

Caza Operating LLC

Copperline West 29 Federal 6H

Copperline West 29 Federal 6H

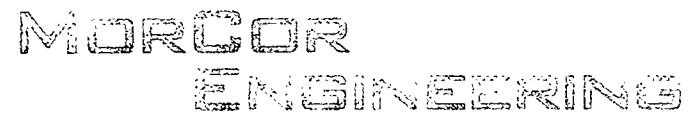
Copperline West 29 Federal 6H

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Plan: Copperline West 29 Federal 6H

Morcor Standard Plan

28 August, 2018



Company: Caza Operating LLC
Project: Copperline West 29 Federal 6H
Site: Copperline West 29 Federal 6H
Well: Copperline West 29 Federal 6H
Wellbore: Copperline West 29 Federal 6H
Design: Copperline West 29 Federal 6H

Local Co-ordinate Reference: Well Copperline West 29 Federal 6H
TVD Reference: WELL @ 3584.0usft (Original Well Elev)
MD Reference: WELL @ 3584.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project: Copperline West 29 Federal 6H

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: Copperline West 29 Federal 6H

Site Position:	From:	Lat/Long	Northing:	467,584.27 usft	Latitude:	32° 16' 57.724 N
			Easting:	799,451.93 usft	Longitude:	103° 29' 53.210 W
Position Uncertainty:		1.0 usft	Slot Radius:	17-1/2 "	Grid Convergence:	0.45 °

Well: Copperline West 29 Federal 6H

Well Position	+N-S	0.0 usft	Northing:	467,584.27 usft	Latitude:	32° 16' 57.724 N
	+E-W	0.0 usft	Easting:	799,451.93 usft	Longitude:	103° 29' 53.210 W
Position Uncertainty		1.0 usft	Wellhead Elevation:	usft	Ground Level:	3,562.0 usft

Wellbore: Copperline West 29 Federal 6H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/28/2018	6.66	60.07	47,937

Design: Copperline West 29 Federal 6H

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	177.35

Survey Tool Program Date 8/28/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	16,327.0	Copperline West 29 Federal 6H (Copperlin		

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Planned Survey:

