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5D Survey Report

Cimarex Energy

Field Name: *Cimarex Nad 83 NMEZ*
Site Name: *Triste Draw 25 Federal*
Well Name: *Triste Draw 25 Federal 10H*
Survey: *Definitive survey*

23 January 2019

**Weatherford®**


Weatherford


Triste Draw 25 Federal 10H

Field Name: Cimarex Nad 83 NMEZ	Map Units: US ft		Company Name: Cimarex Energy	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Triste Draw 25 Federal	Units: US ft	North Reference: Grid	Convergence Angle: 0.37	
	Position:	Northing: 462609.01 US ft	Latitude: 32° 16' 11.45"	
		Easting: 757738.43 US ft	Longitude: -103° 37' 59.48"	
	Site TVD Reference: TVD relative to Mean Sea Level			
	Elevation above MSL:3679.80 US ft			
Comment:				
Slot: Triste Draw 25 Federal 10H	Position (Relative to Site Centre)			
	+N/-S: -0.27 US ft	Northing: 462608.74 US ft	Latitude: 32° 16' 11.44"	
	+E/-W: -20.00 US ft	Easting: 757718.43 US ft	Longitude: -103° 37' 59.71"	
	Elevation above MSL: 3679.80 US ft			
	Comment: Lea Co. NM			
Well: Triste Draw 25 Federal 10H	Type:Main well		UWI:	
	File Number:	Comment:		
	Closure Distance:4452.02US ft		Closure Azimuth:356.28°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft		+E/-W: 0.00 US ft	Az: 355.99°

Drill floor: Survey Name: Definitive Survey
Rig Height (Drill Floor): 24.00 US ft **Elevation above MSL:** 3703.80 US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Survey Name: Definitive Survey
Date: 17/Oct/2017

Survey Tool: See Survey
Tool Ranges below.

Comment:
Company:
Magnetic Model:
Model Name: Surcon **Date:** 26/Nov/2017 **Field Strength:** 48100.0nT **Declination:** 6.96° **Dip:** 60.05°

Tie Point:
MD: 0.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00° **TVD:** 0.00 US ft **North Offset:** 0.00 US ft **East Offset:** 0.00 US ft

Survey Tool Ranges:

Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD + IFR + MS	0.00	1228.00	Externe Svy_1
MWD + IFR + MS	1228.00	4899.00	Externe Svy_2
MWD + IFR + MS	4899.00	9258.00	Externe Svy_3
MWD + IFR + MS	9258.00	9576.00	WFT 1
MWD + IFR + MS	9576.00	14126.00	WFT 2

