

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: 6/24/13

Well information;

Operator: Elm Ridge, Well Name and Number: Chacon Amigos #12


API#: 30-043-21163, Section 1, Township 22 N, Range 3 E W

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

\*\*\*\*\*THIS APPROVAL IS FOR POOL: LINDRITH GALLUP-DAKOTA WEST; ONLY  
HOLD C-104 FOR 5.9 COMPLIANCE

  
\_\_\_\_\_  
NMOCD Approved by Signature

7-6-14 *ca*  
\_\_\_\_\_  
Date

# RECEIVED

Form 3160-3  
(August 2007)

JUN 26 2013

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Farmington Field Office  
Bureau of Land Management

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		6. If Indian, Allottee or Tribe Name JICARILLA APACHE NATION	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.	
2. Name of Operator ELM RIDGE EXPLORATION COMPANY, LLC		8. Lease Name and Well No. CHACON AMIGOS 12	
3a. Address P. O. BOX 156 BLOOMFIELD, NM 87413		9. API Well No. 30-043- 21163	
3b. Phone No. (include area code) 505 632 3476		10. Field and Pool, or Exploratory WC MANCOS & LINDRITH GAL-DK, W	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 1183' FNL & 2072' FWL 1-22N-3W At proposed prod. zone 660' FNL & 1980' FEL 1-22N-3W		11. Sec., T. R. M. or Blk. and Survey or Area SHL: NENW (C) 1-22N-3W NMPM BHL: NWNE (B) 1-22N-3W NMPM	
14. Distance in miles and direction from nearest town or post office* 15 AIR MILES NW OF CUBA, NM		12. County or Parish SANDOVAL	
15. Distance from proposed* location to nearest property or lease line, ft. SHL: 1183' BHL: 660' (Also to nearest drig. unit line, if any)		13. State NM	
16. No. of acres in lease 2,541		17. Spacing Unit dedicated to this well MANCOS: NWNE 40.24 GALLUP-DAKOTA: NE4 160.48	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 150' (Bonanza 13) BHL: 458' (360 #1)		20. BLM/BIA Bond No. on file BIA nationwide OKC 606114	
19. Proposed Depth TVD: 7400' MD: 7618'		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7,182' GRADED	
22. Approximate date work will start* 08/10/2013		23. Estimated duration 5 WEEKS	

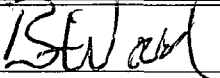
### 24. Attachments

OIL CONS. DIV.

DIST. 3

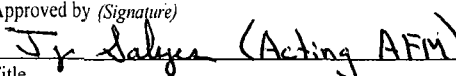
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature 	Name (Printed/Typed) BRIAN WOOD (505 466-8120)	Date 06/24/2013
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Title  
CONSULTANT

(FAX 505 466-9682)

Approved by (Signature) 	Name (Printed/Typed) Troy Salyers (Acting AFM)	Date 12/23/13
Title Petroleum Engineer	Office FFO	

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)

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

This action is subject to technical  
and procedural review pursuant to  
43 CFR 3165.3 and appeal  
pursuant to 43 CFR 3165.4

NMOC  
PV

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

**DISTRICT I**  
1625 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6181 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) 476-3480 Fax: (505) 476-3482

State of New Mexico  
Energy, Minerals & Natural Resources Department

**RECEIVED**

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

# OIL CONSERVATION DIVISION

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

JUN 26 2013

Farmington Field Office  
Bureau of Land Management

AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-043- <b>21163</b>		2 Pool Code 39189		LINDRITH GALLUP-DAKOTA, WEST	
3 Property Code <b>007744 22998</b>		4 Property Name CHACON AMIGOS			5 Well Number 12
6 OGRID No. 149052		7 Operator Name ELM RIDGE EXPLORATION COMPANY, LLC			8 Elevation 7182

