8500.00†	0.000	90.413	8500.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8600.00†	0.000	90.413	8600.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8700.00†	0.000	90.413	8700.00	0.00	0.00	0.00	706799.20	591606.30	0.00	
8759.01	0.000	90.413	8759.01	0.00	0.00	0.00	706799.20	591606.30	0.00	EST. KOP
8800.00†	12.296	90.413	8799.69	4.38	-0.03	4.38	706803.58	591606.27	30.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 15H SHL
Area	Lea County, NM	Well	No. 15H
Field	(SC) Sec 29, T19S, R32E	Wellbore	No. 15H PWB
Facility	Southern California 29 Fed No. 15H		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
8900.00†	42.296	90.413	8887.54	49.72	-0.36	49.72	706848.91	591605.94	30.00	
9000.00†	72.296	90.413	8940.95	132.91	-0.96	132.90	706932.09	591605.34	30.00	
9059.01	90.000	90.413	8950.00	190.99	-1.38	190.98	706990.17	591604.92	30.00	END OF CURVE
9100.00†	90.000	90.413	8950.00	231.97	-1.67	231.97	707031.15	591604.63	0.00	
9200.00†	90.000	90.413	8950.00	331.97	-2.39	331.96	707131.14	591603.91	0.00	
9300.00†	90.000	90.413	8950.00	431.97	-3.11	431.96	707231.13	591603.19	0.00	
9400.00†	90.000	90.413	8950.00	531.97	-3.83	531.96	707331.13	591602.47	0.00	
9500.00†	90.000	90.413	8950.00	631.97	-4.55	631.96	707431.12	591601.75	0.00	
9600.00†	90.000	90.413	8950.00	731.97	-5.27	731.95	707531.11	591601.03	0.00	
9700.00†	90.000	90.413	8950.00	831.97	-5.99	831.95	707631.10	591600.31	0.00	
9800.00†	90.000	90.413	8950.00	931.97	-6.71	931.95	707731.09	591599.59	0.00	
9900.00†	90.000	90.413	8950.00	1031.97	-7.43	1031.95	707831.08	591598.87	0.00	
10000.00†	90.000	90.413	8950.00	1131.97	-8.15	1131.94	707931.07	591598.15	0.00	
10100.00†	90.000	90.413	8950.00	1231.97	-8.87	1231.94	708031.06	591597.43	0.00	
10200.00†	90.000	90.413	8950.00	1331.97	-9.59	1331.94	708131.06	591596.71	0.00	
10300.00†	90.000	90.413	8950.00	1431.97	-10.31	1431.93	708231.05	591595.99	0.00	
10400.00†	90.000	90.413	8950.00	1531.97	-11.03	1531.93	708331.04	591595.27	0.00	
10500.00†	90.000	90.413	8950.00	1631.97	-11.75	1631.93	708431.03	591594.55	0.00	
10600.00†	90.000	90.413	8950.00	1731.97	-12.47	1731.93	708531.02	591593.83	0.00	
10700.00†	90.000	90.413	8950.00	1831.97	-13.19	1831.92	708631.01	591593.11	0.00	
10800.00†	90.000	90.413	8950.00	1931.97	-13.91	1931.92	708731.00	591592.39	0.00	
10900.00†	90.000	90.413	8950.00	2031.97	-14.63	2031.92	708830.99	591591.67	0.00	
11000.00†	90.000	90.413	8950.00	2131.97	-15.36	2131.92	708930.99	591590.95	0.00	
11100.00†	90.000	90.413	8950.00	2231.97	-16.08	2231.91	709030.98	591590.23	0.00	
11200.00†	90.000	90.413	8950.00	2331.97	-16.80	2331.91	709130.97	591589.51	0.00	
11300.00†	90.000	90.413	8950.00	2431.97	-17.52	2431.91	709230.96	591588.79	0.00	
11400.00†	90.000	90.413	8950.00	2531.97	-18.24	2531.91	709330.95	591588.06	0.00	
11500.00†	90.000	90.413	8950.00	2631.97	-18.96	2631.90	709430.94	591587.34	0.00	
11600.00†	90.000	90.413	8950.00	2731.97	-19.68	2731.90	709530.93	591586.62	0.00	
11700.00†	90.000	90.413	8950.00	2831.97	-20.40	2831.90	709630.92	591585.90	0.00	

