

DISTRICT I
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Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
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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

*API Number 30-043-21143		*Pool Code 39189	*Property Name CHACON AMIGOS		*Well Number 11
*Property Code 22998		*Operator Name ELM RIDGE EXPLORATION COMPANY, LLC			*Elevation 7213
*GRID No. 149052					

10 Surface Location

UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
F	1	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 1dn	Feet from the	North/South line	Feet from the	East/West line	County
J	1	22 N	3 W	200	1958'	SOUTH	1972'	EAST	SANDOVAL

*Dedicated Acres 160 ³ / ₄	*Joint or Infill	*Consolidation Code	*Order No.	RCVD JAN 21 '14 OIL CONS. DIV.
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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 DIST. 3

5286.57' (CALC.) 16 LOT 4 (40.24)	N 89°29'36" W 2086'	5278.60' (CALC.) LOT 3 (40.24)	LOT 2 (40.24)	LOT 1 (40.24)	5286.56' (CALC.)	1806'	SURFACE LAT: 36.1673531° N LONG: 107.1110264° W NAD 83 LAT: 36°10.04015' N LONG: 107°06.62568' W NAD 27	SECTION 1	BOTTOM HOLE LAT: 36.1640011° N LONG: 107.1059675° W NAD 83 LAT: 36°09.83903' N LONG: 107°06.32215' W NAD 27	1972'	1958'	N 00°30'04" E	N 89°29'37" W 5278.60' (CALC.)	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 unless 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: <u>Amy Mackey</u> Date: <u>1-20-14</u> E-mail Address: <u>amackey1@elmridge.net</u>	
														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 survey is true and correct to the best of my belief. Date of Survey: <u>09/25/12</u> Signature and Seal of Professional Surveyor: <u>[Signature]</u> Certificate Number: <u>14831</u> <u>11-1-2012</u>	

RCVD JAN 21 '14
OIL CONS. DIV.
DIST. 3

Elm Ridge Exploration Company.

Sandoval County, NM (Nad 83)

Sec 1-22N-3W

Chacon Amigos #11

DD

UWI:

WL:

Survey: Final

Standard Survey Report

21 November, 2013

B.H. Surface: 2086' N x 1806' W
Proposed B.H. 1980' S x 1979' E
Actual 1958' S x 1972' E
Production Zone 1958' S x 1972' E

MESA WEST
DIRECTIONAL

Mesa West Directional

Survey Report



Company:	Elm Ridge Exploration Company.	Local Co-ordinate Reference:	Well Chacon Amigos #11
Project:	Sandoval County, NM (Nad 83)	TVD Reference:	Est RKB @ 7225.0usft (Bearcat #1)
Site:	Sec 1-22N-3W	MD Reference:	Est RKB @ 7225.0usft (Bearcat #1)
Well:	Chacon Amigos #11	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	EDM 5000.1 Single User Db

Project Sandoval County, NM (Nad 83)

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

Site Sec 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:	usft	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 Final

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	129.48

Survey Program Date 11/21/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
83.0	7,836.0	Final (DD)	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	-7,225.0	0.0	0.0	0.0	0.00	0.00	0.00
83.0	0.30	38.70	83.0	-7,142.0	0.2	0.1	0.0	0.36	0.36	0.00
113.0	0.30	75.00	113.0	-7,112.0	0.3	0.3	0.0	0.62	0.00	121.00
144.0	1.10	107.30	144.0	-7,081.0	0.2	0.6	0.4	2.78	2.58	104.19
175.0	1.90	112.60	175.0	-7,050.0	-0.1	1.4	1.1	2.62	2.58	17.10
205.0	2.50	119.10	205.0	-7,020.0	-0.6	2.4	2.3	2.16	2.00	21.67
235.0	3.30	119.00	234.9	-6,990.1	-1.3	3.7	3.7	2.67	2.67	-0.33
266.0	4.50	125.40	265.9	-6,959.1	-2.5	5.5	5.8	4.11	3.87	20.65
297.0	6.00	128.50	296.7	-6,928.3	-4.2	7.8	8.7	4.92	4.84	10.00
328.0	7.50	132.30	327.5	-6,897.5	-6.6	10.5	12.3	5.05	4.84	12.26