### 10 Surface Location

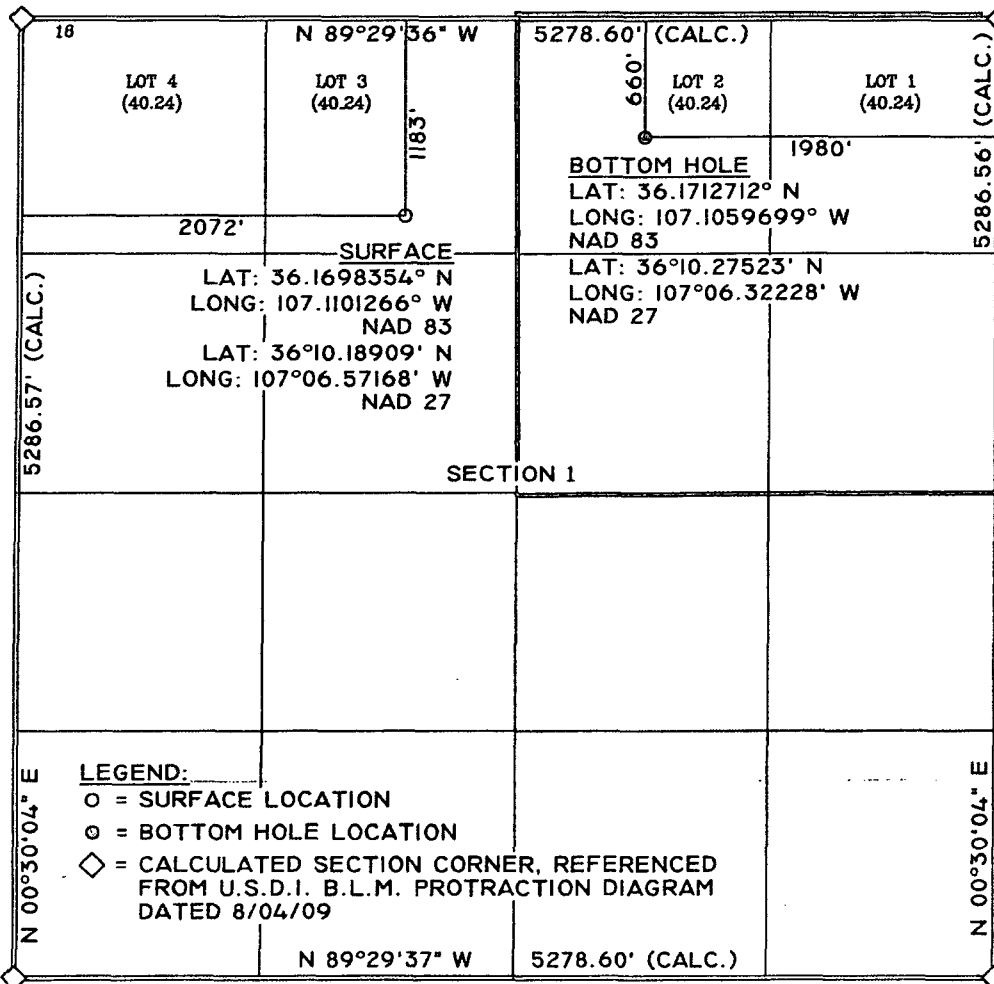
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	1	22 N	3 W	<del>LOT 3</del>	1183	NORTH	2072	WEST	SANDOVAL

### 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
B	1	22 N	3 W	<del>LOT 2</del>	660	NORTH	1980	EAST	SANDOVAL

12 Dedicated Acres <b>160.00</b>	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.

*[Signature]* 6-24-13  
Date  
Signature **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 is true and correct to the best of my belief.

02/28/13  
Date of Survey  
Signature and Seal of Professional Surveyor  
*[Signature]*  
14831  
Certificate Number  
3-20-2013

**JOSE V. VIRONICH**  
NEW MEXICO  
REGISTERED PROFESSIONAL SURVEYOR  
14831

# Elm Ridge Exploration Company.

Project: Sandoval County (Nad83)  
 Site: NENW-1-22N-3W  
 Well: Chacon Amigos #12  
 Wellbore: DD  
 Plan: #1

## Reference Details - WELL CENTRE

Geodetic System: US State Plane 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Central Zone  
 Northing: 1882209.80  
 Easting: 1386550.72  
 Latitude: 36° 10' 11.403 N  
 Longitude: 107° 6' 36.447 W  
 Grid Convergence: 0.51° East  
 Ground Elevation: 7182.0  
 KB Elevation: Est RKB @ 7194.0usft (CA #12)