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	-3,584.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
100.0	0.00	57.00	100.0	-3,484.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
120.0	0.00	57.00	120.0	-3,464.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
20" Conductor										
200.0	0.00	57.00	200.0	-3,384.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
300.0	0.00	57.00	300.0	-3,284.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
400.0	0.00	57.00	400.0	-3,184.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
500.0	0.00	57.00	500.0	-3,084.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
600.0	0.00	57.00	600.0	-2,984.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
700.0	0.00	57.00	700.0	-2,884.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
800.0	0.00	57.00	800.0	-2,784.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
900.0	0.00	57.00	900.0	-2,684.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,000.0	0.00	57.00	1,000.0	-2,584.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,027.0	0.00	57.00	1,027.0	-2,557.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
Rustler										
1,077.0	0.00	57.00	1,077.0	-2,507.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
13 3/8" Surface Casing										
1,100.0	0.00	57.00	1,100.0	-2,484.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,200.0	0.00	57.00	1,200.0	-2,384.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,227.0	0.00	57.00	1,227.0	-2,357.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
Top of Salt										
1,300.0	0.00	57.00	1,300.0	-2,284.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,400.0	0.00	57.00	1,400.0	-2,184.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,500.0	0.00	57.00	1,500.0	-2,084.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,600.0	0.00	57.00	1,600.0	-1,984.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,700.0	0.00	57.00	1,700.0	-1,884.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,800.0	0.00	57.00	1,800.0	-1,784.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
1,900.0	0.00	57.00	1,900.0	-1,684.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg. (°/100usft)
2,000.0	0.00	57.00	2,000.0	-1,584.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,100.0	0.00	57.00	2,100.0	-1,484.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,200.0	0.00	57.00	2,200.0	-1,384.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,300.0	0.00	57.00	2,300.0	-1,284.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,400.0	0.00	57.00	2,400.0	-1,184.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,500.0	0.00	57.00	2,500.0	-1,084.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,600.0	0.00	57.00	2,600.0	-984.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,700.0	0.00	57.00	2,700.0	-884.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,707.0	0.00	57.00	2,707.0	-877.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
Base of Salt										
2,800.0	0.00	57.00	2,800.0	-784.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
2,900.0	0.00	57.00	2,900.0	-684.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,000.0	0.00	57.00	3,000.0	-584.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,100.0	0.00	57.00	3,100.0	-484.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,200.0	0.00	57.00	3,200.0	-384.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,300.0	0.00	57.00	3,300.0	-284.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,400.0	0.00	57.00	3,400.0	-184.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,500.0	0.00	57.00	3,500.0	-84.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,600.0	0.00	57.00	3,600.0	16.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,700.0	0.00	57.00	3,700.0	116.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,800.0	0.00	57.00	3,800.0	216.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
3,900.0	0.00	57.00	3,900.0	316.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,000.0	0.00	57.00	4,000.0	416.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,100.0	0.00	57.00	4,100.0	516.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,200.0	0.00	57.00	4,200.0	616.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,300.0	0.00	57.00	4,300.0	716.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,400.0	0.00	57.00	4,400.0	816.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
4,500.0	0.00	57.00	4,500.0	916.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,600.0	0.00	57.00	4,600.0	1,016.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,700.0	0.00	57.00	4,700.0	1,116.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,800.0	0.00	57.00	4,800.0	1,216.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
4,900.0	0.00	57.00	4,900.0	1,316.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,000.0	0.00	57.00	5,000.0	1,416.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,067.0	0.00	57.00	5,067.0	1,483.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
9 5/8" Intermediate Casing										
5,100.0	0.00	57.00	5,100.0	1,516.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,117.0	0.00	57.00	5,117.0	1,533.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
Delaware										
5,200.0	0.00	57.00	5,200.0	1,616.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,300.0	0.00	57.00	5,300.0	1,716.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,400.0	0.00	57.00	5,400.0	1,816.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,500.0	0.00	57.00	5,500.0	1,916.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,600.0	0.00	57.00	5,600.0	2,016.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,700.0	0.00	57.00	5,700.0	2,116.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,800.0	0.00	57.00	5,800.0	2,216.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
5,812.0	0.00	57.00	5,812.0	2,228.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
Cherry Canyon										
5,900.0	0.00	57.00	5,900.0	2,316.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,000.0	0.00	57.00	6,000.0	2,416.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,100.0	0.00	57.00	6,100.0	2,516.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,200.0	0.00	57.00	6,200.0	2,616.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,300.0	0.00	57.00	6,300.0	2,716.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,400.0	0.00	57.00	6,400.0	2,816.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,500.0	0.00	57.00	6,500.0	2,916.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00
6,600.0	0.00	57.00	6,600.0	3,016.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00

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6,700.0	0.00	57.00	6,700.0	3,116.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
6,800.0	0.00	57.00	6,800.0	3,216.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
6,900.0	0.00	57.00	6,900.0	3,316.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,000.0	0.00	57.00	7,000.0	3,416.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,100.0	0.00	57.00	7,100.0	3,516.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,112.0	0.00	57.00	7,112.0	3,528.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
Brushy Canyon											
7,200.0	0.00	57.00	7,200.0	3,616.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,300.0	0.00	57.00	7,300.0	3,716.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,400.0	0.00	57.00	7,400.0	3,816.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,500.0	0.00	57.00	7,500.0	3,916.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,600.0	0.00	57.00	7,600.0	4,016.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,700.0	0.00	57.00	7,700.0	4,116.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,800.0	0.00	57.00	7,800.0	4,216.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
7,900.0	0.00	57.00	7,900.0	4,316.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
8,000.0	0.00	57.00	8,000.0	4,416.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
8,100.0	0.00	57.00	8,100.0	4,516.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
8,200.0	0.00	57.00	8,200.0	4,616.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
8,300.0	0.00	57.00	8,300.0	4,716.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
8,400.0	0.00	57.00	8,400.0	4,816.0	0.0	0.0	799,451.93	467,584.27	0.00	0.00	
Start Build 3.00											
8,500.0	3.00	57.00	8,500.0	4,916.0	1.4	2.2	799,454.13	467,585.70	-1.32	3.00	
8,600.0	6.00	57.00	8,599.6	5,015.6	5.7	8.8	799,460.71	467,589.97	-5.29	3.00	
Start 1980.0 hold at 8600.0 MD											
8,672.8	6.00	57.00	8,672.0	5,088.0	9.8	15.2	799,467.09	467,594.11	-9.13	0.00	
Bone Spring/ Glorietta											
8,700.0	6.00	57.00	8,699.1	5,115.1	11.4	17.5	799,469.47	467,595.66	-10.57	0.00	
8,800.0	6.00	57.00	8,798.5	5,214.5	17.1	26.3	799,478.24	467,601.36	-15.85	0.00	