Mesa West Directional

Survey Report



Company:	Elm Ridge Exploration Company.	Local Co-ordinate Reference:	Well Chacon Amigos #11
Project:	Sandoval County, NM (Nad 83)	TVD Reference:	Est RKB @ 7225.0usft (Bearcat #1)
Site:	Sec 1-22N-3W	MD Reference:	Est RKB @ 7225.0usft (Bearcat #1)
Well:	Chacon Amigos #11	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	EDM 5000.1 Single User Db

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)
359.0	9.00	133.40	358.2	-6,866.8	-9.6	13.8	16.7	4.87	4.84	3.55
389.0	9.90	133.90	387.8	-6,837.2	-13.0	17.4	21.7	3.01	3.00	1.67
419.0	10.60	132.60	417.3	-6,807.7	-16.7	21.2	27.0	2.46	2.33	-4.33
450.0	11.30	131.20	447.7	-6,777.3	-20.6	25.6	32.9	2.42	2.26	-4.52
481.0	12.10	130.70	478.1	-6,746.9	-24.7	30.4	39.2	2.60	2.58	-1.61
513.0	13.30	130.70	509.3	-6,715.7	-29.3	35.7	46.2	3.75	3.75	0.00
545.0	14.40	129.30	540.4	-6,684.6	-34.2	41.6	53.8	3.59	3.44	-4.38
561.0	14.90	127.60	555.9	-6,669.1	-36.7	44.8	57.9	4.12	3.13	-10.63
635.0	15.30	132.10	627.3	-6,597.7	-49.1	59.5	77.2	1.67	0.54	6.08
665.0	16.10	131.00	656.2	-6,568.8	-54.5	65.6	85.3	2.85	2.67	-3.67
695.0	17.00	131.20	684.9	-6,540.1	-60.1	72.0	93.8	3.01	3.00	0.67
727.0	17.70	131.30	715.5	-6,509.5	-66.4	79.2	103.3	2.19	2.19	0.31
758.0	18.30	129.50	745.0	-6,480.0	-72.6	86.5	112.9	2.64	1.94	-5.81
788.0	18.40	128.00	773.4	-6,451.6	-78.5	93.9	122.4	1.61	0.33	-5.00
819.0	19.30	127.50	802.8	-6,422.2	-84.6	101.8	132.4	2.95	2.90	-1.61
850.0	20.20	127.70	832.0	-6,393.0	-91.0	110.1	142.8	2.91	2.90	0.65
881.0	20.80	128.70	861.0	-6,364.0	-97.7	118.6	153.7	2.24	1.94	3.23
913.0	21.10	128.50	890.9	-6,334.1	-104.9	127.6	165.1	0.96	0.94	-0.63
945.0	21.10	127.80	920.7	-6,304.3	-112.0	136.6	176.7	0.79	0.00	-2.19
977.0	21.90	127.90	950.5	-6,274.5	-119.2	145.9	188.4	2.50	2.50	0.31
1,008.0	21.70	127.10	979.3	-6,245.7	-126.2	155.0	199.9	1.16	-0.65	-2.58
1,040.0	21.80	127.70	1,009.0	-6,216.0	-133.4	164.4	211.7	0.76	0.31	1.88
1,071.0	22.60	127.50	1,037.7	-6,187.3	-140.5	173.7	223.4	2.59	2.58	-0.65
1,103.0	23.00	127.20	1,067.2	-6,157.8	-148.1	183.6	235.8	1.30	1.25	-0.94
1,135.0	23.10	127.30	1,096.7	-6,128.3	-155.6	193.6	248.4	0.34	0.31	0.31
1,166.0	23.70	128.20	1,125.1	-6,099.9	-163.2	203.3	260.7	2.25	1.94	2.90
1,197.0	24.00	128.00	1,153.5	-6,071.5	-170.9	213.2	273.2	1.00	0.97	-0.65
1,229.0	24.30	127.50	1,182.7	-6,042.3	-178.9	223.5	286.3	1.13	0.94	-1.56
1,260.0	25.10	128.60	1,210.8	-6,014.2	-186.9	233.7	299.2	2.98	2.58	3.55
1,292.0	25.00	129.90	1,239.8	-5,985.2	-195.5	244.2	312.8	1.75	-0.31	4.06
1,355.0	25.20	129.80	1,296.9	-5,928.1	-212.6	264.7	339.5	0.32	0.32	-0.16
1,419.0	25.90	129.50	1,354.6	-5,870.4	-230.2	286.0	367.1	1.11	1.09	-0.47
1,482.0	25.80	129.50	1,411.3	-5,813.7	-247.7	307.2	394.6	0.16	-0.16	0.00
1,545.0	25.50	129.00	1,468.1	-5,756.9	-264.9	328.3	421.8	0.59	-0.48	-0.79
1,609.0	25.60	128.50	1,525.8	-5,699.2	-282.2	349.8	449.4	0.37	0.16	-0.78
1,672.0	25.90	128.00	1,582.6	-5,642.4	-299.2	371.3	476.8	0.59	0.48	-0.79
1,736.0	26.50	128.20	1,640.0	-5,585.0	-316.6	393.5	505.1	0.95	0.94	0.31
1,799.0	26.60	129.50	1,696.4	-5,528.6	-334.3	415.5	533.2	0.94	0.16	2.06
1,863.0	26.70	129.20	1,753.6	-5,471.4	-352.5	437.7	561.9	0.26	0.16	-0.47
1,926.0	26.60	128.70	1,809.9	-5,415.1	-370.2	459.6	590.2	0.39	-0.16	-0.79
1,989.0	27.50	131.50	1,866.0	-5,359.0	-388.7	481.5	618.8	2.47	1.43	4.44
2,084.0	27.50	130.80	1,950.2	-5,274.8	-417.6	514.6	662.7	0.34	0.00	-0.74
2,116.0	27.80	130.70	1,978.6	-5,246.4	-427.2	525.8	677.5	0.95	0.94	-0.31
2,179.0	27.70	130.30	2,034.3	-5,190.7	-446.3	548.1	706.8	0.34	-0.16	-0.63