5D Survey Report

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)													
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US-ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-3703.80	0.00	0.00	0.00	462608.7 4	757718.4 3	32° 16' 11.44"	-103° 37' 59.71"	0.00	
24.00	0.00	0.00	24.00	-3679.80	0.00	0.00	0.00	462608.7 4	757718.4 3	32° 16' 11.44"	-103° 37' 59.71"	0.00	
157.00	0.31	193.79	157.00	-3546.80	-0.34	-0.35	-0.09	462608.3 9	757718.3 4	32° 16' 11.44"	-103° 37' 59.71"	0.23	
309.00	0.39	142.75	309.00	-3394.80	-1.17	-1.16	0.13	462607.5 8	757718.5 6	32° 16' 11.43"	-103° 37' 59.71"	0.20	
402.00	0.46	147.50	401.99	-3301.81	-1.76	-1.73	0.52	462607.0 1	757718.9 5	32° 16' 11.43"	-103° 37' 59.70"	0.08	
583.00	0.59	189.29	582.99	-3120.81	-3.31	-3.26	0.76	462605.4 8	757719.1 9	32° 16' 11.41"	-103° 37' 59.70"	0.22	
764.00	0.66	175.48	763.98	-2939.82	-5.25	-5.22	0.69	462603.5 2	757719.1 2	32° 16' 11.39"	-103° 37' 59.70"	0.09	
949.00	0.57	147.54	948.97	-2754.83	-7.13	-7.06	1.27	462601.6 8	757719.7 0	32° 16' 11.38"	-103° 37' 59.70"	0.17	
1138.00	0.66	175.17	1137.96	-2565.84	-9.04	-8.94	1.87	462599.8 0	757720.3 0	32° 16' 11.36"	-103° 37' 59.69"	0.16	
1228.00	0.27	172.21	1227.95	-2475.85	-9.77	-9.66	1.94	462599.0 8	757720.3 7	32° 16' 11.35"	-103° 37' 59.69"	0.43	
1358.00	0.60	142.72	1357.95	-2345.85	-10.65	-10.51	2.39	462598.2 3	757720.8 2	32° 16' 11.34"	-103° 37' 59.68"	0.30	
1422.00	0.32	104.25	1421.95	-2281.85	-10.98	-10.82	2.77	462597.9 2	757721.2 0	32° 16' 11.34"	-103° 37' 59.68"	0.63	
1611.00	0.21	64.04	1610.95	-2092.85	-11.02	-10.80	3.59	462597.9 4	757722.0 2	32° 16' 11.34"	-103° 37' 59.67"	0.11	
1705.00	0.32	69.17	1704.94	-1998.86	-10.88	-10.63	3.99	462598.1 1	757722.4 2	32° 16' 11.34"	-103° 37' 59.66"	0.12	
1800.00	0.39	358.92	1799.94	-1903.86	-10.48	-10.21	4.23	462598.5 3	757722.6 6	32° 16' 11.34"	-103° 37' 59.66"	0.43	
1989.00	0.77	318.96	1988.93	-1714.87	-8.82	-8.61	3.39	462600.1 3	757721.8 2	32° 16' 11.36"	-103° 37' 59.67"	0.28	
2084.00	0.67	319.38	2083.93	-1619.87	-7.87	-7.71	2.61	462601.0 3	757721.0 4	32° 16' 11.37"	-103° 37' 59.68"	0.11	
2179.00	0.73	338.95	2178.92	-1524.88	-6.84	-6.72	2.03	462602.0 2	757720.4 6	32° 16' 11.38"	-103° 37' 59.69"	0.26	
2274.00	1.07	335.07	2273.91	-1429.89	-5.44	-5.35	1.44	462603.3 9	757719.8 7	32° 16' 11.39"	-103° 37' 59.69"	0.36	
2369.00	1.06	323.50	2368.89	-1334.91	-3.87	-3.84	0.54	462604.9 0	757718.9 7	32° 16' 11.41"	-103° 37' 59.70"	0.23	
2465.00	1.13	330.44	2464.87	-1238.93	-2.26	-2.30	-0.45	462606.4 4	757717.9 8	32° 16' 11.42"	-103° 37' 59.72"	0.16	
2560.00	0.81	328.25	2559.86	-1143.94	-0.83	-0.92	-1.27	462607.8 2	757717.1 6	32° 16' 11.44"	-103° 37' 59.73"	0.34	
2750.00	0.95	325.67	2749.84	-953.96	1.72	1.53	-2.86	462610.2 7	757715.5 7	32° 16' 11.46"	-103° 37' 59.74"	0.08	