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8,900.0	6.00	57.00	8,898.0	5,314.0	22.8	35.1	799,487.01	467,607.05	-21.13	0.00
9,000.0	6.00	57.00	8,997.4	5,413.4	28.5	43.8	799,495.77	467,612.74	-26.41	0.00
9,100.0	6.00	57.00	9,096.9	5,512.9	34.2	52.6	799,504.54	467,618.43	-31.69	0.00
9,200.0	6.00	57.00	9,196.3	5,612.3	39.9	61.4	799,513.31	467,624.13	-36.97	0.00
9,300.0	6.00	57.00	9,295.8	5,711.8	45.5	70.1	799,522.07	467,629.82	-42.25	0.00
9,400.0	6.00	57.00	9,395.3	5,811.3	51.2	78.9	799,530.84	467,635.51	-47.54	0.00
9,500.0	6.00	57.00	9,494.7	5,910.7	56.9	87.7	799,539.60	467,641.21	-52.82	0.00
9,600.0	6.00	57.00	9,594.2	6,010.2	62.6	96.4	799,548.37	467,646.90	-58.10	0.00
9,700.0	6.00	57.00	9,693.6	6,109.6	68.3	105.2	799,557.14	467,652.59	-63.38	0.00
9,763.7	6.00	57.00	9,757.0	6,173.0	72.0	110.8	799,562.73	467,656.22	-66.75	0.00
1st Bone Spring Sand										
9,800.0	6.00	57.00	9,793.1	6,209.1	74.0	114.0	799,565.90	467,658.29	-68.66	0.00
9,900.0	6.00	57.00	9,892.5	6,308.5	79.7	122.7	799,574.67	467,663.98	-73.94	0.00
10,000.0	6.00	57.00	9,992.0	6,408.0	85.4	131.5	799,583.44	467,669.67	-79.22	0.00
10,100.0	6.00	57.00	10,091.4	6,507.4	91.1	140.3	799,592.20	467,675.36	-84.50	0.00
10,200.0	6.00	57.00	10,190.9	6,606.9	96.8	149.0	799,600.97	467,681.06	-89.78	0.00
10,300.0	6.00	57.00	10,290.3	6,706.3	102.5	157.8	799,609.74	467,686.75	-95.07	0.00
10,311.7	6.00	57.00	10,302.0	6,718.0	103.1	158.8	799,610.77	467,687.42	-95.69	0.00
2nd Bone Spring Sand										
10,400.0	6.00	57.00	10,389.8	6,805.8	108.2	166.6	799,618.50	467,692.44	-100.35	0.00
10,500.0	6.00	57.00	10,489.2	6,905.2	113.9	175.3	799,627.27	467,698.14	-105.63	0.00
10,580.0	6.00	57.00	10,568.8	6,984.8	118.4	182.4	799,634.28	467,702.69	-109.85	0.00
Start Drop -3.00										
10,600.0	5.40	57.00	10,588.7	7,004.7	119.5	184.0	799,635.95	467,703.77	-110.86	3.00
10,700.0	2.40	57.00	10,688.4	7,104.4	123.2	189.7	799,641.65	467,707.48	-114.29	3.00
10,773.6	0.19	57.00	10,762.0	7,178.0	124.1	191.1	799,643.05	467,708.38	-115.13	3.00
2nd Bone Spring Lime										