Mesa West Directional
Survey Report



Company: Elm Ridge Exploration Company.	Local Co-ordinate Reference: Well Chacon Amigos #11
Project: Sandoval County, NM (Nad 83)	TVD Reference: Est RKB @ 7225.0usft (Bearcat #1)
Site: Sec 1-22N-3W	MD Reference: Est RKB @ 7225.0usft (Bearcat #1)
Well: Chacon Amigos #11	North Reference: True
Wellbore: DD	Survey Calculation Method: Minimum Curvature
Design: Final	Database: EDM 5000.1 Single User Db

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)
2,241.0	28.00	129.70	2,089.2	-5,135.8	-464.9	570.3	735.8	0.66	0.48	-0.97
2,305.0	27.60	129.40	2,145.8	-5,079.2	-483.9	593.3	765.6	0.66	-0.63	-0.47
2,368.0	28.50	128.00	2,201.4	-5,023.6	-502.4	616.5	795.3	1.77	1.43	-2.22
2,431.0	28.70	127.50	2,256.7	-4,968.3	-520.9	640.3	825.4	0.50	0.32	-0.79
2,495.0	28.80	126.50	2,312.8	-4,912.2	-539.4	664.9	856.2	0.77	0.16	-1.56
2,558.0	28.50	128.70	2,368.1	-4,856.9	-557.9	688.8	886.3	1.74	-0.48	3.49
2,622.0	28.80	128.00	2,424.2	-4,800.8	-576.9	712.9	917.0	0.70	0.47	-1.09
2,685.0	28.60	128.50	2,479.5	-4,745.5	-595.6	736.6	947.3	0.50	-0.32	0.79
2,748.0	28.00	127.30	2,535.0	-4,690.0	-614.0	760.2	977.1	1.31	-0.95	-1.90
2,812.0	27.20	127.30	2,591.7	-4,633.3	-631.9	783.8	1,006.8	1.25	-1.25	0.00
2,875.0	27.30	126.20	2,647.7	-4,577.3	-649.2	806.9	1,035.6	0.82	0.16	-1.75
2,938.0	27.10	126.60	2,703.7	-4,521.3	-666.3	830.1	1,064.3	0.43	-0.32	0.63
3,002.0	27.60	129.30	2,760.6	-4,464.4	-684.4	853.3	1,093.7	2.09	0.78	4.22
3,065.0	27.90	130.10	2,816.3	-4,408.7	-703.1	875.8	1,123.0	0.76	0.48	1.27
3,129.0	28.60	130.60	2,872.7	-4,352.3	-722.7	898.9	1,153.3	1.15	1.09	0.78
3,192.0	28.30	130.10	2,928.1	-4,296.9	-742.1	921.8	1,183.3	0.61	-0.48	-0.79
3,255.0	27.70	130.90	2,983.7	-4,241.3	-761.4	944.3	1,212.9	1.12	-0.95	1.27
3,319.0	27.50	130.20	3,040.4	-4,184.6	-780.6	966.8	1,242.6	0.60	-0.31	-1.09
3,382.0	27.80	130.80	3,096.3	-4,128.7	-799.6	989.0	1,271.8	0.65	0.48	0.95
