

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions
listed below are made in accordance with OCD Rule 19.15.7.11
and are in addition to the actions approved by BLM on the
following 3160-3 APD form.

Operator Signature Date: 2/24/13

Well information;

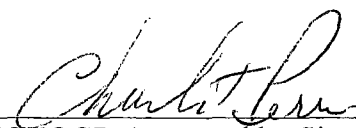
Operator Elm Ridge, Well Name and Number Chacon Amigos 11

API# 30-043-21143, Section 1, Township 22 NS, Range 3 EW

Conditions of Approval:

(See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☒ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☐ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils


NMOCD Approved by Signature

10-9-2013 ca
Date

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FEB 27 2013

APPLICATION FOR PERMIT TO DRILL OR REENTER

Farmington Field (01)
Bureau of Land Management

Lease Serial No.
BIA 360

If Indian, Allottee or Tribe Name
JICARILLA APACHE NATION

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.
CHACON AMIGOS 11

2. Name of Operator ELM RIDGE EXPLORATION COMPANY, LLC

9. API Well No.
30-043- 21143

3a. Address P. O. BOX 156
BLOOMFIELD, NM 87413

3b. Phone No. (include area code)
505 632 3476

10. Field and Pool, or Exploratory
LINDRITH GALLUP-DAKOTA, WEST

4. Location of Well (Report location clearly and in accordance with any State requirements*)

At surface F 2086' FNL & 1806' FWL 1-22N-3W

At proposed prod. zone 3 1980' FSL & 1979' FEL 1-22N-3W

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

11. Sec., T. R. M. or Blk. and Survey or Area
NWSE (3) 1-22N-3W NMPM

14. Distance in miles and direction from nearest town or post office
16 AIR MILES NW OF CUBA, NM

12. County or Parish
SANDOVAL

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft.
(Also to nearest drig. unit line, if any)
1,979'

16. No. of acres in lease
2,541

17. Spacing Unit dedicated to this well
SE4 SEC. 1

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
150' (Bonanza 12)

19. Proposed Depth
TVD: 7300' & MD: 7812'

20. BLM/BIA Bond No. on file
BIA nationwide OKC 606114

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
7,213' GRADED

22. Approximate date work will start*
05/01/2013

23. Estimated duration
5 WEEKS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature

Brian Wood

Name (Printed/Typed)

BRIAN WOOD (505 466-8120)

Date

02/24/2013

Title

CONSULTANT

(FAX 505 466-9682)

Approved by (Signature)

AFM

Name (Printed/Typed)

Office

FFO

Date

9/6/13

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

(Continued on page 2)

*(Instructions on page 2)

This action is subject to technical and procedural review pursuant to 43 CFR 3165.4 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

NMOC

**Drilling Condition of Approval: Refer to attached Jicarilla Apache Nation
Standard Stipulations C.6: Surface casing must be set a minimum 500 feet.**

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

FEB 27 2013

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21143	² Pool Code 39189	LINDRITH GALLUP-DAKOTA, WEST
⁴ Property Code 22998	⁵ Property Name CHACON AMIGOS	⁶ Well Number 11
⁷ GRID No. 149052	⁸ Operator Name ELM RIDGE EXPLORATION COMPANY, LLC	⁹ Elevation 7213