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
10,780.0	0.00	0.00	10,768.4	7,184.4	124.1	191.1	799,643.06	467,708.39	-115.14	3.00
Start 20.0 hold at 10780.0 MD										
10,800.0	0.00	179.50	10,788.4	7,204.4	124.1	191.1	799,643.06	467,708.39	-115.14	0.00
Start Build 11.21										
10,900.0	11.21	179.50	10,887.8	7,303.8	114.4	191.2	799,643.14	467,698.64	-105.40	11.21
11,000.0	22.41	179.50	10,983.4	7,399.4	85.5	191.5	799,643.39	467,669.77	-76.55	11.21
11,100.0	33.62	179.50	11,071.5	7,487.5	38.6	191.9	799,643.80	467,622.88	-29.68	11.21
11,200.0	44.82	179.50	11,148.8	7,564.8	-24.5	192.4	799,644.35	467,559.75	33.41	11.21
11,300.0	56.03	179.50	11,212.5	7,628.5	-101.5	193.1	799,645.03	467,482.79	110.31	11.21
11,400.0	67.24	179.50	11,259.9	7,675.9	-189.3	193.9	799,645.79	467,394.94	198.10	11.21
11,405.5	67.86	179.50	11,262.0	7,678.0	-194.4	193.9	799,645.84	467,389.82	203.21	11.21
3rd Bone Spring Sand										
11,500.0	78.44	179.50	11,289.3	7,705.3	-284.7	194.7	799,646.63	467,299.55	293.43	11.21
11,600.0	89.65	179.50	11,299.7	7,715.7	-384.0	195.6	799,647.49	467,200.25	392.66	11.21
Start 4727.0 hold at 11600.0 MD										
11,700.0	89.65	179.50	11,300.3	7,716.3	-484.0	196.4	799,648.36	467,100.25	492.59	0.00
11,800.0	89.65	179.50	11,300.9	7,716.9	-584.0	197.3	799,649.24	467,000.26	592.52	0.00
11,900.0	89.65	179.50	11,301.5	7,717.5	-684.0	198.2	799,650.11	466,900.27	692.45	0.00
12,000.0	89.65	179.50	11,302.1	7,718.1	-784.0	199.1	799,650.98	466,800.27	792.37	0.00
12,100.0	89.65	179.50	11,302.8	7,718.8	-884.0	199.9	799,651.86	466,700.28	892.30	0.00
12,200.0	89.65	179.50	11,303.4	7,719.4	-984.0	200.8	799,652.73	466,600.28	992.23	0.00
12,300.0	89.65	179.50	11,304.0	7,720.0	-1,084.0	201.7	799,653.60	466,500.29	1,092.16	0.00
12,400.0	89.65	179.50	11,304.6	7,720.6	-1,184.0	202.5	799,654.47	466,400.29	1,192.08	0.00
12,500.0	89.65	179.50	11,305.2	7,721.2	-1,284.0	203.4	799,655.35	466,300.30	1,292.01	0.00
12,600.0	89.65	179.50	11,305.8	7,721.8	-1,384.0	204.3	799,656.22	466,200.30	1,391.94	0.00
12,700.0	89.65	179.50	11,306.4	7,722.4	-1,484.0	205.2	799,657.09	466,100.31	1,491.87	0.00
12,800.0	89.65	179.50	11,307.0	7,723.0	-1,584.0	206.0	799,657.96	466,000.32	1,591.79	0.00