3,446.0	28.30	130.70	3,152.7	-4,072.3	-819.3	1,011.8	1,301.9	0.78	0.78	-0.16
3,510.0	27.90	130.90	3,209.2	-4,015.8	-839.0	1,034.7	1,332.0	0.64	-0.63	0.31
3,574.0	28.00	130.50	3,265.7	-3,959.3	-858.5	1,057.4	1,362.0	0.33	0.16	-0.63
3,637.0	28.20	131.70	3,321.3	-3,903.7	-878.0	1,079.8	1,391.7	0.95	0.32	1.90
3,700.0	28.90	130.70	3,376.6	-3,848.4	-897.9	1,102.4	1,421.8	1.35	1.11	-1.59
3,764.0	28.50	130.20	3,432.8	-3,792.2	-917.8	1,125.8	1,452.5	0.73	-0.63	-0.78
3,795.0	28.00	130.00	3,460.1	-3,764.9	-927.2	1,137.0	1,467.2	1.64	-1.61	-0.65
3,827.0	27.70	130.10	3,488.4	-3,736.6	-936.9	1,148.5	1,482.1	0.95	-0.94	0.31
3,859.0	27.50	129.90	3,516.7	-3,708.3	-946.4	1,159.8	1,496.9	0.69	-0.63	-0.63
3,891.0	27.30	129.40	3,545.1	-3,679.9	-955.8	1,171.2	1,511.7	0.95	-0.63	-1.56
3,922.0	27.10	129.30	3,572.7	-3,652.3	-964.8	1,182.1	1,525.8	0.66	-0.65	-0.32
3,954.0	26.90	129.30	3,601.2	-3,623.8	-974.0	1,193.4	1,540.4	0.63	-0.63	0.00
3,986.0	26.50	128.00	3,629.8	-3,595.2	-983.0	1,204.6	1,554.7	2.21	-1.25	-4.06
4,017.0	25.90	127.90	3,657.6	-3,567.4	-991.4	1,215.4	1,568.4	1.94	-1.94	-0.32
4,049.0	25.60	128.30	3,686.5	-3,538.5	-1,000.0	1,226.3	1,582.3	1.08	-0.94	1.25
4,081.0	25.10	129.40	3,715.4	-3,509.6	-1,008.5	1,237.0	1,596.0	2.15	-1.56	3.44
4,113.0	24.80	129.20	3,744.4	-3,480.6	-1,017.1	1,247.4	1,609.5	0.97	-0.94	-0.63
4,144.0	24.50	128.60	3,772.6	-3,452.4	-1,025.2	1,257.5	1,622.4	1.26	-0.97	-1.94
4,176.0	24.10	128.90	3,801.7	-3,423.3	-1,033.5	1,267.8	1,635.6	1.31	-1.25	0.94
4,208.0	23.80	129.70	3,831.0	-3,394.0	-1,041.7	1,277.8	1,648.6	1.38	-0.94	2.50
4,239.0	23.40	129.50	3,859.4	-3,365.6	-1,049.6	1,287.4	1,661.0	1.32	-1.29	-0.65
4,271.0	23.00	128.80	3,888.8	-3,336.2	-1,057.6	1,297.2	1,673.6	1.52	-1.25	-2.19
4,303.0	22.80	129.10	3,918.3	-3,306.7	-1,065.4	1,306.8	1,686.1	0.72	-0.63	0.94
4,334.0	22.30	129.00	3,946.9	-3,278.1	-1,072.9	1,316.1	1,698.0	1.62	-1.61	-0.32