¹⁰ Surface Location

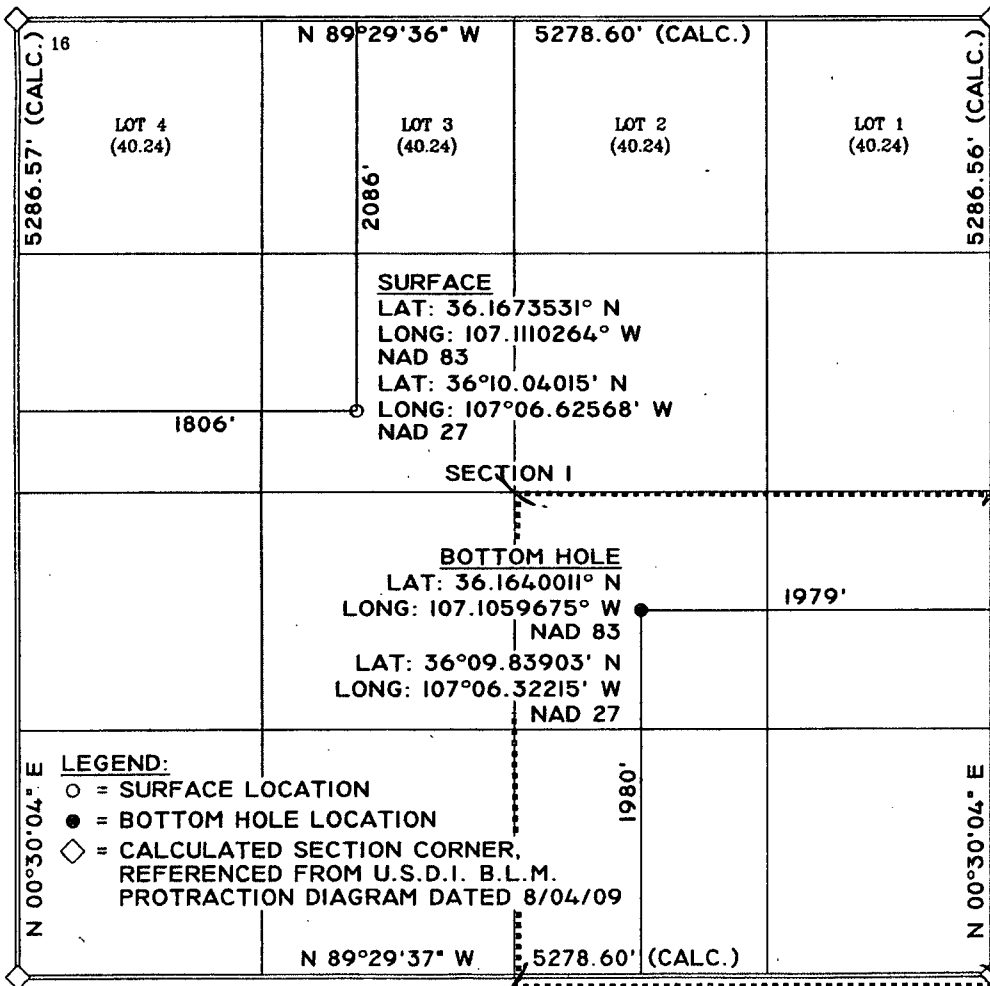
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	I	22 N	3 W	200	2086	NORTH	1806	WEST	SANDOVAL

¹¹ 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
J	I	22 N	3 W	200	1980	SOUTH	1979	EAST	SANDOVAL

¹² Dedicated Acres 160 ³⁴ / ₄	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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



¹⁷ 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.

Brian Wood 2-24-13
Signature Date
BRIAN WOOD
brian@permitswest.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same are true and correct to the best of my belief.

09/25/12
Date of Survey
Signature and Seal of Professional Surveyor

JOHN A. WURONICH
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
14831

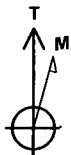
14831
Certificate Number 11-1-242

Elm Ridge Exploration Company.

Project: Sandoval County (Nad83)
 Site: SENW 1-22N-3W
 Well: Chacon Amigos #11
 Wellbore: DD
 Plan: #1

Reference Details - WELL CENTRE

Geodetic System: US State Plane 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone
 Northing: 1881309.00
 Easting: 1386276.41
 Latitude: 36° 10' 2.471 N
 Longitude: 107° 6' 39.695 W
 Grid Convergence: 0.51° East
 Ground Elevation: 7213.0
 KB Elevation: Est RKB @ 7225.0usft (CA #11)

