

DISTRICT I
1825 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) 478-3480 Fax: (505) 478-3482

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

Farmington Field Office
Bureau of Land Management

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

30-043- ¹ API Number 21184	39189	LINDRITH GALLUP-DAKOTA, WEST
² 22998	³ Property Name CHACON AMIGOS	⁴ Well Number 17
⁵ GRID No. 371838	⁶ Operator Name DJR Operating, LLC	⁷ Elevation 7196.2

¹⁰ Surface Location

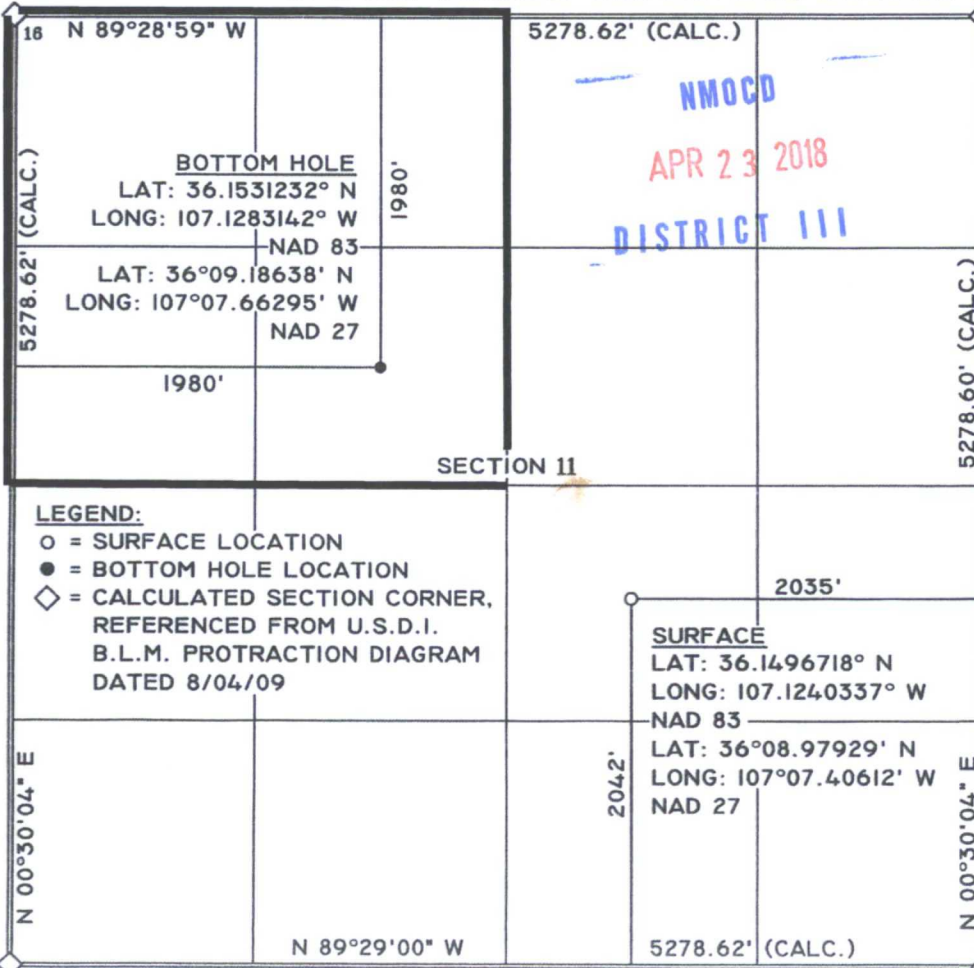
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	11	22 N	3 W		2042	SOUTH	2035	EAST	SANDOVAL

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
F	11	22 N	3 W		1980	NORTH	1980	WEST	SANDOVAL

¹² Dedicated Acres 160	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: Amy Archuleta Date: 4-23-18

E-mail Address: aaarchuleta@drillc.com

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.

Date of Survey: 07/25/13

Signature and Seal of Professional Surveyor: JOHNA VUKONICH

Certificate Number: 14831

United Field Services, Inc. 9-6-2013

Elm Ridge Exploration Company.

Sandoval County, NM (Nad 83)

Sec 11, T-22-N,R-3-W

Chacon Amigos #17

DD Job #1427

UWI:

WL:

Survey: Final

Standard Survey Report

02 December, 2014



END OF WELL REPORT



Client: Elm Ridge Exploration
Well Name: Chacon Amigos #17
Location: Sec 11, T22N, R3W
Job Number: 1427
Start Date: 17-Nov-14 **End Date:** 2-Dec-14

PERSONAL

Operator Personnel

Company Man:

Dee Giles

Geologist:

Directional Personnel

David Westbrook

Shane Sligar

Survey Personnel

Ron Alexis

Dion Packer

Nick Tulfer

WELL SUMMARY

KOP: 0	TD: 7850	FEET DRLG.: 7850	TOTAL DRLG. HRS.: 140.75	AVG. ROP:
# DAYS: 13	# BITS: 2	# BHA'S: 4	NO. OF MOTORS: 2	55.8