Planned Wellpath Report

Prelim_1

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Cimarex Energy Co.**	Slot	**No. 15H SHL**
Area	**Lea County, NM**	Well	**No. 15H**
Field	**(SC) Sec 29, T19S, R32E**	Wellbore	**No. 15H PWB**
Facility	**Southern California 29 Fed No. 15H**		

WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	DLS [°/100ft]	Comments
11800.00†	90.000	90.413	8950.00	2931.97	-21.12	2931.90	709730.92	591585.18	0.00	
11900.00†	90.000	90.413	8950.00	3031.97	-21.84	3031.89	709830.91	591584.46	0.00	
12000.00†	90.000	90.413	8950.00	3131.97	-22.56	3131.89	709930.90	591583.74	0.00	
12100.00†	90.000	90.413	8950.00	3231.97	-23.28	3231.89	710030.89	591583.02	0.00	
12200.00†	90.000	90.413	8950.00	3331.97	-24.00	3331.89	710130.88	591582.30	0.00	
12300.00†	90.000	90.413	8950.00	3431.97	-24.72	3431.88	710230.87	591581.58	0.00	
12400.00†	90.000	90.413	8950.00	3531.97	-25.44	3531.88	710330.86	591580.86	0.00	
12500.00†	90.000	90.413	8950.00	3631.97	-26.16	3631.88	710430.85	591580.14	0.00	
12600.00†	90.000	90.413	8950.00	3731.97	-26.88	3731.88	710530.85	591579.42	0.00	
12700.00†	90.000	90.413	8950.00	3831.97	-27.60	3831.87	710630.84	591578.70	0.00	
12800.00†	90.000	90.413	8950.00	3931.97	-28.32	3931.87	710730.83	591577.98	0.00	
12900.00†	90.000	90.413	8950.00	4031.97	-29.04	4031.87	710830.82	591577.26	0.00	
13000.00†	90.000	90.413	8950.00	4131.97	-29.76	4131.86	710930.81	591576.54	0.00	
13100.00†	90.000	90.413	8950.00	4231.97	-30.48	4231.86	711030.80	591575.82	0.00	
13200.00†	90.000	90.413	8950.00	4331.97	-31.20	4331.86	711130.79	591575.10	0.00	
13300.00†	90.000	90.413	8950.00	4431.97	-31.92	4431.86	711230.78	591574.38	0.00	
13400.00†	90.000	90.413	8950.00	4531.97	-32.64	4531.85	711330.78	591573.66	0.00	
13500.00†	90.000	90.413	8950.00	4631.97	-33.36	4631.85	711430.77	591572.94	0.00	
13516.79	90.000	90.413	8950.00[1]	4648.77	-33.48	4648.65	711447.56	591572.82	0.00	No. 15H PBHL

Planned Wellpath Report

Prelim_1

INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 15H SHL
Area	Lea County, NM	Well	No. 15H
Field	(SC) Sec 29, T19S, R32E	Wellbore	No. 15H PWB
Facility	Southern California 29 Fed No. 15H		