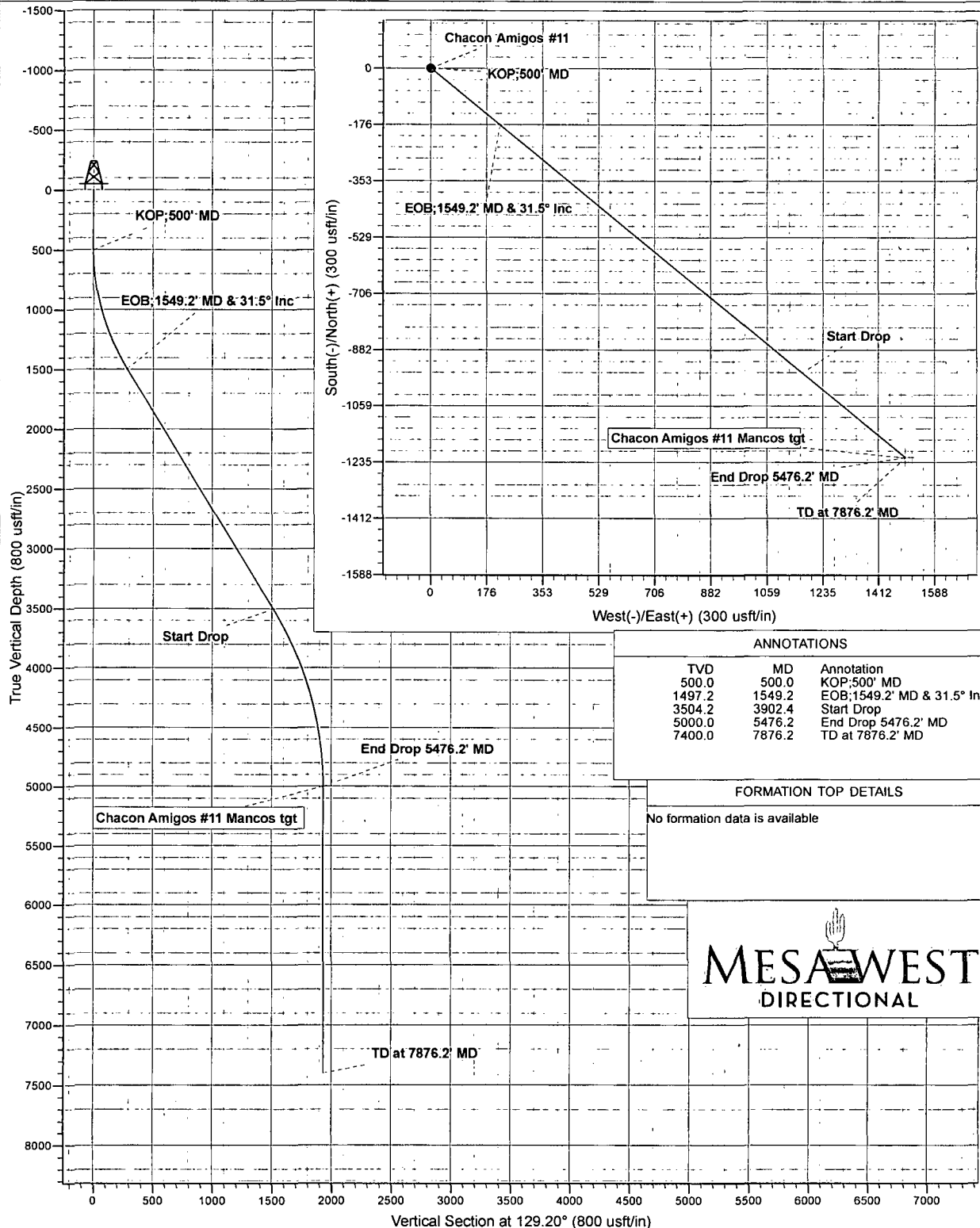


Azimuths to True North
 Magnetic North: 9.30°

Magnetic Field
 Strength: 50288.5snT
 Dip Angle: 63.04°
 Date: 6/13/2013
 Model: IGRF2010

PLAN DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	1549.2	31.48	129.20	1497.2	-177.6	217.8	3.00	129.20	281.0	
4	3902.4	31.48	129.20	3504.2	-954.2	1170.0	0.00	0.00	1509.7	
5	5476.2	0.00	0.00	5000.0	-1220.6	1496.6	2.00	180.00	1931.2	Chacon Amigos #11 Mancos tgt
6	7876.2	0.00	0.00	7400.0	-1220.6	1496.6	0.00	0.00	1931.2	



ANNOTATIONS

TVD	MD	Annotation
500.0	500.0	KOP:500' MD
1497.2	1549.2	EOB:1549.2' MD & 31.5° Inc
3504.2	3902.4	Start Drop
5000.0	5476.2	End Drop 5476.2' MD
7400.0	7876.2	TD at 7876.2' MD

FORMATION TOP DETAILS

No formation data is available

MESA WEST
 DIRECTIONAL

Vertical Section at 129.20° (800 usft/in)

Mesa West Directional
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Chacon Amigos #11
Company:	Elm Ridge Exploration Company.	TVD Reference:	Est RKB @ 7225.0usft (CA #11)
Project:	Sandoval County (Nad83)	MD Reference:	Est RKB @ 7225.0usft (CA #11)
Site:	SENW 1-22N-3W	North Reference:	True
Well:	Chacon Amigos #11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	#1		

Project	Sandoval County (Nad83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site		SENW 1-22N-3W			
Site Position:		Northing:	1,881,309.00 usft	Latitude:	36° 10' 2.471 N
From:	Map	Easting:	1,386,276.41 usft	Longitude:	107° 6' 39.695 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.51 °

Well		Chacon Amigos #11				
Well Position	+N/-S	0.0 usft	Northing:	1,881,309.00 usft	Latitude:	36° 10' 2.471 N
	+E/-W	0.0 usft	Easting:	1,386,276.41 usft	Longitude:	107° 6' 39.695 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	7,213.0 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/13/2013	9.30	63.04	50,289

Design		#1		
Audit Notes:				
Version:		Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	129.20