Well Parameters

Surface CP	TOTAL DEPTH	
	MAIN HOLE	LEG 2
HOLE SIZE: 12 1/4	HOLE SIZE: 7 7/8	HOLE SIZE: N/A
Coordinates: MD: 557	Coordinates: MD: 7850	Coordinates: MD:
TVD: 556.79	TVD: 7447.11	TVD:
INC: 2.3	INC: 0.4	INC:
DIRECTION: 300.1	DIRECTION: 121.4	DIRECTION:
VERTICAL SECTION: 11.81	VERTICAL SECTION: 1779.76	VERTICAL SECTION:
N / S: 7.63	N / S: 1254.34	N / S:
E / W: -9.07	E / W: -1262.61	E / W:

RE-ENTRY DATA:

TOP OF WINDOW:

DIRECTION:

BOTTOM OF WINDOW:

RAT HOLE:

DIRECTIONAL COMMENTS

BHA 1- Drilled 439', F/ 118' - 557', 7.25 hrs. Average ROP - 60.55 ft/hr. Bit #1 = 1-1-BU-A-1-1-NO-TD

Bit 1 - 12 1/4" Reed HEO4, 3x15's for jets. Motor is a NOV 7 7/8" 5/6 lobe, 3.0 stage, set @ 1.83°.

Motor dialed to 1.83° and used to create separation from future wells on location. Motor delivered 3"/100' on surface section of well. Motor drained and sounded good on surface and was flushed with fresh water. Dialed motor to 0.00° setting for the next well.

BHA 2- Drilled 3112', F/ 557' - 3669', 43.5 hrs. Average ROP - 71.5 ft/hr. Bit #2 = 0-0-NO-A-XX-I-PR

Bit 2 - 7 7/8" NOV type DS616M, 7x16's for jets. Motor is a NOV 6 1/2" 7/8 lobe, 2.9 stage, set @ 1.50°.

Trip out of due to MWD failure. Pull out of hole and inspect BHA. Once on surface motor drained well and sounded fine, able to run motor to drill to T.D. X-O bit due to penetration rate in the sand formations.

BHA 3- Drilled 3649', F/ 3669' - 7318', 77.75 hrs. Average ROP - 46.93 ft/hr. Bit #2 = 0-0-NO-A-XX-I-BHA

Bit 2 - 7 7/8" NOV type DS616M, 7x16's for jets. Motor is a NOV 6 1/2" 7/8 lobe, 2.9 stage, set @ 1.50°.

Trip out of hole due to excessive surface torque, pull out of hole to re-configure HWDP. Torque reading: Off bottom 8k-10k, On bottom 10k-13k Torque stalling top drive and reducing penetration rate.

BHA 4- Drilled 532', F/ 7318' - 7850', 12.25 hrs. Average ROP - 43.43 ft/hr. Bit #2 = 1-1-NO-A-XX-I-TD

Bit 2 - 7 7/8" NOV type DS616M, 7x16's for jets. Motor is a NOV 6 1/2" 7/8 lobe, 2.9 stage, set @ 1.50°.

Although HWDP had been moved higher up the hole and out of the drop torque at surface remained to reduce penetration rate.

TD well.

REPORT PREPARED BY:

David Westbrook

Elm Ridge Exploration Company

Project: Sandoval County, NM (Nad 83)
Site: Sec 11, T-22-N,R-3-W
Well: Chacon Amigos #17
Wellbore: DD Job #1427
Plan: Final

Reference Details

Geodetic System: US State Plane 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone
 Northing: 1874906.89
 Easting: 1382379.15
 Latitude: 36° 8' 58.818 N
 Longitude: 107° 7' 26.521 W
 Grid Convergence: 0.52° East
 Ground Elevation: 7196.2
 KB Elevation: RKB @ 7212.6usft (Bearcat #7)