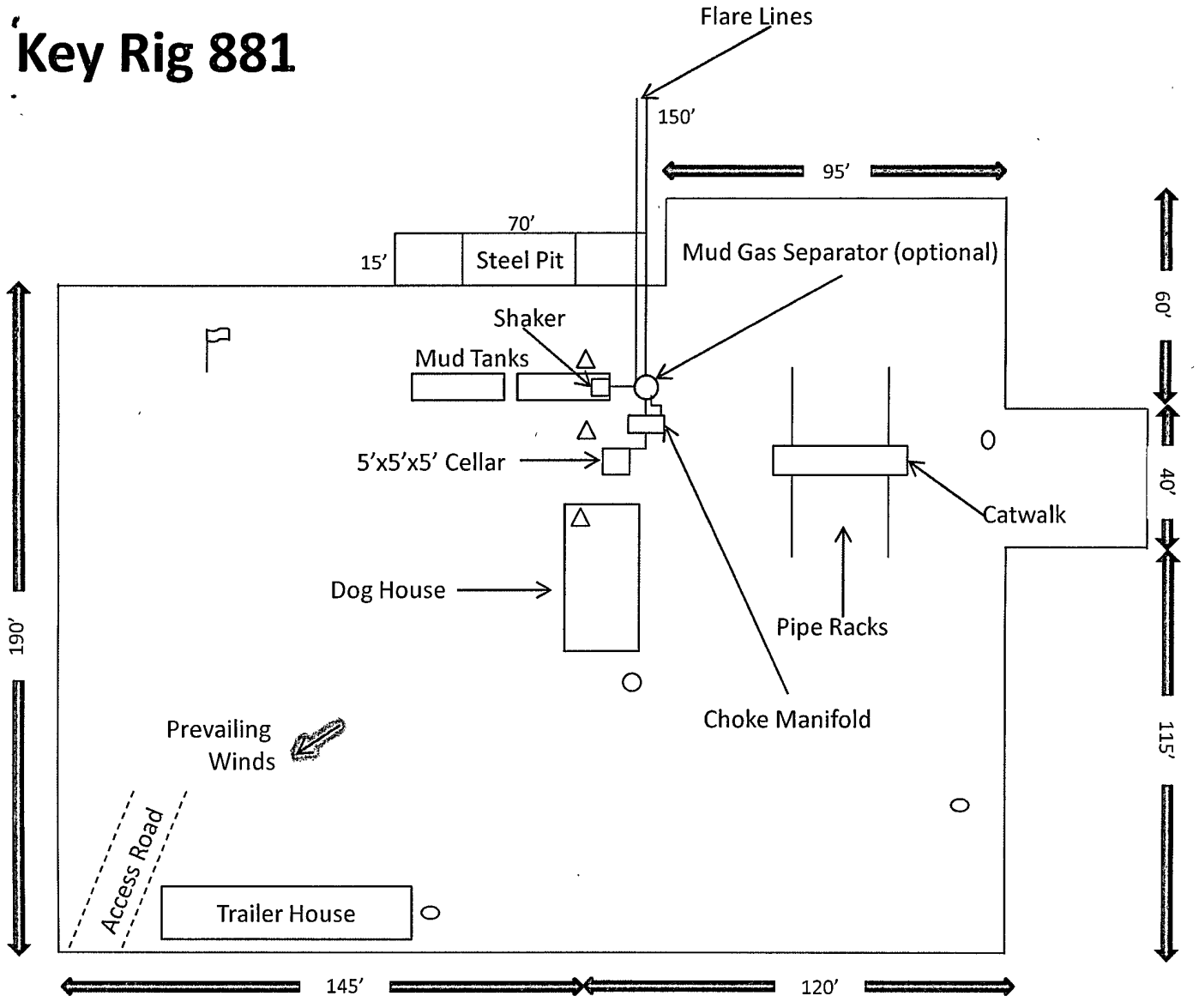
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 15H PBHL	13516.79	8950.00	-33.48	4648.65	711447.56	591572.82	32°37'30.245"N	103°46'50.852"W	point

SURVEY PROGRAM Ref Wellbore: No. 15H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13516.79	NaviTrak (Standard)		No. 15H PWB

Key Rig 881



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
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
29-19S-32E
SHL 375 FSL & 330 FWL
BHL 330 FSL & 330 FEL
Lea County, NM