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,549.2	31.48	129.20	1,497.2	-177.6	217.8	3.00	3.00	0.00	129.20	
3,902.4	31.48	129.20	3,504.2	-954.2	1,170.0	0.00	0.00	0.00	0.00	
5,476.2	0.00	0.00	5,000.0	-1,220.6	1,496.6	2.00	-2.00	0.00	180.00	Chacon Amigos #11
7,876.2	0.00	0.00	7,400.0	-1,220.6	1,496.6	0.00	0.00	0.00	0.00	

Mesa West Directional

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Chacon Amigos #11
Company:	Elm Ridge Exploration Company.	TVD Reference:	Est RKB @ 7225.0usft (CA #11)
Project:	Sandoval County (Nad83)	MD Reference:	Est RKB @ 7225.0usft (CA #11)
Site:	SENW 1-22N-3W	North Reference:	True
Well:	Chacon Amigos #11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-7,225.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP;500' MD										
500.0	0.00	0.00	500.0	-6,725.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	3.00	129.20	600.0	-6,625.0	-1.7	2.0	2.6	3.00	3.00	0.00
700.0	6.00	129.20	699.6	-6,525.4	-6.6	8.1	10.5	3.00	3.00	0.00
800.0	9.00	129.20	798.8	-6,426.2	-14.9	18.2	23.5	3.00	3.00	0.00
900.0	12.00	129.20	897.1	-6,327.9	-26.4	32.3	41.7	3.00	3.00	0.00
1,000.0	15.00	129.20	994.3	-6,230.7	-41.1	50.4	65.1	3.00	3.00	0.00
1,100.0	18.00	129.20	1,090.2	-6,134.8	-59.1	72.4	93.5	3.00	3.00	0.00
1,200.0	21.00	129.20	1,184.4	-6,040.6	-80.2	98.3	126.9	3.00	3.00	0.00
1,300.0	24.00	129.20	1,276.8	-5,948.2	-104.4	128.0	165.1	3.00	3.00	0.00
1,400.0	27.00	129.20	1,367.1	-5,857.9	-131.6	161.3	208.2	3.00	3.00	0.00
1,500.0	30.00	129.20	1,454.9	-5,770.1	-161.7	198.3	255.9	3.00	3.00	0.00
EOB;1549.2' MD & 31.5° Inc										
1,549.2	31.48	129.20	1,497.2	-5,727.8	-177.6	217.8	281.0	3.00	3.00	0.00
1,600.0	31.48	129.20	1,540.5	-5,684.5	-194.4	238.3	307.5	0.00	0.00	0.00
1,700.0	31.48	129.20	1,625.8	-5,599.2	-227.4	278.8	359.8	0.00	0.00	0.00
1,800.0	31.48	129.20	1,711.1	-5,513.9	-260.4	319.3	412.0	0.00	0.00	0.00
1,900.0	31.48	129.20	1,796.4	-5,428.6	-293.4	359.7	464.2	0.00	0.00	0.00
2,000.0	31.48	129.20	1,881.7	-5,343.3	-326.4	400.2	516.4	0.00	0.00	0.00
2,100.0	31.48	129.20	1,967.0	-5,258.0	-359.4	440.6	568.6	0.00	0.00	0.00
2,200.0	31.48	129.20	2,052.3	-5,172.7	-392.4	481.1	620.8	0.00	0.00	0.00
2,300.0	31.48	129.20	2,137.5	-5,087.5	-425.4	521.6	673.0	0.00	0.00	0.00
2,400.0	31.48	129.20	2,222.8	-5,002.2	-458.4	562.0	725.2	0.00	0.00	0.00
2,500.0	31.48	129.20	2,308.1	-4,916.9	-491.4	602.5	777.5	0.00	0.00	0.00
2,600.0	31.48	129.20	2,393.4	-4,831.6	-524.4	643.0	829.7	0.00	0.00	0.00
2,700.0	31.48	129.20	2,478.7	-4,746.3	-557.4	683.4	881.9	0.00	0.00	0.00
2,800.0	31.48	129.20	2,564.0	-4,661.0	-590.4	723.9	934.1	0.00	0.00	0.00
2,900.0	31.48	129.20	2,649.3	-4,575.7	-623.4	764.3	986.3	0.00	0.00	0.00
3,000.0	31.48	129.20	2,734.6	-4,490.4	-656.4	804.8	1,038.5	0.00	0.00	0.00
3,100.0	31.48	129.20	2,819.8	-4,405.2	-689.4	845.3	1,090.7	0.00	0.00	0.00
3,200.0	31.48	129.20	2,905.1	-4,319.9	-722.4	885.7	1,142.9	0.00	0.00	0.00
3,300.0	31.48	129.20	2,990.4	-4,234.6	-755.4	926.2	1,195.2	0.00	0.00	0.00
3,400.0	31.48	129.20	3,075.7	-4,149.3	-788.4	966.7	1,247.4	0.00	0.00	0.00
3,500.0	31.48	129.20	3,161.0	-4,064.0	-821.4	1,007.1	1,299.6	0.00	0.00	0.00
3,600.0	31.48	129.20	3,246.3	-3,978.7	-854.4	1,047.6	1,351.8	0.00	0.00	0.00
3,700.0	31.48	129.20	3,331.6	-3,893.4	-887.4	1,088.0	1,404.0	0.00	0.00	0.00
3,800.0	31.48	129.20	3,416.8	-3,808.2	-920.4	1,128.5	1,456.2	0.00	0.00	0.00
3,900.0	31.48	129.20	3,502.1	-3,722.9	-953.4	1,169.0	1,508.4	0.00	0.00	0.00
Start Drop										
3,902.4	31.48	129.20	3,504.2	-3,720.8	-954.2	1,170.0	1,509.7	0.00	0.00	0.00
4,000.0	29.52	129.20	3,588.3	-3,636.7	-985.5	1,208.3	1,559.2	2.00	-2.00	0.00
4,100.0	27.52	129.20	3,676.1	-3,548.9	-1,015.6	1,245.3	1,607.0	2.00	-2.00	0.00
4,200.0	25.52	129.20	3,765.6	-3,459.4	-1,043.9	1,279.9	1,651.6	2.00	-2.00	0.00
4,300.0	23.52	129.20	3,856.6	-3,368.4	-1,070.1	1,312.1	1,693.1	2.00	-2.00	0.00
4,400.0	21.52	129.20	3,948.9	-3,276.1	-1,094.3	1,341.8	1,731.4	2.00	-2.00	0.00