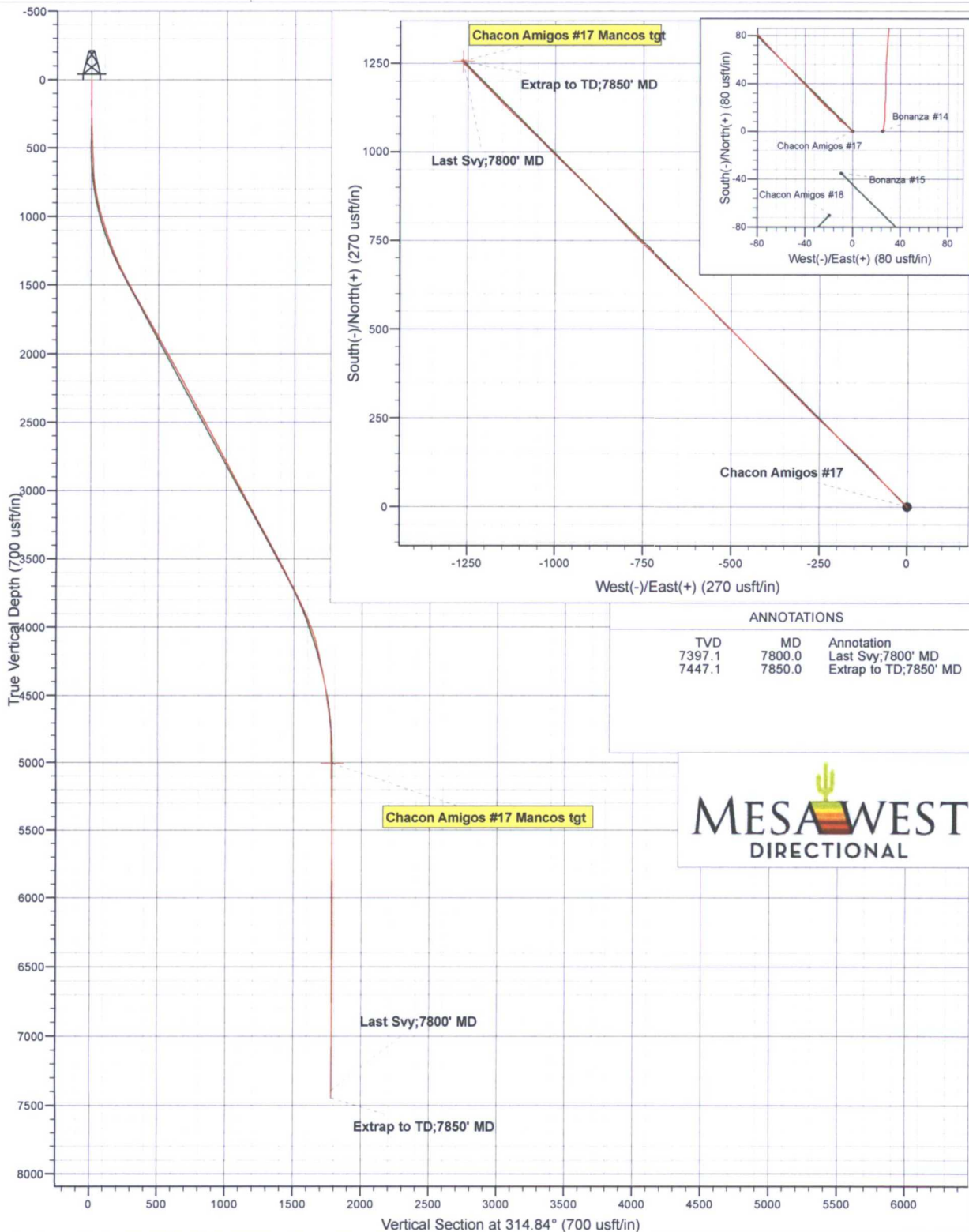


Azimuths to True North
 Magnetic North: 9.27°

Magnetic Field
 Strength: 50249.9snT
 Dip Angle: 63.02°
 Date: 20/09/2013
 Model: IGRF2010

PLAN DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	4.4	0.00	0.00	4.4	0.0	0.0	0.00	0.00	0.0	
2	504.4	0.00	0.00	504.4	0.0	0.0	0.00	0.00	0.0	
3	1463.5	28.77	314.84	1423.7	166.3	-167.2	3.00	314.84	235.8	
4	3941.2	28.77	314.84	3595.5	1007.2	-1012.8	0.00	0.00	1428.4	
5	5379.8	0.00	0.00	4974.4	1256.6	-1263.6	2.00	180.00	1782.1	
6	5409.8	0.00	0.00	5004.4	1256.6	-1263.6	0.00	0.00	1782.1	
7	7809.8	0.00	0.00	7404.4	1256.6	-1263.6	0.00	0.00	1782.1	Chacon Amigos #17 Mancos tgt



ANNOTATIONS

TVD	MD	Annotation
7397.1	7800.0	Last Svy;7800' MD
7447.1	7850.0	Extrap to TD;7850' MD

MESA WEST
 DIRECTIONAL

Mesa West Directional

Survey Report



Company: Elm Ridge Exploration Company.
Project: Sandoval County, NM (Nad 83)
Site: Sec 11, T-22-N,R-3-W
Well: Chacon Amigos #17
Wellbore: DD Job #1427
Design: Final

Local Co-ordinate Reference: Well Chacon Amigos #17
TVD Reference: RKB @ 7212.6usft (Bearcat #7)
MD Reference: RKB @ 7212.6usft (Bearcat #7)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: WellPlan Services

Project Sandoval County, NM (Nad 83)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Central Zone
System Datum: Mean Sea Level

Site Sec 11, T-22-N,R-3-W

Site Position: Northing: 1,874,906.81 usft Latitude: 36° 8' 58.820 N
From: Lat/Long Easting: 1,382,404.22 usft Longitude: 107° 7' 26.216 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: -0.52 °