Mesa West Directional
Survey Report

MESA WEST
DIRECTIONAL

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

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)
4,366.0	22.20	128.80	3,976.5	-3,248.5	-1,080.5	1,325.5	1,710.1	0.39	-0.31	-0.63
4,398.0	22.10	129.50	4,006.2	-3,218.8	-1,088.1	1,334.9	1,722.1	0.88	-0.31	2.19
4,430.0	22.20	130.30	4,035.8	-3,189.2	-1,095.8	1,344.1	1,734.2	0.99	0.31	2.50
4,461.0	22.10	130.30	4,064.5	-3,160.5	-1,103.4	1,353.0	1,745.9	0.32	-0.32	0.00
4,493.0	22.10	130.10	4,094.2	-3,130.8	-1,111.2	1,362.2	1,757.9	0.24	0.00	-0.63
4,525.0	21.90	130.50	4,123.8	-3,101.2	-1,118.9	1,371.4	1,769.9	0.78	-0.63	1.25
4,557.0	21.80	129.80	4,153.5	-3,071.5	-1,126.6	1,380.5	1,781.8	0.87	-0.31	-2.19
4,588.0	21.60	130.10	4,182.3	-3,042.7	-1,134.0	1,389.3	1,793.3	0.74	-0.65	0.97
4,620.0	21.60	129.70	4,212.1	-3,012.9	-1,141.5	1,398.3	1,805.1	0.46	0.00	-1.25
4,650.0	21.40	130.10	4,240.0	-2,985.0	-1,148.6	1,406.7	1,816.1	0.83	-0.67	1.33
4,682.0	20.70	130.70	4,269.9	-2,955.1	-1,156.0	1,415.5	1,827.5	2.29	-2.19	1.88
4,714.0	20.50	130.10	4,299.8	-2,925.2	-1,163.3	1,424.1	1,838.8	0.91	-0.63	-1.88
4,746.0	19.10	129.60	4,329.9	-2,895.1	-1,170.3	1,432.4	1,849.6	4.41	-4.38	-1.56
4,777.0	18.50	129.70	4,359.3	-2,865.7	-1,176.6	1,440.1	1,859.6	1.94	-1.94	0.32
4,809.0	18.00	129.30	4,389.7	-2,835.3	-1,183.0	1,447.8	1,869.7	1.61	-1.56	-1.25
4,841.0	16.60	128.70	4,420.2	-2,804.8	-1,189.0	1,455.2	1,879.2	4.41	-4.38	-1.88
4,873.0	15.70	128.50	4,450.9	-2,774.1	-1,194.6	1,462.1	1,888.1	2.82	-2.81	-0.63
4,904.0	15.40	127.20	4,480.8	-2,744.2	-1,199.7	1,468.7	1,896.4	1.48	-0.97	-4.19
4,936.0	14.60	127.30	4,511.7	-2,713.3	-1,204.7	1,475.3	1,904.6	2.50	-2.50	0.31
4,967.0	13.50	130.00	4,541.8	-2,683.2	-1,209.4	1,481.2	1,912.2	4.13	-3.55	8.71
4,999.0	12.30	131.10	4,573.0	-2,652.0	-1,214.0	1,486.6	1,919.3	3.83	-3.75	3.44