Mesa West Directional

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Chacon Amigos #11
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Project:	Sandoval County (Nad83)	MD Reference:	Est RKB @ 7225.0usft (CA #11)
Site:	SENW 1-22N-3W	North Reference:	True
Well:	Chacon Amigos #11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	#1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.0	19.52	129.20	4,042.6	-3,182.4	-1,116.5	1,369.0	1,766.5	2.00	-2.00	0.00
4,600.0	17.52	129.20	4,137.4	-3,087.6	-1,136.5	1,393.6	1,798.3	2.00	-2.00	0.00
4,700.0	15.52	129.20	4,233.3	-2,991.7	-1,154.5	1,415.6	1,826.7	2.00	-2.00	0.00
4,800.0	13.52	129.20	4,330.1	-2,894.9	-1,170.4	1,435.0	1,851.8	2.00	-2.00	0.00
4,900.0	11.52	129.20	4,427.7	-2,797.3	-1,184.1	1,451.8	1,873.5	2.00	-2.00	0.00
5,000.0	9.52	129.20	4,526.0	-2,699.0	-1,195.6	1,466.0	1,891.7	2.00	-2.00	0.00
5,100.0	7.52	129.20	4,624.9	-2,600.1	-1,205.0	1,477.5	1,906.6	2.00	-2.00	0.00
5,200.0	5.52	129.20	4,724.2	-2,500.8	-1,212.2	1,486.3	1,917.9	2.00	-2.00	0.00
5,300.0	3.52	129.20	4,823.9	-2,401.1	-1,217.1	1,492.4	1,925.8	2.00	-2.00	0.00
5,400.0	1.52	129.20	4,923.8	-2,301.2	-1,219.9	1,495.8	1,930.2	2.00	-2.00	0.00
End Drop 5476.2' MD - Chacon Amigos #11 Mancos tgt										
5,476.2	0.00	0.00	5,000.0	-2,225.0	-1,220.6	1,496.6	1,931.2	2.00	-2.00	0.00
TD at 7876.2' MD										
7,876.2	0.00	0.00	7,400.0	175.0	-1,220.6	1,496.6	1,931.2	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Chacon Amigos #11 Ma	0.00	359.49	5,000.0	-1,220.6	1,496.6	1,880,075.20	1,387,762.13	36° 9' 50.400 N	107° 6' 21.443 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.0	500.0	0.0	0.0	KOP:500' MD
1,549.2	1,497.2	-177.6	217.8	EOB:1549.2' MD & 31.5° Inc
3,902.4	3,504.2	-954.2	1,170.0	Start Drop
5,476.2	5,000.0	-1,220.6	1,496.6	End Drop 5476.2' MD
7,876.2	7,400.0	-1,220.6	1,496.6	TD at 7876.2' MD