SR & A

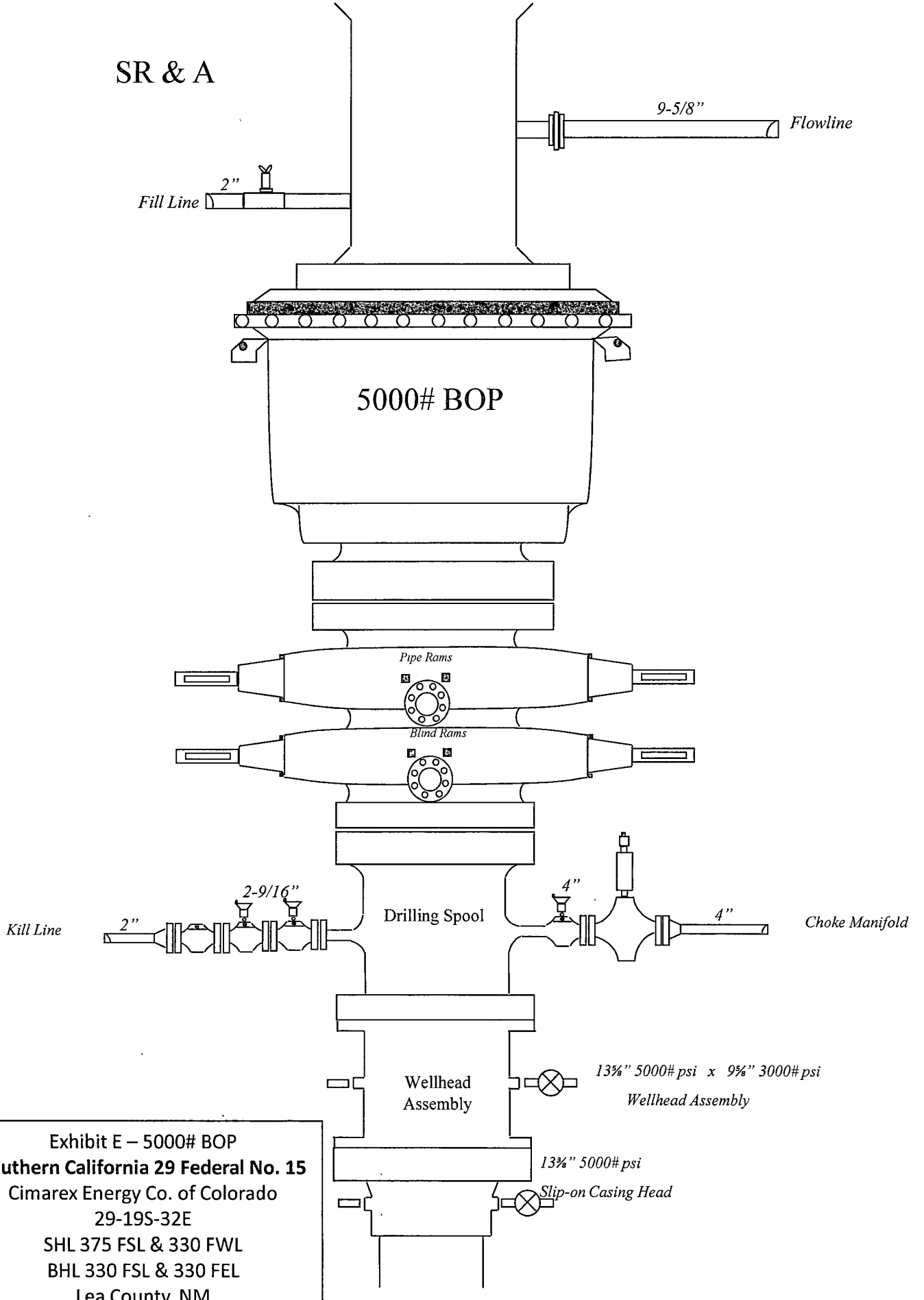