2844.00	1.10	320.46	2843.82	-859.98	3.13	2.87	-3.88	462611.6 1	757714.5 5	32° 16' 11.47"	-103° 37' 59.76"	0.19	
2939.00	1.18	337.87	2938.80	-765.00	4.80	4.48	-4.83	462613.2 2	757713.6 0	32° 16' 11.49"	-103° 37' 59.77"	0.37	
3034.00	1.11	342.08	3033.78	-670.02	6.62	6.26	-5.48	462615.0 0	757712.9 5	32° 16' 11.51"	-103° 37' 59.77"	0.12	
3128.00	0.90	325.28	3127.77	-576.03	8.14	7.73	-6.18	462616.4 7	757712.2 5	32° 16' 11.52"	-103° 37' 59.78"	0.38	
3224.00	0.95	315.08	3223.76	-480.04	9.39	8.91	-7.17	462617.6 5	757711.2 6	32° 16' 11.53"	-103° 37' 59.79"	0.18	
3319.00	0.75	318.18	3318.75	-385.05	10.48	9.93	-8.14	462618.6 7	757710.2 9	32° 16' 11.54"	-103° 37' 59.80"	0.22	
3414.00	1.11	293.90	3413.73	-290.07	11.40	10.77	-9.40	462619.5 1	757709.0 3	32° 16' 11.55"	-103° 37' 59.82"	0.55	
3602.00	1.66	249.40	3601.68	-102.12	11.48	10.55	-13.61	462619.2 9	757704.8 2	32° 16' 11.55"	-103° 37' 59.87"	0.62	
3696.00	1.74	230.21	3695.64	-8.16	10.25	9.16	-15.98	462617.9 0	757702.4 5	32° 16' 11.54"	-103° 37' 59.90"	0.61	
3790.00	1.97	236.17	3789.59	85.79	8.62	7.34	-18.42	462616.0 8	757700.0 1	32° 16' 11.52"	-103° 37' 59.92"	0.32	
3886.00	2.91	229.99	3885.51	181.71	6.36	4.86	-21.66	462613.6 0	757696.7 7	32° 16' 11.49"	-103° 37' 59.96"	1.02	
3980.00	3.20	239.58	3979.37	275.57	3.79	2.00	-25.75	462610.7 4	757692.6 8	32° 16' 11.47"	-103° 38' 0.01"	0.62	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)														
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)	Comment	
4074.00	4.05	254.50	4073.19	369.39	1.96	-0.22	-31.21	462608.5 2	757687.2 2	32° 16' 11.44"	-103° 38' 0.07"	1.34	Crossing quarter line (5300' MD)	
4169.00	3.72	260.74	4167.97	464.17	1.01	-1.61	-37.48	462607.1 3	757680.9 5	32° 16' 11.43"	-103° 38' 0.15"	0.56		
4295.00	4.15	261.62	4293.67	589.87	0.29	-2.93	-46.03	462605.8 1	757672.4 0	32° 16' 11.42"	-103° 38' 0.25"	0.34		
4358.00	3.91	268.79	4356.52	652.72	0.22	-3.31	-50.43	462605.4 3	757668.0 0	32° 16' 11.42"	-103° 38' 0.30"	0.89		
4452.00	4.45	271.22	4450.27	746.47	0.71	-3.30	-57.28	462605.4 4	757661.1 5	32° 16' 11.42"	-103° 38' 0.38"	0.60		
4547.00	3.76	273.89	4545.02	841.22	1.48	-3.01	-64.07	462605.7 3	757654.3 6	32° 16' 11.42"	-103° 38' 0.46"	0.75		
4642.00	4.42	262.59	4639.78	935.98	1.69	-3.27	-70.81	462605.4 7	757647.6 2	32° 16' 11.42"	-103° 38' 0.54"	1.09		
4737.00	4.83	259.67	4734.47	1030.67	1.03	-4.46	-78.38	462604.2 8	757640.0 5	32° 16' 11.41"	-103° 38' 0.62"	0.50		
4833.00	4.32	269.61	4830.17	1126.37	0.81	-5.21	-85.97	462603.5 3	757632.4 6	32° 16' 11.40"	-103° 38' 0.71"	0.98		
4899.00	4.76	273.18	4895.96	1192.16	1.31	-5.08	-91.19	462603.6 6	757627.2 4	32° 16' 11.40"	-103° 38' 0.77"	0.79		