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Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>TVD</u>	<u>KB Depth</u>	<u>Elevation</u>
San Jose	0'	10'	+7,213'
Ojo Alamo	2,323'	2,333'	+4,890'
Kirtland	2,448'	2,458'	+4,765'
Fruitland Coal	2,563'	2,573'	+4,650'
Pictured Cliffs Ss	2,688'	2,698'	+4,525'
Lewis Shale	2,758'	2,768'	+4,455'
Cliff House Ss	4,183'	4,193'	+3,030'
Menefee	4,248'	4,258'	+2,965'
Point Lookout Ss	4,733'	4,743'	+2,480'
Mancos Shale	4,908'	4,918'	+2,305'
Gallup Ss	5,708'	5,718'	+1,505'
Greenhorn	6,803'	6,813'	+410'
Graneros	6,883'	6,893'	+330'
Dakota B	6,993'	7,003'	+220'
Total Vertical Depth	7,300'	7,310'	-87'
(measured depth = 7,812')			

2. NOTABLE ZONES

Oil & Gas Zones

Ojo Alamo
 Pictured Cliffs
 Chacra
 Gallup
 Graneros
 Dakota

Water Zones

San Jose
 Ojo Alamo
 Fruitland

Coal Zone

Fruitland

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All water zones will be protected with casing, cement, and weighted mud. Fresh water will be recorded by depth. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 3,000-psi model is on PAGE 3. The $\geq 3,000$ -psi BOP and choke manifold system will be installed and tested to 2,000-psi before drilling the surface casing plug. It will remain in use until the well is completed or abandoned. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when the Kelly is not in use.

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings that are set and cemented in place.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Setting Depth</u>
12-1/4"	8-5/8"	24	J-55	S T & C	New	360'
7-7/8"	5-1/2"	15.5	J-55	L T & C	New	7,812'

	<u>Drift</u>	<u>Torque</u>	<u>Burst</u>	<u>Collapse</u>	<u>Tension</u>	<u>Pressure Test</u>
	<u>inch</u>	<u>feet-pounds</u>	<u>psi</u>	<u>psi</u>	<u>1000 psi</u>	<u>psi</u>
Surface	7.972	3070	2950	1370	381	1000
Production	4.653	2020	4810	4040	248	3500

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Surface casing will be cemented to the surface with ≈ 310 cubic feet (≈ 262 sacks) Class B with 1/4 pound per sack cellophane + 2% CaCl_2 . Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Volume = 100% excess. Centralizers will be installed on the middle of the shoe joint and every other centralizer thereafter. Thread-lock the guide shoe and bottom of float collar only. Use API casing dope. Will test to ≈ 800 psi for ≈ 30 minutes.

Production casing will be cemented to the surface in two stages with $\geq 75\%$ excess. A stage tool will be set at $\approx 4,700'$ ($\approx 200'$ above the Mancos). Will pressure test to 2,000-psi for 30-minutes.

First stage volume will be 1,799 cubic feet. First stage will consist of 445 sacks (832 cubic feet) Halliburton light with 65/35 poz mix + 1/4 pound per sack cello flake + 2% CaCl_2 mixed at a yield of 1.87 cubic feet per sack and a weight of 12.7 pounds per gallon. That will be followed by 820 sacks (967 cubic feet) Class B + 2% CaCl_2 mixed at a yield of 1.18 cubic feet per sack and a weight of 15.2 pounds per gallon.

Second stage volume will be 1,555 cubic feet. Second stage will consist of 800 sacks (1,496 cubic feet) of Halliburton light with 65/35 poz mix + 1/4 pound per sack cello flake + 2% CaCl_2 mixed at a yield of 1.87 cubic feet per sack and a weight of 12.7 pounds per gallon. That will be followed by 50 sacks (59 cubic feet) Class B + 2% CaCl_2 mixed at a yield of 1.18 cubic feet per sack and a weight of 15.2 pounds per gallon.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' - 360'	Fresh water gel	9.0	50	NC	9
360' - TD'	Fresh water gel	9.0	38-50	6.0	9

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Sufficient material to maintain mud properties, control lost circulation, and contain a blowout will be available at the well site while drilling. Rig personnel will check the mud hourly. Material to soak up possible oil or fuel spills will be on site.

6. CORES, TESTS, & LOGS

No core or drill stem test is planned. Spectral density, high-resolution induction, and cement bond logs will be run the base of the surface casing to TD. Samples will be collected every $\approx 10'$ from $\approx 200'$ above the Point Lookout to and through the Gallup and Dakota.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum bottom hole pressure will be $\leq 3,118$ psi.

8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take ≈ 2 weeks to drill and ≈ 3 weeks to complete the well.