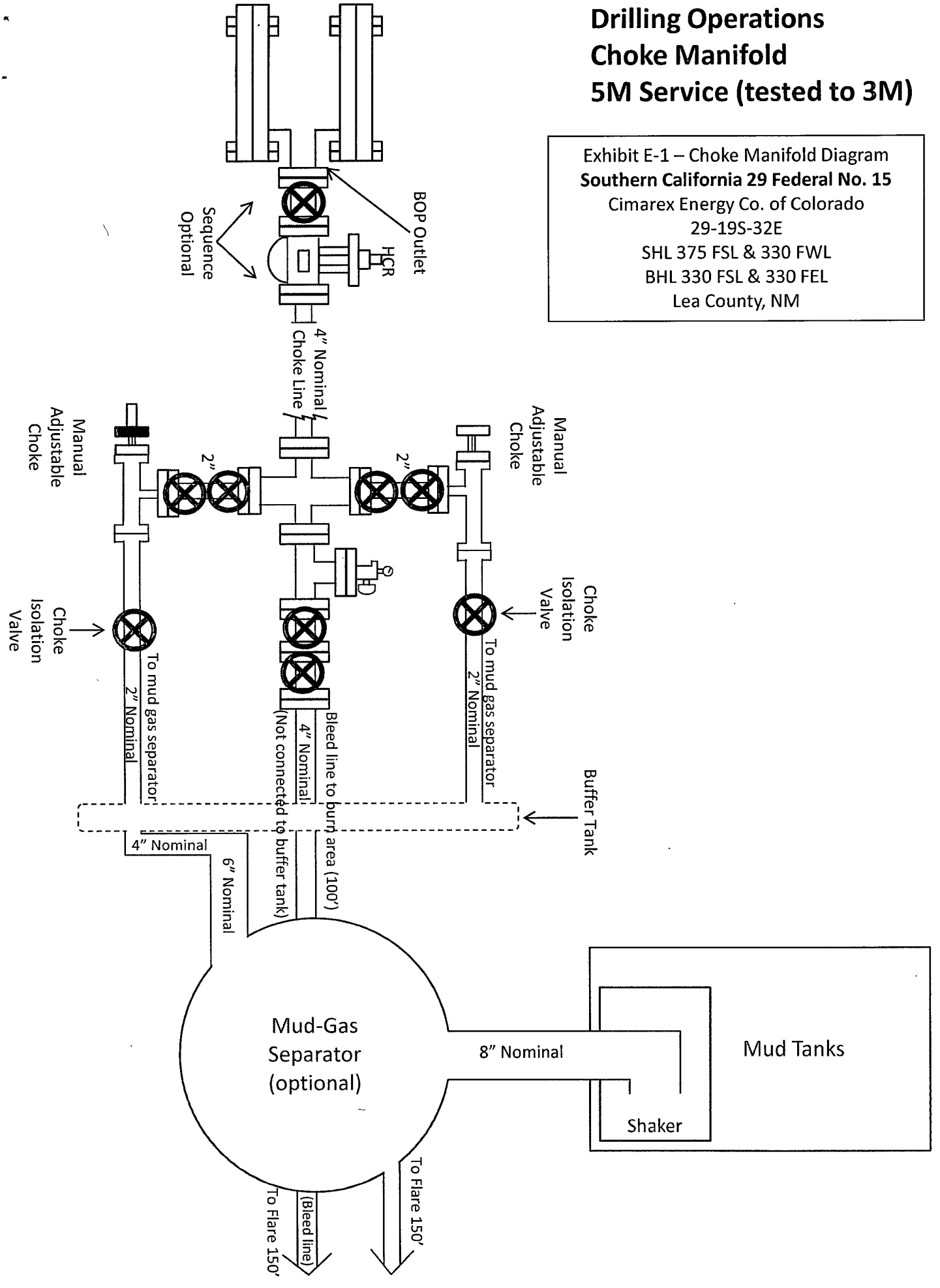