5011.00	4.64	271.24	5007.58	1303.78	2.31	-4.72	-100.36	462604.0 2	757618.0 7	32° 16' 11.40"	-103° 38' 0.88"	0.18		
5106.00	4.44	269.53	5102.28	1398.48	2.89	-4.67	-107.88	462604.0 7	757610.5 5	32° 16' 11.41"	-103° 38' 0.97"	0.25		
5200.00	4.79	273.27	5195.98	1492.18	3.61	-4.47	-115.43	462604.2 7	757603.0 0	32° 16' 11.41"	-103° 38' 1.06"	0.49		
5295.00	4.62	273.82	5290.66	1586.86	4.63	-3.99	-123.21	462604.7 5	757595.2 2	32° 16' 11.41"	-103° 38' 1.15"	0.19		
5300.00	4.62	273.80	5295.64	1591.84	4.69	-3.96	-123.61	462604.7 8	757594.8 2	32° 16' 11.41"	-103° 38' 1.15"	0.05		
5389.00	4.59	273.43	5384.36	1680.56	5.64	-3.51	-130.74	462605.2 3	757587.6 9	32° 16' 11.42"	-103° 38' 1.23"	0.05		
5484.00	4.67	270.94	5479.05	1775.25	6.46	-3.22	-138.40	462605.5 2	757580.0 3	32° 16' 11.42"	-103° 38' 1.32"	0.23		
5673.00	3.34	257.98	5667.58	1963.78	6.36	-4.24	-151.48	462604.5 0	757566.9 5	32° 16' 11.41"	-103° 38' 1.47"	0.85		
5768.00	3.65	254.49	5762.41	2058.61	5.37	-5.63	-157.10	462603.1 1	757561.3 3	32° 16' 11.40"	-103° 38' 1.54"	0.40		
5862.00	3.33	263.31	5856.23	2152.43	4.65	-6.75	-162.70	462601.9 9	757555.7 3	32° 16' 11.39"	-103° 38' 1.61"	0.66		
5957.00	3.21	264.82	5951.08	2247.28	4.46	-7.31	-168.09	462601.4 3	757550.3 4	32° 16' 11.38"	-103° 38' 1.67"	0.16		
6052.00	3.11	266.30	6045.93	2342.13	4.42	-7.71	-173.31	462601.0 3	757545.1 2	32° 16' 11.38"	-103° 38' 1.73"	0.14		
6145.00	3.14	263.27	6138.80	2435.00	4.32	-8.18	-178.35	462600.5 6	757540.0 8	32° 16' 11.38"	-103° 38' 1.79"	0.18		
6240.00	3.66	273.61	6233.63	2529.83	4.59	-8.29	-183.96	462600.4 5	757534.4 7	32° 16' 11.37"	-103° 38' 1.85"	0.84		
6335.00	3.97	278.29	6328.42	2624.62	5.70	-7.63	-190.25	462601.1 1	757528.1 8	32° 16' 11.38"	-103° 38' 1.93"	0.46		
6430.00	3.83	277.90	6423.20	2719.40	7.05	-6.71	-196.64	462602.0 3	757521.7 9	32° 16' 11.39"	-103° 38' 2.00"	0.15		
6525.00	4.20	273.78	6517.97	2814.17	8.18	-6.05	-203.26	462602.6 9	757515.1 7	32° 16' 11.40"	-103° 38' 2.08"	0.49		
6619.00	4.33	271.26	6611.71	2907.91	8.97	-5.74	-210.24	462603.0 0	757508.1 9	32° 16' 11.40"	-103° 38' 2.16"	0.24		
6714.00	4.01	269.07	6706.45	3002.65	9.48	-5.72	-217.15	462603.0 2	757501.2 8	32° 16' 11.40"	-103° 38' 2.24"	0.38		
6808.00	4.37	279.37	6800.20	3096.40	10.48	-5.19	-223.97	462603.5 5	757494.4 6	32° 16' 11.41"	-103° 38' 2.32"	0.89		
6903.00	4.06	279.17	6894.95	3191.15	12.09	-4.06	-230.86	462604.6 8	757487.5 7	32° 16' 11.42"	-103° 38' 2.40"	0.33		
6997.00	4.33	280.47	6988.70	3284.90	13.74	-2.89	-237.63	462605.8 5	757480.8 0	32° 16' 11.43"	-103° 38' 2.48"	0.30		
7092.00	4.36	281.49	7083.42	3379.62	15.60	-1.52	-244.70	462607.2 2	757473.7 3	32° 16' 11.45"	-103° 38' 2.56"	0.09		
7187.00	3.55	281.59	7178.20	3474.40	17.35	-0.21	-251.12	462608.5 3	757467.3 1	32° 16' 11.46"	-103° 38' 2.64"	0.85		