Well Chacon Amigos #17

Well Position +N/-S 0.0 usft Northing: 1,874,906.89 usft Latitude: 36° 8' 58.818 N
 +E/-W 0.0 usft Easting: 1,382,379.15 usft Longitude: 107° 7' 26.521 W
Position Uncertainty 0.0 usft Wellhead Elevation: usft Ground Level: 7,196.2 usft

Wellbore DD Job #1427

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	20/09/2013	9.27	63.02	50,250

Design Final

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	314.84

Survey Program Date 02/12/2014

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,850.0	Final (DD Job #1427)	MWD	MWD - Standard

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	-7,212.6	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	-7,112.6	0.0	0.0	0.0	0.00	0.00	0.00
132.0	0.20	191.80	132.0	-7,080.6	-0.1	0.0	0.0	0.63	0.63	0.00
163.0	0.50	200.40	163.0	-7,049.6	-0.2	-0.1	-0.1	0.98	0.97	27.74
224.0	0.90	304.60	224.0	-6,988.6	-0.2	-0.6	0.2	1.86	0.66	170.82
286.0	1.90	323.30	286.0	-6,926.6	0.9	-1.6	1.7	1.75	1.61	30.16
345.0	2.00	315.30	344.9	-6,867.7	2.4	-2.9	3.7	0.49	0.17	-13.56
407.0	2.30	318.00	406.9	-6,805.7	4.1	-4.5	6.1	0.51	0.48	4.35
472.0	2.10	311.20	471.9	-6,740.7	5.9	-6.2	8.6	0.51	-0.31	-10.46
507.0	2.30	300.10	506.8	-6,705.8	6.6	-7.3	9.9	1.34	0.57	-31.71

Mesa West Directional

Survey Report



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Site: Sec 11, T-22-N,R-3-W
Well: Chacon Amigos #17
Wellbore: DD Job #1427
Design: Final

Local Co-ordinate Reference: Well Chacon Amigos #17
TVD Reference: RKB @ 7212.6usft (Bearcat #7)
MD Reference: RKB @ 7212.6usft (Bearcat #7)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: WellPlan Services

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)
560.0	2.80	301.10	559.8	-6,652.8	7.8	-9.4	12.2	0.95	0.94	1.89
591.0	2.70	304.40	590.7	-6,621.9	8.6	-10.6	13.6	0.60	-0.32	10.65
622.0	2.50	324.10	621.7	-6,590.9	9.6	-11.6	15.0	2.94	-0.65	63.55
652.0	2.50	328.30	651.7	-6,560.9	10.7	-12.3	16.3	0.61	0.00	14.00
684.0	3.40	330.00	683.6	-6,529.0	12.1	-13.2	17.9	2.83	2.81	5.31
715.0	5.20	313.40	714.5	-6,498.1	13.9	-14.7	20.2	7.00	5.81	-53.55
745.0	7.50	308.20	744.4	-6,468.2	16.0	-17.2	23.5	7.89	7.67	-17.33
776.0	8.30	312.30	775.1	-6,437.5	18.8	-20.4	27.7	3.16	2.58	13.23
807.0	9.40	315.70	805.7	-6,406.9	22.1	-23.9	32.5	3.93	3.55	10.97
839.0	10.40	317.30	837.2	-6,375.4	26.1	-27.6	38.0	3.24	3.13	5.00
870.0	11.90	317.40	867.6	-6,345.0	30.5	-31.7	44.0	4.84	4.84	0.32