Exhibit E – 5000# BOP
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
29-19S-32E
SHL 375 FSL & 330 FWL
BHL 330 FSL & 330 FEL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service (tested to 3M)

Exhibit E-1 – Choke Manifold Diagram
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
29-19S-32E
SHL 375 FSL & 330 FWL
BHL 330 FSL & 330 FEL
Lea County, NM



Hydrogen Sulfide Drilling Operations Plan
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
Unit M, Section 29
T19S-R32E, Lea County, NM

1 All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:
   A. Characteristics of H_2S
   B. Physical effects and hazards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2 H_2S Detection and Alarm Systems:
   A. H_2S 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 (H_2S 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 H_2S has on tubular goods and other mechanical equipment.

9 If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H_2S scavengers if necessary.

H_2S Contingency Plan
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
Unit M, Section 29
T19S-R32E, Lea County, NM

Emergency Procedures

In the event of a release of gas containing H_2S, 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 H_2S 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 H_2S, and
  - ♦ Measures for protection against the gas,
  - ♦ Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	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).

H_2S Contingency Plan Emergency Contacts
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
Unit M, Section 29
T19S-R32E, Lea 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	432-620-1934	972-333-1407
Dee Smith	Drilling Super	432-620-1933	972-882-1010
Jim Evans	Drilling Super	432-620-1929	972-465-0564
Roy Shirley	Field Super		432-634-2136

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	
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	

Operator Certification Statement
Southern California 29 Federal No. 15
Cimarex Energy Co. of Colorado
Unit M, Section 29
T19S-R32E, Lea County, NM

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

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: December 7, 2009

TITLE: Manager Operations Administration

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy co. of Colorado
LEASE NO.:	LC063586
WELL NAME & NO.:	Southern California 29 Federal # 15
SURFACE HOLE FOOTAGE:	375' FSL & 330' FWL
BOTTOM HOLE FOOTAGE	330' FSL & 330' FEL
LOCATION:	Section 29, T. 19 S., R 32 E., NMPM
COUNTY:	Lea 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.

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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

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. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Hobbs Field Station at (575) 393-3612 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. V-DOOR DIRECTION: East

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. FEDERAL MINERAL MATERIALS PIT

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

F. 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.

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 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.

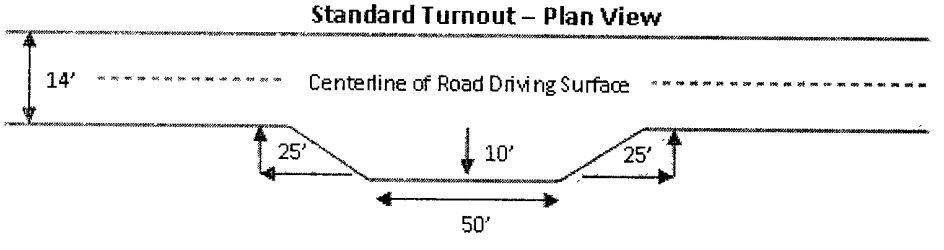
Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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.

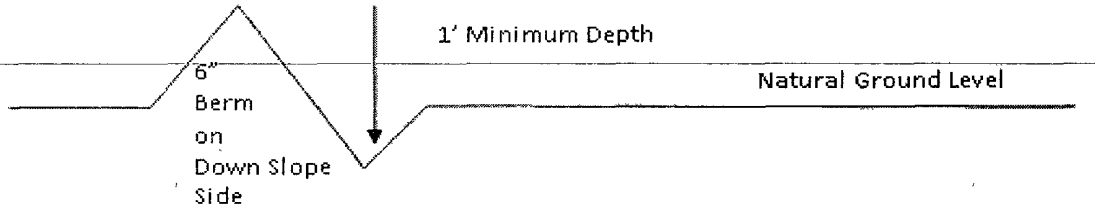
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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.