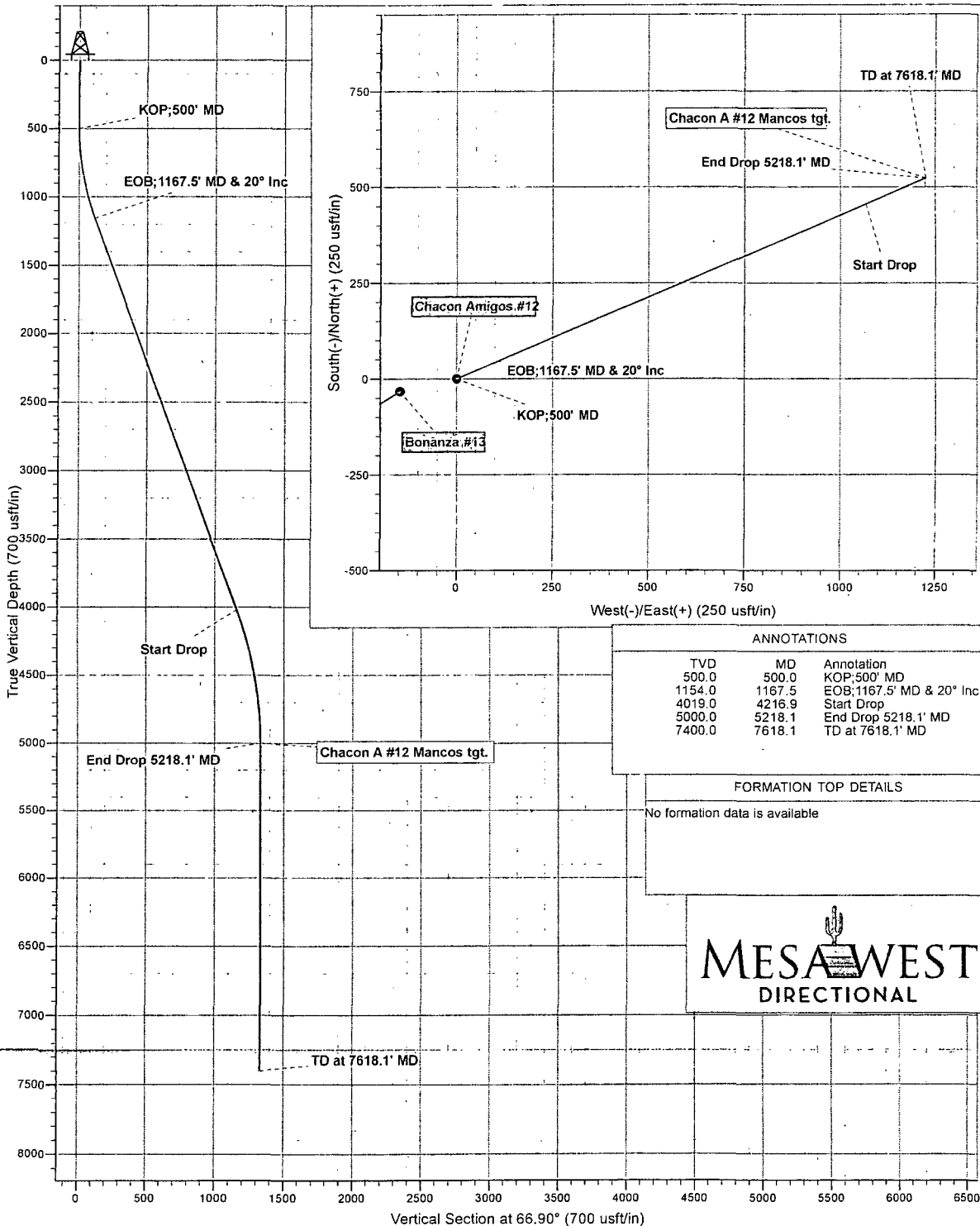


Azimuths to True North  
 Magnetic North: 9.30°

Magnetic Field  
 Strength: 50290.3nT  
 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	1167.5	20.03	66.90	1154.0	45.3	106.2	3.00	66.90	115.5	
4	4216.9	20.03	66.90	4019.0	455.0	1066.7	0.00	0.00	1159.7	
5	5218.1	0.00	0.00	5000.0	523.0	1226.0	2.00	180.00	1332.9	Chacon A #12 Mancos tgt.
6	7618.1	0.00	0.00	7400.0	523.0	1226.0	0.00	0.00	1332.9	