902.0	13.20	316.20	898.9	-6,313.7	35.5	-36.5	50.9	4.14	4.06	-3.75
933.0	14.30	315.80	929.0	-6,283.6	40.8	-41.6	58.3	3.56	3.55	-1.29
964.0	14.90	315.50	959.0	-6,253.6	46.4	-47.0	66.1	1.95	1.94	-0.97
994.0	15.90	315.80	987.9	-6,224.7	52.1	-52.6	74.1	3.34	3.33	1.00
1,026.0	16.80	315.80	1,018.6	-6,194.0	58.6	-58.9	83.1	2.81	2.81	0.00
1,058.0	17.80	316.20	1,049.2	-6,163.4	65.4	-65.5	92.6	3.15	3.13	1.25
1,090.0	18.20	317.90	1,079.6	-6,133.0	72.7	-72.2	102.5	2.06	1.25	5.31
1,121.0	18.60	317.10	1,109.0	-6,103.6	79.9	-78.8	112.2	1.53	1.29	-2.58
1,153.0	18.90	316.90	1,139.3	-6,073.3	87.4	-85.9	122.5	0.96	0.94	-0.63
1,185.0	19.00	316.10	1,169.6	-6,043.0	94.9	-93.0	132.9	0.87	0.31	-2.50
1,216.0	20.00	316.50	1,198.8	-6,013.8	102.4	-100.2	143.2	3.25	3.23	1.29
1,248.0	20.70	315.90	1,228.8	-5,983.8	110.5	-107.9	154.4	2.28	2.19	-1.88
1,280.0	21.70	314.70	1,258.6	-5,954.0	118.7	-116.0	165.9	3.41	3.13	-3.75
1,311.0	22.80	315.30	1,287.3	-5,925.3	127.0	-124.3	177.7	3.62	3.55	1.94
1,343.0	23.70	315.70	1,316.7	-5,895.9	136.0	-133.2	190.3	2.86	2.81	1.25
1,375.0	24.60	314.80	1,345.9	-5,866.7	145.3	-142.4	203.4	3.04	2.81	-2.81
1,406.0	25.90	313.80	1,374.0	-5,838.6	154.5	-151.8	216.6	4.41	4.19	-3.23
1,469.0	28.60	312.60	1,430.0	-5,782.6	174.3	-172.9	245.5	4.37	4.29	-1.90
1,532.0	29.20	313.00	1,485.1	-5,727.5	194.9	-195.2	275.9	1.00	0.95	0.63
1,596.0	29.30	312.70	1,541.0	-5,671.6	216.2	-218.1	307.1	0.28	0.16	-0.47
1,659.0	28.70	312.10	1,596.1	-5,616.5	236.8	-240.7	337.7	1.06	-0.95	-0.95
1,722.0	29.50	314.70	1,651.1	-5,561.5	257.9	-262.9	368.3	2.37	1.27	4.13
1,785.0	30.00	315.00	1,705.8	-5,506.8	279.9	-285.1	399.5	0.83	0.79	0.48
1,848.0	30.60	314.30	1,760.2	-5,452.4	302.2	-307.7	431.3	1.11	0.95	-1.11
1,911.0	29.40	315.30	1,814.8	-5,397.8	324.4	-330.1	462.8	2.06	-1.90	1.59
1,975.0	29.30	315.60	1,870.5	-5,342.1	346.8	-352.1	494.2	0.28	-0.16	0.47
2,038.0	29.50	315.70	1,925.4	-5,287.2	368.9	-373.7	525.1	0.33	0.32	0.16
2,101.0	29.50	315.80	1,980.3	-5,232.3	391.1	-395.4	556.1	0.08	0.00	0.16
2,164.0	29.60	316.20	2,035.1	-5,177.5	413.5	-416.9	587.2	0.35	0.16	0.63
2,228.0	29.60	316.00	2,090.7	-5,121.9	436.3	-438.9	618.8	0.15	0.00	-0.31
2,291.0	28.90	315.20	2,145.7	-5,066.9	458.2	-460.4	649.6	1.27	-1.11	-1.27
2,355.0	28.70	315.30	2,201.8	-5,010.8	480.1	-482.1	680.4	0.32	-0.31	0.16
2,418.0	28.80	315.60	2,257.0	-4,955.6	501.7	-503.4	710.7	0.28	0.16	0.48