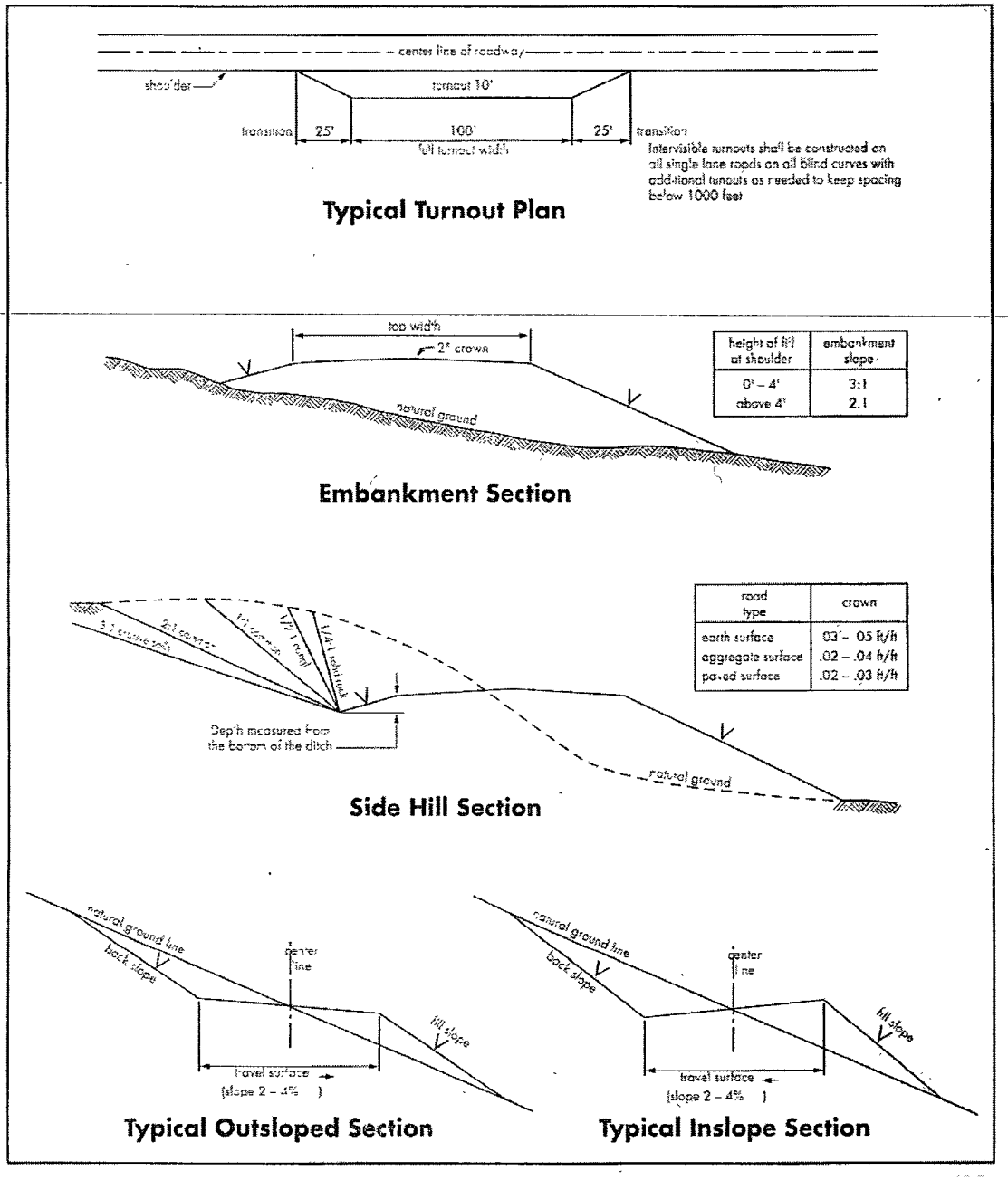
A gate shall be constructed and fastened securely to H-braces.

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.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. 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

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Delaware** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values 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.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will 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 and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

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 for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. 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.

Possible lost circulation in the Artesia Group and the Capitan Reef.
Possible water flows in the Artesia and Salado Groups.

1. The **13-3/8** inch surface casing shall be set at **approximately 920 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.**

    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. 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 fails back, remedial cementing will be done prior to drilling out that string.

If any lost circulation occurs below the Base of the Salt, the operator is to switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

In addition, daily drilling reports are to be submitted to the BLM CFO by 0800 hours each morning from the setting of the surface casing until the intermediate casing is set. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval.

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. **Intermediate casing is to be set at approximately 3,175' in the base of the Capitan Reef. Additional cement may be required as the excess calculates to 23%.**

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.

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 7" 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 and the mud weight for the bottom of the hole. Report results to BLM office.

4. Cement not required on the **4-1/2"** liner. Packer system is being used.

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface 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.**

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped.

   b. **Prior to testing a BOP/BOPE system against the casing; the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Testing the BOP/BOPE against a plug can commence after meeting the conditions in (a.) plus the BOP installation time.**

   c. The tests shall be done by an independent service company.

   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.

D. DRILL STEM TEST

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

CRW 122309

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.

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

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 for LPC Sand/Shinnery 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:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

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

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.

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.