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)														Comment
MD (US ft)	Inc (°)	Az. (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)		
7282.00	2.82	271.00	7273.05	3569.25	18.35	0.42	-256.33	462609.1 6	757462.1 0	32° 16' 11.47"	-103° 38' 2.70"	0.98	Tie on Extreme First WFT Svy; KOP 9354'MD	
7377.00	2.79	263.95	7367.94	3664.14	18.47	0.22	-260.97	462608.9 6	757457.4 6	32° 16' 11.46"	-103° 38' 2.75"	0.36		
7473.00	1.43	245.22	7463.87	3760.07	17.96	-0.53	-264.38	462608.2 1	757454.0 5	32° 16' 11.46"	-103° 38' 2.79"	1.57		
7568.00	1.13	206.57	7558.85	3855.05	16.74	-1.86	-265.88	462606.8 8	757452.5 5	32° 16' 11.44"	-103° 38' 2.81"	0.94		
7663.00	0.85	168.16	7653.83	3950.03	15.23	-3.39	-266.15	462605.3 5	757452.2 8	32° 16' 11.43"	-103° 38' 2.81"	0.74		
7852.00	0.41	205.54	7842.82	4139.02	13.25	-5.37	-266.15	462603.3 7	757452.2 8	32° 16' 11.41"	-103° 38' 2.81"	0.31		
7947.00	0.73	222.99	7937.82	4234.02	12.54	-6.12	-266.71	462602.6 2	757451.7 2	32° 16' 11.40"	-103° 38' 2.82"	0.38		
8041.00	1.03	211.34	8031.81	4328.01	11.45	-7.28	-267.56	462601.4 6	757450.8 7	32° 16' 11.39"	-103° 38' 2.83"	0.37		
8136.00	1.40	214.14	8126.79	4422.99	9.84	-8.97	-268.66	462599.7 7	757449.7 7	32° 16' 11.37"	-103° 38' 2.84"	0.39		
8231.00	1.82	214.24	8221.75	4517.95	7.74	-11.18	-270.16	462597.5 6	757448.2 7	32° 16' 11.35"	-103° 38' 2.86"	0.44		
8420.00	1.00	243.54	8410.69	4706.89	4.75	-14.39	-273.32	462594.3 5	757445.1 1	32° 16' 11.32"	-103° 38' 2.89"	0.56		
8515.00	0.77	249.67	8505.68	4801.88	4.26	-14.99	-274.66	462593.7 5	757443.7 7	32° 16' 11.31"	-103° 38' 2.91"	0.26		
8609.00	0.62	273.53	8599.67	4895.87	4.15	-15.17	-275.76	462593.5 7	757442.6 7	32° 16' 11.31"	-103° 38' 2.92"	0.34		
8705.00	0.99	250.94	8695.66	4991.86	4.00	-15.41	-277.07	462593.3 3	757441.3 6	32° 16' 11.31"	-103° 38' 2.94"	0.50		
8799.00	0.97	262.77	8789.65	5085.85	3.74	-15.78	-278.62	462592.9 6	757439.8 1	32° 16' 11.31"	-103° 38' 2.96"	0.22		
8894.00	0.61	266.15	8884.64	5180.84	3.70	-15.91	-279.92	462592.8 3	757438.5 1	32° 16' 11.31"	-103° 38' 2.97"	0.38		
9082.00	1.98	236.78	9072.59	5368.79	2.12	-17.76	-283.64	462590.9 8	757434.7 9	32° 16' 11.29"	-103° 38' 3.02"	0.79		
9177.00	2.12	236.80	9167.53	5463.73	0.46	-19.62	-286.48	462589.1 2	757431.9 5	32° 16' 11.27"	-103° 38' 3.05"	0.15		
9258.00	2.55	230.77	9248.46	5544.66	-1.31	-21.58	-289.13	462587.1 6	757429.3 0	32° 16' 11.25"	-103° 38' 3.08"	0.61		
9354.00	1.58	340.78	9344.42	5640.62	-1.26	-21.68	-291.22	462587.0 6	757427.2 1	32° 16' 11.25"	-103° 38' 3.10"	3.57		
9385.00	4.80	8.37	9375.37	5671.57	0.42	-19.99	-291.18	462588.7 5	757427.2 5	32° 16' 11.27"	-103° 38' 3.10"	11.22		
9417.00	8.01	14.80	9407.17	5703.37	3.84	-16.51	-290.41	462592.2 3	757428.0 2	32° 16' 11.30"	-103° 38' 3.09"	10.26		
9449.00	11.15	15.93	9438.72	5734.92	8.86	-11.38	-288.99	462597.3 6	757429.4 4	32° 16' 11.35"	-103° 38' 3.08"	9.83		
9480.00	14.25	15.85	9468.96	5765.16	15.26	-4.83	-287.13	462603.9 1	757431.3 0	32° 16' 11.42"	-103° 38' 3.05"	10.00		
9512.00	16.42	13.96	9499.82	5796.02	23.27	3.35	-284.96	462612.0 9	757433.4 7	32° 16' 11.50"	-103° 38' 3.03"	6.96		
9544.00	19.20	12.11	9530.28	5826.48	32.63	12.89	-282.76	462621.6 3	757435.6 7	32° 16' 11.59"	-103° 38' 3.00"	8.86		
9576.00	22.06	13.06	9560.23	5856.43	43.43	23.89	-280.30	462632.6 3	757438.1 3	32° 16' 11.70"	-103° 38' 2.97"	9.00		
9607.00	24.55	12.45	9588.69	5884.89	55.17	35.85	-277.60	462644.5 9	757440.8 3	32° 16' 11.82"	-103° 38' 2.94"	8.07		
9638.00	28.09	11.09	9616.48	5912.68	68.40	49.30	-274.80	462658.0 4	757443.6 3	32° 16' 11.95"	-103° 38' 2.91"	11.58		
9670.00	32.08	9.53	9644.16	5940.36	83.94	65.08	-271.95	462673.8 2	757446.4 8	32° 16' 12.11"	-103° 38' 2.87"	12.71		
9701.00	36.07	8.59	9669.83	5966.03	100.86	82.23	-269.22	462690.9 7	757449.2 1	32° 16' 12.28"	-103° 38' 2.84"	12.98		
9733.00	40.27	7.92	9694.98	5991.18	120.18	101.80	-266.39	462710.5 4	757452.0 4	32° 16' 12.47"	-103° 38' 2.81"	13.19		
9764.00	44.04	7.54	9717.96	6014.16	140.55	122.41	-263.59	462731.1 5	757454.8 4	32° 16' 12.67"	-103° 38' 2.77"	12.19		
9796.00	46.79	7.30	9740.42	6036.62	162.88	145.01	-260.65	462753.7 5	757457.7 8	32° 16' 12.90"	-103° 38' 2.74"	8.61		
9828.00	50.12	6.34	9761.64	6057.84	186.40	168.79	-257.81	462777.5 3	757460.6 2	32° 16' 13.13"	-103° 38' 2.70"	10.65		