5,030.0	11.30	130.70	4,603.3	-2,621.7	-1,218.2	1,491.4	1,925.7	3.24	-3.23	-1.29
5,062.0	10.20	129.40	4,634.8	-2,590.2	-1,222.0	1,496.0	1,931.6	3.52	-3.44	-4.06
5,094.0	8.60	126.90	4,666.3	-2,558.7	-1,225.2	1,500.1	1,936.8	5.16	-5.00	-7.81
5,125.0	7.30	125.40	4,697.0	-2,528.0	-1,227.8	1,503.5	1,941.1	4.25	-4.19	-4.84
5,157.0	6.20	125.60	4,728.8	-2,496.2	-1,230.0	1,506.6	1,944.9	3.44	-3.44	0.63
5,189.0	5.00	133.00	4,760.7	-2,464.3	-1,231.9	1,509.0	1,948.0	4.37	-3.75	23.13
5,220.0	4.30	144.60	4,791.6	-2,433.4	-1,233.8	1,510.7	1,950.5	3.77	-2.26	37.42
5,252.0	4.20	141.50	4,823.5	-2,401.5	-1,235.7	1,512.1	1,952.8	0.78	-0.31	-9.69
5,284.0	3.40	127.80	4,855.4	-2,369.6	-1,237.2	1,513.6	1,954.9	3.76	-2.50	-42.81
5,316.0	2.60	109.10	4,887.4	-2,337.6	-1,238.0	1,515.0	1,956.5	3.92	-2.50	-58.44
5,348.0	1.40	113.40	4,919.3	-2,305.7	-1,238.4	1,516.1	1,957.5	3.78	-3.75	13.44
5,379.0	2.50	135.90	4,950.3	-2,274.7	-1,239.0	1,516.9	1,958.6	4.26	3.55	72.58
5,411.0	2.70	138.20	4,982.3	-2,242.7	-1,240.1	1,517.9	1,960.0	0.70	0.63	7.19
Chacon Amigos #11 Mancos tgt										
5,427.6	2.17	142.49	4,998.9	-2,226.1	-1,240.6	1,518.3	1,960.7	3.36	-3.18	25.81
5,443.0	1.70	148.80	5,014.3	-2,210.7	-1,241.0	1,518.6	1,961.2	3.36	-3.07	41.03
5,474.0	0.50	175.00	5,045.3	-2,179.7	-1,241.6	1,518.9	1,961.7	4.10	-3.87	84.52
5,506.0	1.00	299.60	5,077.3	-2,147.7	-1,241.6	1,518.6	1,961.6	4.21	1.56	389.38
5,538.0	1.10	304.90	5,109.2	-2,115.8	-1,241.3	1,518.1	1,961.0	0.44	0.31	16.56
5,601.0	1.10	303.60	5,172.2	-2,052.8	-1,240.6	1,517.1	1,959.8	0.04	0.00	-2.06
5,664.0	1.00	298.10	5,235.2	-1,989.8	-1,240.0	1,516.2	1,958.6	0.23	-0.16	-8.73
5,727.0	0.40	271.00	5,298.2	-1,926.8	-1,239.7	1,515.5	1,957.9	1.06	-0.95	-43.02
5,791.0	0.20	60.60	5,362.2	-1,862.8	-1,239.7	1,515.3	1,957.8	0.91	-0.31	233.75