Mesa West Directional

Survey Report



Company: Elm Ridge Exploration Company.
Project: Sandoval County, NM (Nad 83)
Site: Sec 11, T-22-N,R-3-W
Well: Chacon Amigos #17
Wellbore: DD Job #1427
Design: Final

Local Co-ordinate Reference: Well Chacon Amigos #17
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Survey Calculation Method: Minimum Curvature
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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)
2,481.0	29.00	315.40	2,312.2	-4,900.4	523.5	-524.7	741.2	0.35	0.32	-0.32
2,545.0	28.80	314.10	2,368.2	-4,844.4	545.2	-546.7	772.1	1.03	-0.31	-2.03
2,608.0	28.50	313.50	2,423.5	-4,789.1	566.1	-568.5	802.3	0.66	-0.48	-0.95
2,671.0	28.00	313.80	2,479.0	-4,733.6	586.7	-590.0	832.1	0.83	-0.79	0.48
2,734.0	28.70	313.50	2,534.4	-4,678.2	607.4	-611.7	862.0	1.13	1.11	-0.48
2,798.0	28.50	313.70	2,590.6	-4,622.0	628.5	-633.9	892.6	0.35	-0.31	0.31
2,861.0	28.20	313.30	2,646.0	-4,566.6	649.1	-655.6	922.5	0.56	-0.48	-0.63
2,924.0	28.40	313.60	2,701.5	-4,511.1	669.6	-677.3	952.4	0.39	0.32	0.48
2,988.0	28.30	313.70	2,757.8	-4,454.8	690.6	-699.2	982.8	0.17	-0.16	0.16
3,050.0	27.50	313.00	2,812.6	-4,400.0	710.5	-720.3	1,011.8	1.39	-1.29	-1.13
3,114.0	28.00	314.30	2,869.3	-4,343.3	731.1	-741.9	1,041.6	1.23	0.78	2.03
3,177.0	28.20	315.70	2,924.8	-4,287.8	752.1	-762.9	1,071.2	1.09	0.32	2.22
3,240.0	28.00	315.90	2,980.4	-4,232.2	773.3	-783.6	1,100.9	0.35	-0.32	0.32
3,303.0	28.80	316.40	3,035.8	-4,176.8	795.0	-804.3	1,130.9	1.32	1.27	0.79
3,367.0	28.20	316.70	3,092.1	-4,120.5	817.1	-825.3	1,161.4	0.96	-0.94	0.47
3,430.0	28.60	315.80	3,147.5	-4,065.1	838.8	-846.0	1,191.4	0.93	0.63	-1.43
3,493.0	28.90	315.00	3,202.7	-4,009.9	860.3	-867.3	1,221.7	0.77	0.48	-1.27
3,556.0	28.50	315.10	3,258.0	-3,954.6	881.8	-888.7	1,251.9	0.64	-0.63	0.16
3,619.0	28.30	314.30	3,313.4	-3,899.2	902.8	-910.0	1,281.9	0.68	-0.32	-1.27
3,683.0	29.10	315.00	3,369.6	-3,843.0	924.4	-931.9	1,312.6	1.36	1.25	1.09
3,746.0	28.80	314.30	3,424.7	-3,787.9	945.9	-953.5	1,343.1	0.72	-0.48	-1.11
3,809.0	28.20	314.40	3,480.0	-3,732.6	966.9	-975.0	1,373.2	0.96	-0.95	0.16
3,872.0	27.30	313.50	3,535.8	-3,676.8	987.2	-996.2	1,402.5	1.58	-1.43	-1.43
3,936.0	27.40	314.70	3,592.6	-3,620.0	1,007.7	-1,017.3	1,431.9	0.88	0.16	1.88
3,999.0	26.50	314.80	3,648.8	-3,563.8	1,027.8	-1,037.6	1,460.4	1.43	-1.43	0.16
4,063.0	26.60	314.10	3,706.1	-3,506.5	1,047.8	-1,058.0	1,489.0	0.51	0.16	-1.09
4,126.0	26.20	314.10	3,762.5	-3,450.1	1,067.3	-1,078.1	1,517.1	0.63	-0.63	0.00
4,157.0	26.20	313.00	3,790.3	-3,422.3	1,076.8	-1,088.0	1,530.7	1.57	0.00	-3.55
4,189.0	25.90	313.60	3,819.0	-3,393.6	1,086.4	-1,098.2	1,544.8	1.25	-0.94	1.88
4,220.0	25.30	313.40	3,847.0	-3,365.6	1,095.6	-1,108.0	1,558.2	1.96	-1.94	-0.65
4,252.0	25.00	313.50	3,876.0	-3,336.6	1,105.0	-1,117.8	1,571.8	0.95	-0.94	0.31
4,284.0	24.00	314.00	3,905.1	-3,307.5	1,114.1	-1,127.4	1,585.0	3.19	-3.13	1.56
4,315.0	23.10	315.00	3,933.5	-3,279.1	1,122.8	-1,136.2	1,597.4	3.18	-2.90	3.23
4,347.0	22.40	314.30	3,963.0	-3,249.6	1,131.5	-1,145.0	1,609.8	2.35	-2.19	-2.19
4,378.0	21.20	315.10	3,991.8	-3,220.8	1,139.6	-1,153.2	1,621.3	3.99	-3.87	2.58
4,410.0	19.90	317.00	4,021.8	-3,190.8	1,147.7	-1,161.0	1,632.5	4.57	-4.06	5.94
4,442.0	18.10	318.20	4,052.0	-3,160.6	1,155.4	-1,168.1	1,642.9	5.76	-5.63	3.75
4,473.0	16.40	317.90	4,081.6	-3,131.0	1,162.2	-1,174.2	1,652.1	5.49	-5.48	-0.97
4,505.0	15.00	316.60	4,112.4	-3,100.2	1,168.6	-1,180.1	1,660.8	4.51	-4.38	-4.06
4,536.0	13.80	314.70	4,142.5	-3,070.1	1,174.1	-1,185.5	1,668.5	4.16	-3.87	-6.13
4,568.0	12.80	313.50	4,173.6	-3,039.0	1,179.2	-1,190.7	1,675.8	3.24	-3.13	-3.75
4,600.0	12.30	313.00	4,204.8	-3,007.8	1,184.0	-1,195.8	1,682.8	1.60	-1.56	-1.56
4,632.0	11.90	313.50	4,236.1	-2,976.5	1,188.6	-1,200.7	1,689.5	1.29	-1.25	1.56

Mesa West Directional

Survey Report



Company: Elm Ridge Exploration Company.
Project: Sandoval County, NM (Nad 83)
Site: Sec 11, T-22-N, R-3-W
Well: Chacon Amigos #17
Wellbore: DD Job #1427
Design: Final

Local Co-ordinate Reference: Well Chacon Amigos #17
TVD Reference: RKB @ 7212.6usft (Bearcat #7)
MD Reference: RKB @ 7212.6usft (Bearcat #7)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: WellPlan Services