**Mesa West Directional**  
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Chacon Amigos #12
Company:	Elm Ridge Exploration Company.	TVD Reference:	Est RKB @ 7194.0usft (CA #12)
Project:	Sandoval County (Nad83)	MD Reference:	Est RKB @ 7194.0usft (CA #12)
Site:	NENW-1-22N-3W	North Reference:	True
Well:	Chacon Amigos #12	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		NENW-1-22N-3W			
Site Position:		Northing:	1,882,178.11 usft	Latitude:	36° 10' 11.077 N
From:	Lat/Long	Easting:	1,386,403.43 usft	Longitude:	107° 6' 38.240 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.51 °

Well	Chacon Amigos #12					
Well Position	+N/-S	33.0 usft	Northing:	1,882,209.80 usft	Latitude:	36° 10' 11.403 N
	+E/-W	147.0 usft	Easting:	1,386,550.72 usft	Longitude:	107° 6' 36.447 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	7,182.0 usft

Wellbore		DD			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/13/2013	9.30	63.04	50,290

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	66.90

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	
1,167.5	20.03	66.90	1,154.0	45.3	106.2	3.00	3.00	0.00	66.90	
4,216.9	20.03	66.90	4,019.0	455.0	1,066.7	0.00	0.00	0.00	0.00	
5,218.1	0.00	0.00	5,000.0	523.0	1,226.0	2.00	-2.00	0.00	180.00	Chacon A #12 Manco
7,618.1	0.00	0.00	7,400.0	523.0	1,226.0	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 #12
Company:	Elm Ridge Exploration Company.	TVD Reference:	Est RKB @ 7194.0usft (CA #12)
Project:	Sandoval County (Nad83)	MD Reference:	Est RKB @ 7194.0usft (CA #12)
Site:	NENW-1-22N-3W	North Reference:	True
Well:	Chacon Amigos #12	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	-7,194.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP;500' MD</b>										
500.0	0.00	0.00	500.0	-6,694.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	3.00	66.90	600.0	-6,594.0	1.0	2.4	2.6	3.00	3.00	0.00
700.0	6.00	66.90	699.6	-6,494.4	4.1	9.6	10.5	3.00	3.00	0.00
800.0	9.00	66.90	798.8	-6,395.2	9.2	21.6	23.5	3.00	3.00	0.00
900.0	12.00	66.90	897.1	-6,296.9	16.4	38.4	41.7	3.00	3.00	0.00
1,000.0	15.00	66.90	994.3	-6,199.7	25.5	59.9	65.1	3.00	3.00	0.00
1,100.0	18.00	66.90	1,090.2	-6,103.8	36.7	86.0	93.5	3.00	3.00	0.00
<b>EOB;1167.5' MD &amp; 20° Inc</b>										
1,167.5	20.03	66.90	1,154.0	-6,040.0	45.3	106.2	115.5	3.00	3.00	0.00
1,200.0	20.03	66.90	1,184.5	-6,009.5	49.7	116.4	126.6	0.00	0.00	0.00
1,300.0	20.03	66.90	1,278.5	-5,915.5	63.1	147.9	160.8	0.00	0.00	0.00
1,400.0	20.03	66.90	1,372.4	-5,821.6	76.5	179.4	195.1	0.00	0.00	0.00
1,500.0	20.03	66.90	1,466.4	-5,727.6	90.0	210.9	229.3	0.00	0.00	0.00
1,600.0	20.03	66.90	1,560.3	-5,633.7	103.4	242.4	263.6	0.00	0.00	0.00
1,700.0	20.03	66.90	1,654.3	-5,539.7	116.9	273.9	297.8	0.00	0.00	0.00
1,800.0	20.03	66.90	1,748.3	-5,445.7	130.3	305.4	332.1	0.00	0.00	0.00
1,900.0	20.03	66.90	1,842.2	-5,351.8	143.7	336.9	366.3	0.00	0.00	0.00
2,000.0	20.03	66.90	1,936.2	-5,257.8	157.2	368.4	400.5	0.00	0.00	0.00