Mesa West Directional

Survey Report



Company: Elm Ridge Exploration Company.	Local Co-ordinate Reference: Well Chacon Amigos #11	
Project: Sandoval County, NM (Nad 83)	TVD Reference: Est RKB @ 7225.0usft (Bearcat #1)	
Site: Sec 1-22N-3W	MD Reference: Est RKB @ 7225.0usft (Bearcat #1)	
Well: Chacon Amigos #11	North Reference: True	
Wellbore: DD	Survey Calculation Method: Minimum Curvature	
Design: Final	Database: EDM 5000.1 Single User Db	

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)
5,886.0	0.30	70.10	5,457.2	-1,767.8	-1,239.5	1,515.7	1,958.0	0.11	0.11	10.00
5,981.0	0.30	72.10	5,552.2	-1,672.8	-1,239.3	1,516.2	1,958.2	0.01	0.00	2.11
6,076.0	0.20	256.40	5,647.2	-1,577.8	-1,239.3	1,516.3	1,958.3	0.53	-0.11	-184.95
6,173.0	0.40	255.50	5,744.2	-1,480.8	-1,239.4	1,515.8	1,958.0	0.21	0.21	-0.93
6,266.0	0.30	228.20	5,837.2	-1,387.8	-1,239.7	1,515.3	1,957.7	0.21	-0.11	-29.35
6,350.0	0.60	275.10	5,921.2	-1,303.8	-1,239.8	1,514.7	1,957.3	0.54	0.36	55.83
6,445.0	0.60	258.90	6,016.2	-1,208.8	-1,239.8	1,513.7	1,956.6	0.18	0.00	-17.05
6,539.0	0.50	254.30	6,110.2	-1,114.8	-1,240.0	1,512.8	1,956.1	0.12	-0.11	-4.89
6,634.0	0.50	266.60	6,205.2	-1,019.8	-1,240.2	1,512.0	1,955.5	0.11	0.00	12.95
6,729.0	0.50	247.10	6,300.2	-924.8	-1,240.4	1,511.2	1,955.0	0.18	0.00	-20.53
6,824.0	0.50	232.20	6,395.2	-829.8	-1,240.8	1,510.5	1,954.8	0.14	0.00	-15.68
6,921.0	0.70	230.60	6,492.2	-732.8	-1,241.4	1,509.7	1,954.5	0.21	0.21	-1.65
7,016.0	0.60	217.90	6,587.2	-637.8	-1,242.2	1,508.9	1,954.4	0.18	-0.11	-13.37
7,111.0	0.20	17.50	6,682.2	-542.8	-1,242.4	1,508.7	1,954.4	0.83	-0.42	168.00
7,206.0	0.20	320.30	6,777.2	-447.8	-1,242.1	1,508.6	1,954.2	0.20	0.00	-60.21
7,301.0	0.30	320.00	6,872.2	-352.8	-1,241.8	1,508.4	1,953.8	0.11	0.11	-0.32
7,395.0	0.30	340.30	6,966.2	-258.8	-1,241.4	1,508.1	1,953.3	0.11	0.00	21.60
7,491.0	0.00	121.90	7,062.2	-162.8	-1,241.1	1,508.0	1,953.1	0.31	-0.31	0.00
7,587.0	0.30	120.80	7,158.2	-66.8	-1,241.3	1,508.2	1,953.3	0.31	0.31	0.00
7,682.0	0.20	141.30	7,253.2	28.2	-1,241.5	1,508.6	1,953.8	0.14	-0.11	21.58
7,776.0	0.60	181.00	7,347.2	122.2	-1,242.2	1,508.7	1,954.2	0.49	0.43	42.23
7,788.0	0.50	185.30	7,359.2	134.2	-1,242.3	1,508.7	1,954.3	0.90	-0.83	35.83
Proj to bit; 7836' MD										
7,836.0	0.10	202.50	7,407.2	182.2	-1,242.5	1,508.6	1,954.4	0.84	-0.83	35.83

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,836.0	7,407.2	-1,242.5	1,508.6	Proj to bit; 7836' MD

Checked By: _____	Approved By: _____	Date: _____
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