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)
4,663.0	11.60	314.00	4,266.5	-2,946.1	1,193.0	-1,205.3	1,695.8	1.02	-0.97	1.61
4,695.0	11.50	317.40	4,297.8	-2,914.8	1,197.5	-1,209.7	1,702.2	2.15	-0.31	10.63
4,727.0	11.60	317.20	4,329.2	-2,883.4	1,202.2	-1,214.1	1,708.6	0.34	0.31	-0.63
4,758.0	11.40	317.10	4,359.6	-2,853.0	1,206.8	-1,218.3	1,714.8	0.65	-0.65	-0.32
4,790.0	11.10	316.70	4,390.9	-2,821.7	1,211.3	-1,222.5	1,721.0	0.97	-0.94	-1.25
4,822.0	10.00	314.30	4,422.4	-2,790.2	1,215.5	-1,226.6	1,726.9	3.70	-3.44	-7.50
4,853.0	9.70	313.00	4,452.9	-2,759.7	1,219.2	-1,230.5	1,732.2	1.20	-0.97	-4.19
4,885.0	10.00	313.10	4,484.5	-2,728.1	1,222.9	-1,234.5	1,737.7	0.94	0.94	0.31
4,917.0	9.10	317.20	4,516.0	-2,696.6	1,226.7	-1,238.2	1,743.0	3.52	-2.81	12.81
4,948.0	8.20	318.60	4,546.7	-2,665.9	1,230.1	-1,241.4	1,747.6	2.98	-2.90	4.52
4,980.0	8.00	318.30	4,578.4	-2,634.2	1,233.5	-1,244.3	1,752.1	0.64	-0.63	-0.94
5,012.0	7.00	315.90	4,610.1	-2,602.5	1,236.6	-1,247.2	1,756.3	3.27	-3.13	-7.50
5,043.0	6.40	314.90	4,640.9	-2,571.7	1,239.1	-1,249.7	1,759.9	1.97	-1.94	-3.23
5,075.0	5.60	311.00	4,672.7	-2,539.9	1,241.4	-1,252.2	1,763.2	2.80	-2.50	-12.19
5,106.0	5.40	308.80	4,703.5	-2,509.1	1,243.3	-1,254.4	1,766.2	0.94	-0.65	-7.10
5,138.0	4.80	313.00	4,735.4	-2,477.2	1,245.2	-1,256.6	1,769.0	2.21	-1.88	13.13
5,170.0	3.60	310.90	4,767.3	-2,445.3	1,246.8	-1,258.3	1,771.4	3.78	-3.75	-6.56
5,201.0	2.30	309.20	4,798.3	-2,414.3	1,247.8	-1,259.6	1,773.0	4.20	-4.19	-5.48
5,233.0	1.40	306.60	4,830.3	-2,382.3	1,248.4	-1,260.4	1,774.0	2.82	-2.81	-8.13
5,265.0	1.00	301.60	4,862.3	-2,350.3	1,248.8	-1,260.9	1,774.7	1.29	-1.25	-15.63
5,296.0	0.70	322.40	4,893.3	-2,319.3	1,249.1	-1,261.3	1,775.1	1.37	-0.97	67.10
5,328.0	1.00	342.00	4,925.3	-2,287.3	1,249.5	-1,261.5	1,775.6	1.29	0.94	61.25
5,360.0	1.10	354.30	4,957.3	-2,255.3	1,250.1	-1,261.6	1,776.0	0.77	0.31	38.44
5,392.0	1.50	357.80	4,989.2	-2,223.4	1,250.8	-1,261.6	1,776.6	1.27	1.25	10.94
Chacon Amigos #17 Mancos tgt										
5,407.3	1.45	0.99	5,004.5	-2,208.1	1,251.2	-1,261.6	1,776.9	0.63	-0.34	20.86
5,423.0	1.40	4.50	5,020.2	-2,192.4	1,251.6	-1,261.6	1,777.1	0.63	-0.31	22.35
5,486.0	1.10	357.60	5,083.2	-2,129.4	1,253.0	-1,261.6	1,778.1	0.53	-0.48	-10.95
5,550.0	1.10	347.00	5,147.2	-2,065.4	1,254.2	-1,261.7	1,779.0	0.32	0.00	-16.56
5,613.0	1.00	356.40	5,210.2	-2,002.4	1,255.3	-1,261.9	1,780.0	0.32	-0.16	14.92
5,676.0	1.00	342.30	5,273.2	-1,939.4	1,256.4	-1,262.1	1,780.9	0.39	0.00	-22.38
5,740.0	0.90	355.30	5,337.2	-1,875.4	1,257.4	-1,262.3	1,781.7	0.37	-0.16	20.31
5,803.0	0.50	343.90	5,400.2	-1,812.4	1,258.2	-1,262.4	1,782.4	0.67	-0.63	-18.10
5,866.0	0.50	330.90	5,463.2	-1,749.4	1,258.7	-1,262.7	1,782.9	0.18	0.00	-20.63
5,929.0	0.30	319.50	5,526.2	-1,686.4	1,259.0	-1,262.9	1,783.3	0.34	-0.32	-18.10
5,992.0	0.40	324.90	5,589.2	-1,623.4	1,259.4	-1,263.1	1,783.7	0.17	0.16	8.57
6,056.0	0.40	306.80	5,653.2	-1,559.4	1,259.7	-1,263.4	1,784.1	0.20	0.00	-28.28
6,119.0	0.20	292.80	5,716.2	-1,496.4	1,259.8	-1,263.7	1,784.4	0.34	-0.32	-22.22
6,182.0	0.50	245.70	5,779.2	-1,433.4	1,259.8	-1,264.1	1,784.6	0.62	0.48	-74.76
6,246.0	0.30	256.40	5,843.2	-1,369.4	1,259.6	-1,264.5	1,784.8	0.33	-0.31	16.72
6,309.0	0.30	226.60	5,906.2	-1,306.4	1,259.5	-1,264.8	1,784.9	0.24	0.00	-47.30
6,372.0	0.60	251.80	5,969.2	-1,243.4	1,259.3	-1,265.2	1,785.1	0.56	0.48	40.00
6,435.0	0.70	249.60	6,032.2	-1,180.4	1,259.0	-1,265.9	1,785.4	0.16	0.16	-3.49
6,499.0	0.40	238.80	6,096.2	-1,116.4	1,258.8	-1,266.4	1,785.6	0.49	-0.47	-16.88