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Surface Use Plan

1. DIRECTIONS & EXISTING ROADS (See PAGES 10 & 11)

From the equivalent of Mile Post 80.5 on US 550...
Go Northeast 2.9 miles on gravel J-37
Then turn right and go ESE 1.3 miles on dirt J-38 to just past a cattle guard
Turn left and go Northeast 1.5 miles to a 3-way junction
Then bear left and go North and Northeast 1.0 mile on a dirt road
Then turn right and go Southeast \approx 985' on a pipeline road
Then turn right and go cross country \approx 69' to the Bonanza 12 pad

Roads will be maintained to at least equal to their present condition.

2. ROAD TO BE BUILT OR UPGRADED (PAGES 11 & 12)

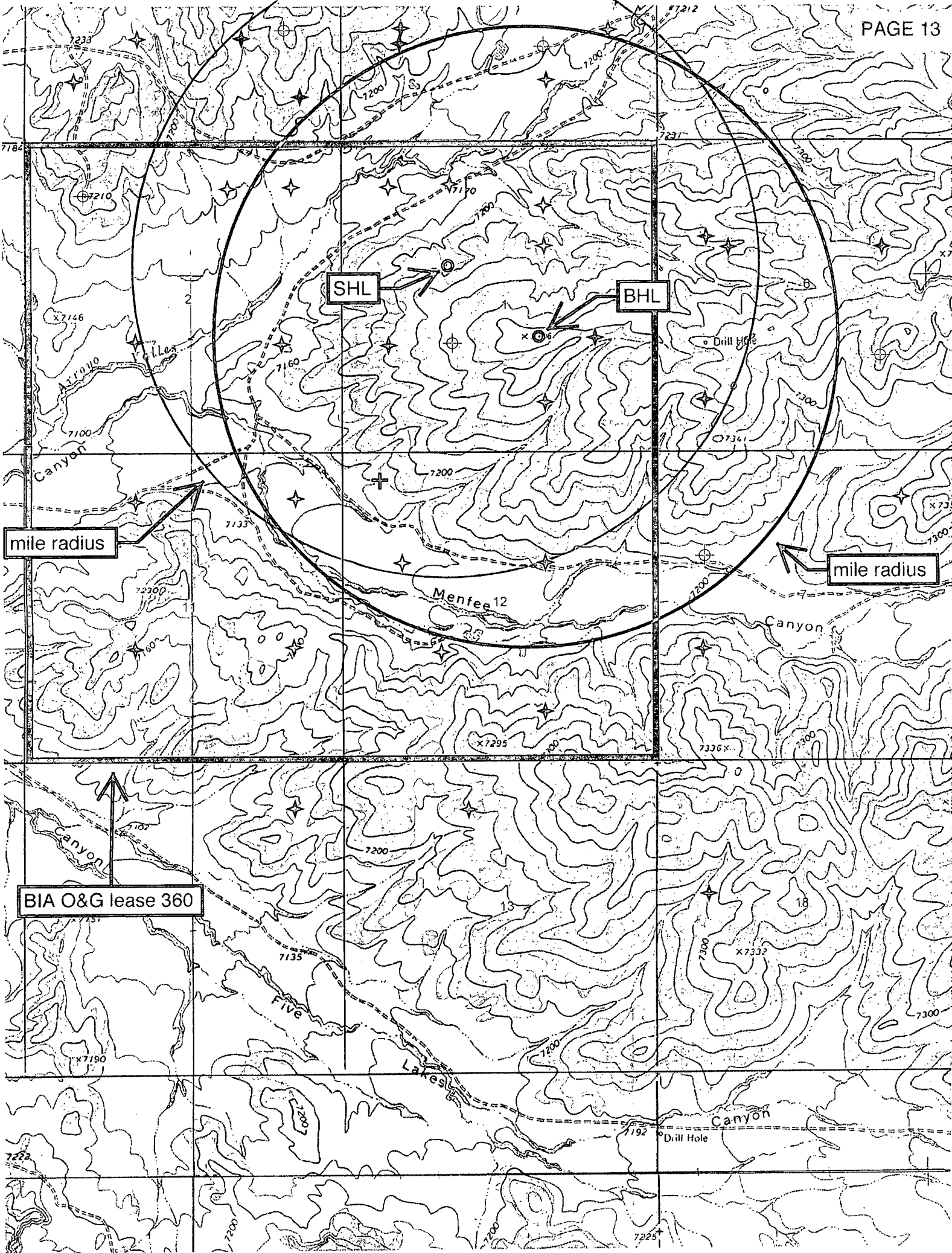
The Chacon Amigos 11 pad will overlap the Bonanza 12 pad. Road work is described in the Bonanza 12 APD.