2,100.0	20.03	66.90	2,030.1	-5,163.9	170.6	399.9	434.8	0.00	0.00	0.00
2,200.0	20.03	66.90	2,124.1	-5,069.9	184.0	431.4	469.0	0.00	0.00	0.00
2,300.0	20.03	66.90	2,218.0	-4,976.0	197.5	462.9	503.3	0.00	0.00	0.00
2,400.0	20.03	66.90	2,312.0	-4,882.0	210.9	494.4	537.5	0.00	0.00	0.00
2,500.0	20.03	66.90	2,405.9	-4,788.1	224.3	525.9	571.8	0.00	0.00	0.00
2,600.0	20.03	66.90	2,499.9	-4,694.1	237.8	557.4	606.0	0.00	0.00	0.00
2,700.0	20.03	66.90	2,593.8	-4,600.2	251.2	588.9	640.3	0.00	0.00	0.00
2,800.0	20.03	66.90	2,687.8	-4,506.2	264.7	620.4	674.5	0.00	0.00	0.00
2,900.0	20.03	66.90	2,781.7	-4,412.3	278.1	651.9	708.7	0.00	0.00	0.00
3,000.0	20.03	66.90	2,875.7	-4,318.3	291.5	683.4	743.0	0.00	0.00	0.00
3,100.0	20.03	66.90	2,969.7	-4,224.3	305.0	714.9	777.2	0.00	0.00	0.00
3,200.0	20.03	66.90	3,063.6	-4,130.4	318.4	746.4	811.5	0.00	0.00	0.00
3,300.0	20.03	66.90	3,157.6	-4,036.4	331.8	777.9	845.7	0.00	0.00	0.00
3,400.0	20.03	66.90	3,251.5	-3,942.5	345.3	809.4	880.0	0.00	0.00	0.00
3,500.0	20.03	66.90	3,345.5	-3,848.5	358.7	840.9	914.2	0.00	0.00	0.00
3,600.0	20.03	66.90	3,439.4	-3,754.6	372.2	872.4	948.5	0.00	0.00	0.00
3,700.0	20.03	66.90	3,533.4	-3,660.6	385.6	903.9	982.7	0.00	0.00	0.00
3,800.0	20.03	66.90	3,627.3	-3,566.7	399.0	935.4	1,016.9	0.00	0.00	0.00
3,900.0	20.03	66.90	3,721.3	-3,472.7	412.5	966.9	1,051.2	0.00	0.00	0.00
4,000.0	20.03	66.90	3,815.2	-3,378.8	425.9	998.4	1,085.4	0.00	0.00	0.00
4,100.0	20.03	66.90	3,909.2	-3,284.8	439.3	1,029.9	1,119.7	0.00	0.00	0.00
4,200.0	20.03	66.90	4,003.1	-3,190.9	452.8	1,061.4	1,153.9	0.00	0.00	0.00
<b>Start Drop</b>										
4,216.9	20.03	66.90	4,019.0	-3,175.0	455.0	1,066.7	1,159.7	0.00	0.00	0.00
4,300.0	18.36	66.90	4,097.5	-3,096.5	465.8	1,091.8	1,187.0	2.00	-2.00	0.00
4,400.0	16.36	66.90	4,192.9	-3,001.1	477.5	1,119.3	1,216.9	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 #12
Company:	Elm Ridge Exploration Company.	TVD Reference:	Est RKB @ 7194.0usft (CA #12)
Project:	Sandoval County (Nad83)	MD Reference:	Est RKB @ 7194.0usft (CA #12)
Site:	NENW-1-22N-3W	North Reference:	True
Well:	Chacon Amigos #12	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	14.36	66.90	4,289.4	-2,904.6	487.9	1,143.6	1,243.4	2.00	-2.00	0.00
4,600.0	12.36	66.90	4,386.7	-2,807.3	496.9	1,164.9	1,266.5	2.00	-2.00	0.00
4,700.0	10.36	66.90	4,484.7	-2,709.3	504.7	1,183.0	1,286.2	2.00	-2.00	0.00
4,800.0	8.36	66.90	4,583.3	-2,610.7	511.0	1,198.0	1,302.4	2.00	-2.00	0.00
4,900.0	6.36	66.90	4,682.5	-2,511.5	516.1	1,209.8	1,315.2	2.00	-2.00	0.00
5,000.0	4.36	66.90	4,782.1	-2,411.9	519.7	1,218.4	1,324.6	2.00	-2.00	0.00
5,100.0	2.36	66.90	4,881.9	-2,312.1	522.0	1,223.8	1,330.5	2.00	-2.00	0.00
5,200.0	0.36	66.90	4,981.9	-2,212.1	523.0	1,225.9	1,332.8	2.00	-2.00	0.00
End Drop 5218.1' MD - Chacon A #12 Mancos tgt.										
5,218.1	0.00	0.00	5,000.0	-2,194.0	523.0	1,226.0	1,332.9	2.00	-2.00	0.00
TD at 7618.1' MD										
7,618.1	0.00	0.00	7,400.0	206.0	523.0	1,226.0	1,332.9	0.00	0.00	0.00