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12,900.0	89.65	179.50	11,307.6	7,723.6	-1,683.9	206.9	799,658.84	465,900.32	1,691.72	0.00
13,000.0	89.65	179.50	11,308.2	7,724.2	-1,783.9	207.8	799,659.71	465,800.33	1,791.65	0.00
13,100.0	89.65	179.50	11,308.9	7,724.9	-1,883.9	208.6	799,660.58	465,700.33	1,891.58	0.00
13,200.0	89.65	179.50	11,309.5	7,725.5	-1,983.9	209.5	799,661.45	465,600.34	1,991.50	0.00
13,300.0	89.65	179.50	11,310.1	7,726.1	-2,083.9	210.4	799,662.33	465,500.34	2,091.43	0.00
13,400.0	89.65	179.50	11,310.7	7,726.7	-2,183.9	211.3	799,663.20	465,400.35	2,191.36	0.00
13,500.0	89.65	179.50	11,311.3	7,727.3	-2,283.9	212.1	799,664.07	465,300.36	2,291.29	0.00
13,600.0	89.65	179.50	11,311.9	7,727.9	-2,383.9	213.0	799,664.94	465,200.36	2,391.21	0.00
13,700.0	89.65	179.50	11,312.5	7,728.5	-2,483.9	213.9	799,665.82	465,100.37	2,491.14	0.00
13,800.0	89.65	179.50	11,313.1	7,729.1	-2,583.9	214.8	799,666.69	465,000.37	2,591.07	0.00
13,900.0	89.65	179.50	11,313.7	7,729.7	-2,683.9	215.6	799,667.56	464,900.38	2,691.00	0.00
14,000.0	89.65	179.50	11,314.4	7,730.4	-2,783.9	216.5	799,668.44	464,800.38	2,790.92	0.00
14,100.0	89.65	179.50	11,315.0	7,731.0	-2,883.9	217.4	799,669.31	464,700.39	2,890.85	0.00
14,200.0	89.65	179.50	11,315.6	7,731.6	-2,983.9	218.2	799,670.18	464,600.40	2,990.78	0.00
14,300.0	89.65	179.50	11,316.2	7,732.2	-3,083.9	219.1	799,671.05	464,500.40	3,090.71	0.00
14,400.0	89.65	179.50	11,316.8	7,732.8	-3,183.9	220.0	799,671.93	464,400.41	3,190.63	0.00
14,500.0	89.65	179.50	11,317.4	7,733.4	-3,283.9	220.9	799,672.80	464,300.41	3,290.56	0.00
14,600.0	89.65	179.50	11,318.0	7,734.0	-3,383.9	221.7	799,673.67	464,200.42	3,390.49	0.00
14,700.0	89.65	179.50	11,318.6	7,734.6	-3,483.8	222.6	799,674.54	464,100.42	3,490.42	0.00
14,800.0	89.65	179.50	11,319.2	7,735.2	-3,583.8	223.5	799,675.42	464,000.43	3,590.34	0.00
14,900.0	89.65	179.50	11,319.9	7,735.9	-3,683.8	224.4	799,676.29	463,900.44	3,690.27	0.00
15,000.0	89.65	179.50	11,320.5	7,736.5	-3,783.8	225.2	799,677.16	463,800.44	3,790.20	0.00
15,100.0	89.65	179.50	11,321.1	7,737.1	-3,883.8	226.1	799,678.03	463,700.45	3,890.13	0.00
15,200.0	89.65	179.50	11,321.7	7,737.7	-3,983.8	227.0	799,678.91	463,600.45	3,990.05	0.00
15,300.0	89.65	179.50	11,322.3	7,738.3	-4,083.8	227.8	799,679.78	463,500.46	4,089.98	0.00
15,400.0	89.65	179.50	11,322.9	7,738.9	-4,183.8	228.7	799,680.65	463,400.46	4,189.91	0.00
15,500.0	89.65	179.50	11,323.5	7,739.5	-4,283.8	229.6	799,681.52	463,300.47	4,289.84	0.00