Mesa West Directional

Survey Report



Company: Elm Ridge Exploration Company.
Project: Sandoval County, NM (Nad 83)
Site: Sec 11, T-22-N,R-3-W
Well: Chacon Amigos #17
Wellbore: DD Job #1427
Design: Final

Local Co-ordinate Reference: Well Chacon Amigos #17
TVD Reference: RKB @ 7212.6usft (Bearcat #7)
MD Reference: RKB @ 7212.6usft (Bearcat #7)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: WellPlan Services

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)
6,562.0	0.60	227.30	6,159.2	-1,053.4	1,258.4	-1,266.9	1,785.7	0.35	0.32	-18.25
6,625.0	0.60	251.60	6,222.2	-990.4	1,258.1	-1,267.4	1,785.8	0.40	0.00	38.57
6,689.0	0.40	217.80	6,286.2	-926.4	1,257.8	-1,267.9	1,785.9	0.54	-0.31	-52.81
6,752.0	0.40	246.60	6,349.1	-863.5	1,257.6	-1,268.2	1,786.0	0.32	0.00	45.71
6,815.0	0.50	228.90	6,412.1	-800.5	1,257.3	-1,268.6	1,786.1	0.27	0.16	-28.10
6,878.0	0.30	222.10	6,475.1	-737.5	1,257.0	-1,268.9	1,786.1	0.33	-0.32	-10.79
6,941.0	0.30	185.80	6,538.1	-674.5	1,256.7	-1,269.1	1,786.0	0.30	0.00	-57.62
7,004.0	0.50	118.90	6,601.1	-611.5	1,256.4	-1,268.8	1,785.6	0.75	0.32	-106.19
7,068.0	0.70	126.30	6,665.1	-547.5	1,256.0	-1,268.3	1,785.0	0.33	0.31	11.56
7,131.0	0.80	122.60	6,728.1	-484.5	1,255.6	-1,267.6	1,784.2	0.18	0.16	-5.87
7,194.0	0.50	97.00	6,791.1	-421.5	1,255.3	-1,267.0	1,783.5	0.65	-0.48	-40.63
7,257.0	0.30	95.50	6,854.1	-358.5	1,255.2	-1,266.5	1,783.2	0.32	-0.32	-2.38
7,321.0	0.50	82.60	6,918.1	-294.5	1,255.3	-1,266.1	1,782.9	0.34	0.31	-20.16
7,384.0	0.60	104.40	6,981.1	-231.5	1,255.2	-1,265.5	1,782.4	0.37	0.16	34.60
7,447.0	0.30	91.40	7,044.1	-168.5	1,255.1	-1,265.0	1,782.0	0.50	-0.48	-20.63
7,510.0	0.30	118.30	7,107.1	-105.5	1,255.1	-1,264.7	1,781.7	0.22	0.00	42.70
7,576.0	0.50	120.60	7,173.1	-39.5	1,254.8	-1,264.3	1,781.3	0.30	0.30	3.48
7,639.0	0.30	84.90	7,236.1	23.5	1,254.7	-1,263.9	1,780.9	0.49	-0.32	-56.67
7,703.0	0.30	81.90	7,300.1	87.5	1,254.7	-1,263.6	1,780.7	0.02	0.00	-4.69
7,766.0	0.50	115.50	7,363.1	150.5	1,254.6	-1,263.1	1,780.4	0.48	0.32	53.33

Last Svy;7800' MD

7,800.0	0.40	121.40	7,397.1	184.5	1,254.5	-1,262.9	1,780.1	0.32	-0.29	17.35
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Extrap to TD;7850' MD

7,850.0	0.40	121.40	7,447.1	234.5	1,254.3	-1,262.6	1,779.8	0.00	0.00	0.00
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Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,800.0	7,397.1	1,254.5	-1,262.9	Last Svy;7800' MD
7,850.0	7,447.1	1,254.3	-1,262.6	Extrap to TD;7850' MD

Checked By: _____ Approved By: _____ Date: _____