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude
Chacon A #12 Mancos t		0.00	0.00	5,000.0	523.0	1,226.0	1,882,721.92	1,387,781.30	36° 10' 16.575 N
- plan hits target center									107° 6' 21.494 W
- 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
1,167.5	1,154.0	45.3	106.2	EOB; 1167.5' MD & 20° Inc
4,216.9	4,019.0	455.0	1,066.7	Start Drop
5,218.1	5,000.0	523.0	1,226.0	End Drop 5218.1' MD
7,618.1	7,400.0	523.0	1,226.0	TD at 7618.1' 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'	12'	+7,182'
Ojo Alamo	2,312'	2,324'	+4,870'
Kirtland	2,452'	2,464'	+4,730'
Fruitland Coal	2,552'	2,564'	+4,630'
Pictured Cliffs Ss	2,672'	2,684'	+4,510'
Lewis shale	2,747'	2,759'	+4,435'
Chacra Ss	3,447'	3,459'	+3,735'
Cliff House Ss	4,192'	4,204'	+2,990'
Menefee	4,262'	4,274'	+2,920'
Point Lookout Ss	4,687'	4,699'	+2,495'
Mancos Shale	4,902'	4,914'	+2,280'
Gallup Ss	5,637'	5,649'	+1,545'
Greenhorn	6,807'	6,819'	+375'
Graneros	6,877'	6,889'	+305'
Dakota Ss	6,892'	6,904'	+290'
Total Depth*	7,400'	7,412'	-218'

\* measured depth = 7,618'

2. NOTABLE ZONES

Oil & Gas Zones

Ojo Alamo  
Pictured Cliffs  
Mancos  
Gallup  
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. BOPE 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	7,618'

	<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  $\approx 310$  cubic feet ( $\approx 262$  sacks) Class B with 1/4 pound per sack cellophane + 2%  $\text{CaCl}_2$ . 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  $\approx 800$  psi for  $\approx 30$  minutes.

Production casing will be cemented to the surface in two stages with  $\geq 75\%$  excess. A stage tool will be set at  $\approx 4,775'$  ( $\approx 200'$  above the Mancos). Will pressure test to 2,000-psi for 30 minutes.

First stage volume will be  $\approx 1,377$  cubic feet. First stage will consist of 370 sacks ( $\approx 692$  cubic feet) Halliburton light with 65/35 poz mix + 1/4 pound per sack Flocele + 2%  $\text{CaCl}_2$  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 685 sacks (808 cubic feet) Class B + 2%  $\text{CaCl}_2$  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  $\approx 1,742$  cubic feet. Second stage will consist of  $\approx 900$  sacks (1,636 cubic feet) of Halliburton light with 65/35 poz mix + 1/4 pound per sack Flocele + 2%  $\text{CaCl}_2$  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  $\approx 50$  sacks (59 cubic feet) Class B + 2%  $\text{CaCl}_2$  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 TD.

#### 7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum bottom hole pressure will be  $\leq 3,204$  psi.

#### 8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take  $\approx 2$  weeks to drill and  $\approx 3$  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  $\approx 260'$  on the proposed Bonanza 12 road

Then turn left and go East  $\approx 95'$  to the Bonanza 13 pad

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

#### 2. ROAD TO BE BUILT OR UPGRADED

Upgrades will consist of repairing potholes. No new road is needed. The Chacon Amigos 12 pad overlaps the Bonanza 13 pad.

#### 3. EXISTING WELLS (See PAGE 11)

Seventeen gas or oil wells, six plugged and abandoned wells, and two water wells are within a mile radius. There are no injection wells within a mile.

#### 4. PROPOSED PRODUCTION FACILITIES (See PAGE 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.

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A 150' long steel 4-1/2" O. D. natural gas pipeline will be laid west across the Bonanza 13 pad and along its road to Elm Ridge's Bonanza 12/Chacon Amigos 11 pipeline. The pipeline will be buried  $\approx 36$ " deep, 3' to 5' from the Bonanza 13 pipelines, and 10' to 15' from the road.

#### 5. WATER SUPPLY

Water will be trucked from the Tribal water well that is one mile northwest of the junction of NM 537 and US 550.