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15,600.0	89.65	179.50	11,324.1	7,740.1	-4,383.8	230.5	799,682.40	463,200.48	4,389.77	0.00
15,700.0	89.65	179.50	11,324.7	7,740.7	-4,483.8	231.3	799,683.27	463,100.48	4,489.69	0.00
15,800.0	89.65	179.50	11,325.4	7,741.4	-4,583.8	232.2	799,684.14	463,000.49	4,589.62	0.00
15,900.0	89.65	179.50	11,326.0	7,742.0	-4,683.8	233.1	799,685.02	462,900.49	4,689.55	0.00
16,000.0	89.65	179.50	11,326.6	7,742.6	-4,783.8	234.0	799,685.89	462,800.50	4,789.48	0.00
16,100.0	89.65	179.50	11,327.2	7,743.2	-4,883.8	234.8	799,686.76	462,700.50	4,889.40	0.00
16,200.0	89.65	179.50	11,327.8	7,743.8	-4,983.8	235.7	799,687.63	462,600.51	4,989.33	0.00
16,300.0	89.65	179.50	11,328.4	7,744.4	-5,083.8	236.6	799,688.51	462,500.51	5,089.26	0.00
16,327.0	89.65	179.50	11,328.6	7,744.6	-5,110.8	236.8	799,688.74	462,473.52	5,116.24	0.00

TD at 16327.0 - 5 1/2" Production Casing

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,067.0	5,067.0	9 5/8" Intermediate Casing	9-5/8	12-1/4
16,327.0	11,328.6	5 1/2" Production Casing	5-1/2	8-3/4
120.0	120.0	20" Conductor	20	26
1,077.0	1,077.0	13 3/8" Surface Casing	13-3/8	17-1/2

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Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,812.0	5,812.0	Cherry Canyon		0.00	
8,672.8	8,672.0	Bone Spring/ Glorietta		0.00	
10,311.7	10,302.0	2nd Bone Spring Sand		0.00	
7,112.0	7,112.0	Brushy Canyon		0.00	
1,027.0	1,027.0	Rustler		0.00	
2,707.0	2,707.0	Base of Salt		0.00	
10,773.6	10,762.0	2nd Bone Spring Lime		0.00	
1,227.0	1,227.0	Top of Salt		0.00	
9,763.7	9,757.0	1st Bone Spring Sand		0.00	
5,117.0	5,117.0	Delaware		0.00	
11,405.5	11,262.0	3rd Bone Spring Sand		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
8,400.0	8,400.0	0.0	0.0	Start Build 3.00
8,600.0	8,599.6	5.7	8.8	Start 1980.0 hold at 8600.0 MD
10,580.0	10,568.8	118.4	182.4	Start Drop -3.00
10,780.0	10,768.4	124.1	191.1	Start 20.0 hold at 10780.0 MD
10,800.0	10,788.4	124.1	191.1	Start Build 11.21
11,600.0	11,299.7	-384.0	195.6	Start 4727.0 hold at 11600.0 MD
16,327.0	11,328.6	-5,110.8	236.8	TD at 16327.0

Checked By: _____

Approved By: _____

Date: _____

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 Design: Copperline West 29 Federal 6H



Azimuths to Grid North
 True North: -0.45°
 Magnetic North: 6.22°
 Magnetic Field
 Strength: 47937.4snT
 Dip Angle: 60.07°
 Date: 8/28/2018
 Model: IGRF2010

CASING DETAILS

TVD	MD	Name	Size
120.0	120.0	20" Conductor	20
1077.0	1077.0	13 3/8" Surface Casing	13-3/8
5067.0	5067.0	9 5/8" Intermediate Casing	9-5/8
16327.0		5 1/2" Production Casing	5-1/2

FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation	DipAngle	DipDir
1027.0	1027.0	Rustler	0.00	
1227.0	1227.0	Top of Salt	0.00	
2707.0	2707.0	Base of Salt	0.00	
5117.0	5117.0	Delaware	0.00	
5812.0	5812.0	Cherry Canyon	0.00	
7112.0	7112.0	Brushy Canyon	0.00	
8672.0	8672.8	Bone Spring/ Glorietta	0.00	
9757.0	9763.7	1st Bone Spring Sand	0.00	
10302.0	10311.7	2nd Bone Spring Sand	0.00	
10762.0	10773.6	2nd Bone Spring Lime	0.00	
11262.0	11405.5	3rd Bone Spring Sand	0.00	