3. EXISTING WELLS (See PAGE 13)

Twenty-two gas or oil wells, eight plugged and abandoned wells, and one water well are within a mile radius. There are no injection wells within a mile.

4. PROPOSED PRODUCTION FACILITIES (See PAGES 11 & 12)

Production facilities will include a separator, dehydrator, meter run, and two \approx 300 bbl tanks. All of the equipment will be painted a flat juniper green.



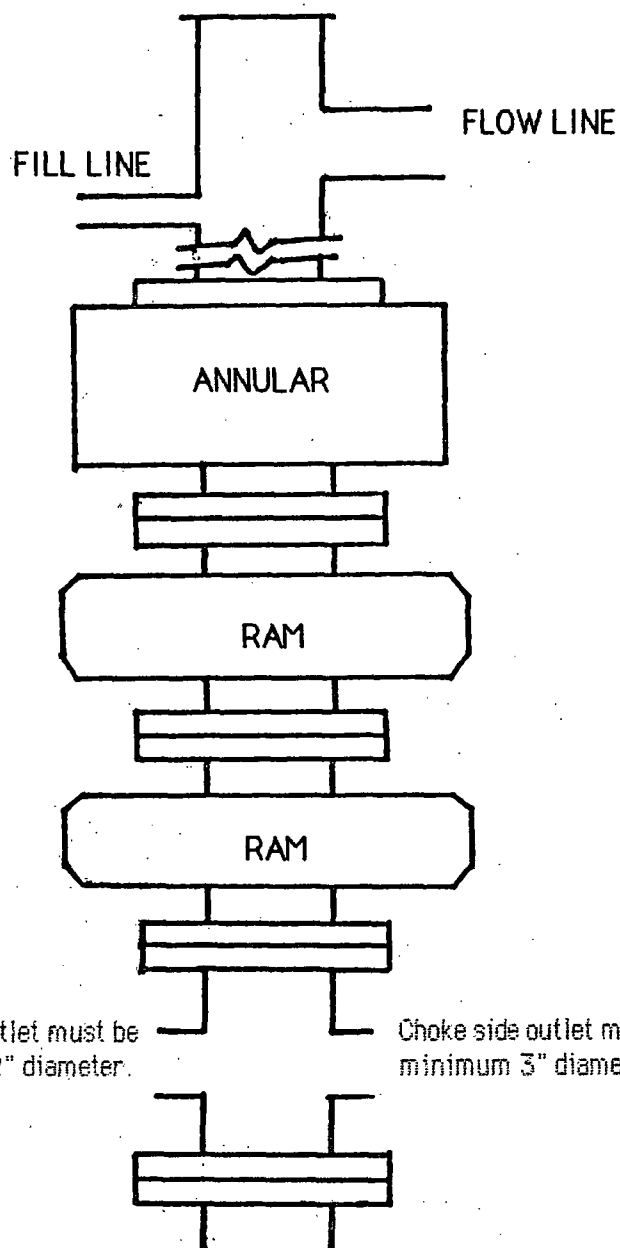
SHL

BHL

mile radius

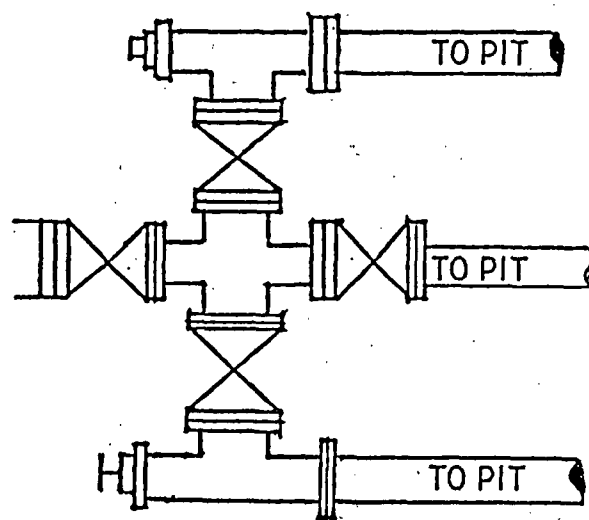
mile radius

BIA O&G lease 360



TYPICAL BOP STACK
& CHOKE MANIFOLD

There will be at least 2 chokes and 2 choke line valves (3" minimum). The choke line will be 3" in diameter. There will be a pressure gauge on the choke manifold.



Kill line will be minimum 2" diameter and have 2 valves, one of which shall be a minimum 2" check valve.

Upper kelly cock will have handle available.
Safety valve and subs will fit all drill string connections in use.
All BOPE connections subjected to well pressure will be flanged, welded, or clamped.