#### 6. CONSTRUCTION MATERIALS & METHODS (See PAGES 13 & 14)

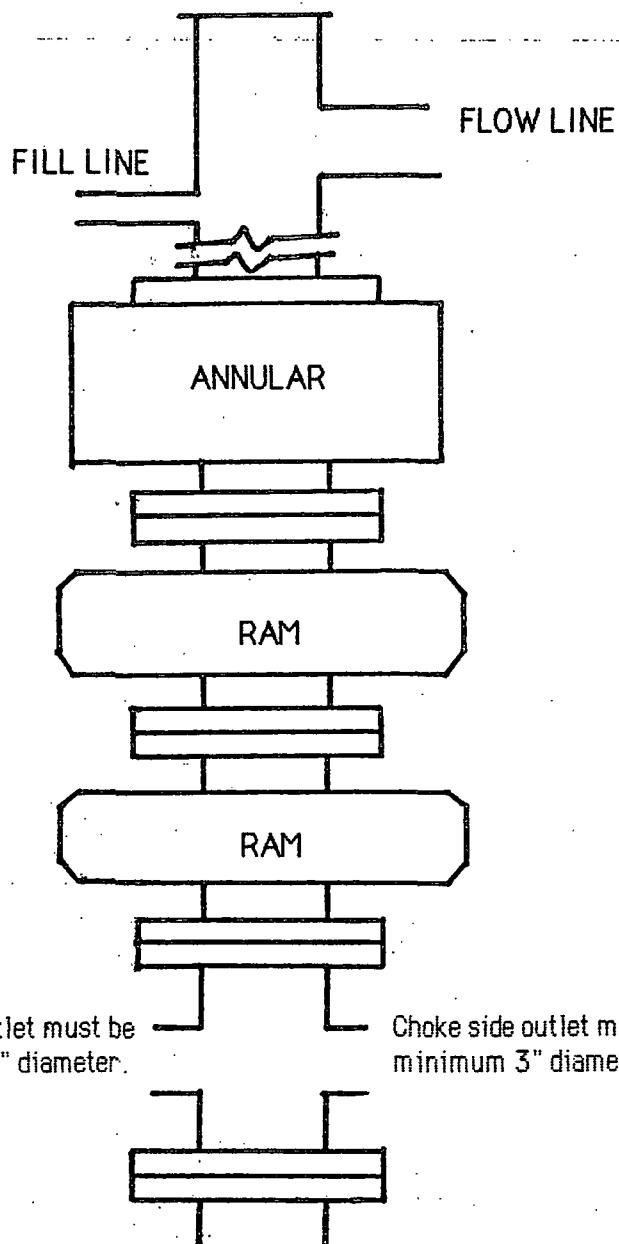
Sagebrush will be brush hogged. The top 6" of soil and will be bladed and piled north of the pad. A diversion ditch will be cut south of the pad.

#### 7. WASTE DISPOSAL

- ✓ A closed loop system will be used instead of a reserve pit. Tank contents will be hauled to a State approved disposal site off the Jicarilla Apache Nation. All trash will be placed in a portable trash cage. It will be hauled to an approved landfill. Human waste will be disposed of in chemical toilets.

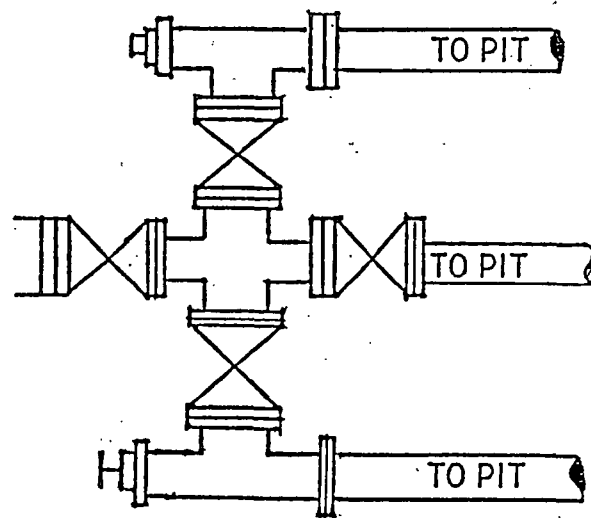
#### 8. ANCILLARY FACILITIES

There will be no airstrip or man camp. Camper trailers will be on location for the company man, tool pusher, and mud logger.



TYPICAL BOP STACK  
& CHOKES 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.