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)													
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (°/100US ft)	Comment
9860.00	54.64	5.69	9781.17	6077.37	211.36	193.99	-255.16	462802.7 3	757463.2 7	32° 16' 13.38"	-103° 38' 2.67"	14.22	
9891.00	59.45	5.73	9798.03	6094.23	236.99	219.86	-252.57	462828.6 0	757465.8 6	32° 16' 13.64"	-103° 38' 2.64"	15.52	
9921.00	64.37	5.72	9812.15	6108.35	263.07	246.19	-249.93	462854.9 3	757468.5 0	32° 16' 13.90"	-103° 38' 2.60"	16.41	FTP
9923.00	64.70	5.72	9813.01	6109.21	264.85	247.99	-249.75	462856.7 3	757468.6 8	32° 16' 13.91"	-103° 38' 2.60"	16.41	9921'MD
9954.00	70.60	5.00	9824.79	6120.99	293.12	276.52	-247.08	462885.2 6	757471.3 5	32° 16' 14.20"	-103° 38' 2.57"	19.15	
9986.00	76.44	4.27	9833.87	6130.07	323.45	307.09	-244.60	462915.8 3	757473.8 3	32° 16' 14.50"	-103° 38' 2.54"	18.38	
10001.00	79.94	3.22	9836.94	6133.14	337.99	321.74	-243.65	462930.4 8	757474.7 8	32° 16' 14.64"	-103° 38' 2.52"	24.32	
10026.00	84.95	1.85	9840.22	6136.42	362.61	346.49	-242.55	462955.2 3	757475.8 8	32° 16' 14.89"	-103° 38' 2.51"	20.76	
10121.00	89.58	359.94	9844.76	6140.96	457.12	441.34	-241.07	463050.0 8	757477.3 6	32° 16' 15.83"	-103° 38' 2.48"	5.27	
10216.00	94.06	357.36	9841.74	6137.94	551.94	536.24	-243.31	463144.9 8	757475.1 2	32° 16' 16.77"	-103° 38' 2.50"	5.44	
10311.00	93.15	357.50	9835.76	6131.96	646.72	630.95	-247.56	463239.6 9	757470.8 7	32° 16' 17.70"	-103° 38' 2.55"	0.97	
10406.00	91.12	356.57	9832.23	6128.43	741.63	725.75	-252.47	463334.4 9	757465.9 6	32° 16' 18.64"	-103° 38' 2.60"	2.35	
10501.00	91.89	356.79	9829.73	6125.93	836.59	820.56	-257.97	463429.3 0	757460.4 6	32° 16' 19.58"	-103° 38' 2.65"	0.84	
10595.00	91.68	355.60	9826.80	6123.00	930.54	914.30	-264.20	463523.0 4	757454.2 3	32° 16' 20.51"	-103° 38' 2.72"	1.28	
10690.00	90.14	355.58	9825.29	6121.49	1025.53	1009.01	-271.51	463617.7 5	757446.9 2	32° 16' 21.45"	-103° 38' 2.80"	1.62	
10785.00	90.63	356.29	9824.66	6120.86	1120.52	1103.77	-278.24	463712.5 1	757440.1 9	32° 16' 22.38"	-103° 38' 2.87"	0.91	
10880.00	90.63	358.59	9823.61	6119.81	1215.48	1198.66	-282.48	463807.4 0	757435.9 5	32° 16' 23.32"	-103° 38' 2.91"	2.42	
10975.00	89.79	358.98	9823.26	6119.46	1310.37	1293.64	-284.50	463902.3 8	757433.9 3	32° 16' 24.26"	-103° 38' 2.93"	0.97	
11061.00	89.23	358.19	9824.00	6120.20	1396.27	1379.61	-286.62	463988.3 5	757431.8 1	32° 16' 25.12"	-103° 38' 2.94"	1.13	
11156.00	88.53	359.08	9825.86	6122.06	1491.15	1474.56	-288.88	464083.3 0	757429.5 5	32° 16' 26.05"	-103° 38' 2.96"	1.19	
11261.00	87.20	2.36	9829.77	6125.97	1595.70	1579.46	-287.57	464188.2 0	757430.8 6	32° 16' 27.09"	-103° 38' 2.94"	3.37	
11355.00	88.18	2.54	9833.56	6129.76	1689.03	1673.30	-283.55	464282.0 4	757434.8 8	32° 16' 28.02"	-103° 38' 2.89"	1.06	
11451.00	88.67	1.96	9836.20	6132.40	1784.42	1769.19	-279.79	464377.9 3	757438.6 4	32° 16' 28.97"	-103° 38' 2.83"	0.79	
11545.00	88.88	1.31	9838.20	6134.40	1877.94	1863.13	-277.10	464471.8 7	757441.3 3	32° 16' 29.90"	-103° 38' 2.80"	0.73	
11639.00	89.37	0.45	9839.64	6135.84	1971.59	1957.10	-275.66	464565.8 4	757442.7 7	32° 16' 30.83"	-103° 38' 2.77"	1.05	
11734.00	91.40	358.94	9839.00	6135.20	2066.38	2052.09	-276.17	464660.8 3	757442.2 6	32° 16' 31.77"	-103° 38' 2.77"	2.66	
11829.00	92.52	358.29	9835.75	6131.95	2161.22	2147.01	-278.46	464755.7 5	757439.9 7	32° 16' 32.71"	-103° 38' 2.79"	1.36	
11923.00	91.40	358.37	9832.54	6128.74	2255.09	2240.91	-281.20	464849.6 5	757437.2 3	32° 16' 33.64"	-103° 38' 2.82"	1.19	
12018.00	90.42	358.38	9831.03	6127.23	2349.99	2335.86	-283.89	464944.6 0	757434.5 4	32° 16' 34.58"	-103° 38' 2.84"	1.03	
12113.00	90.70	358.08	9830.10	6126.30	2444.92	2430.81	-286.83	465039.5 5	757431.6 0	32° 16' 35.52"	-103° 38' 2.87"	0.43	
12207.00	91.12	358.03	9828.61	6124.81	2538.84	2524.74	-290.02	465133.4 8	757428.4 1	32° 16' 36.45"	-103° 38' 2.90"	0.45	
12302.00	89.86	357.77	9827.80	6124.00	2633.79	2619.67	-293.50	465228.4 1	757424.9 3	32° 16' 37.39"	-103° 38' 2.93"	1.35	
12396.00	89.51	359.65	9828.31	6124.51	2727.67	2713.64	-295.61	465322.3 8	757422.8 2	32° 16' 38.32"	-103° 38' 2.95"	2.03	
12491.00	89.72	0.27	9828.95	6125.15	2822.44	2808.64	-295.68	465417.3 8	757422.7 5	32° 16' 39.26"	-103° 38' 2.94"	0.69	
12586.00	89.79	1.47	9829.36	6125.56	2917.10	2903.63	-294.24	465512.3 7	757424.1 9	32° 16' 40.20"	-103° 38' 2.92"	1.27	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)													
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Latitude (° ' ")	Longitude (° ' ")	DLS (%/100US ft)	Comment
12679.00	90.63	1.75	9829.02	6125.22	3009.65	2996.59	-291.62	465605.3 3	757426.8 1	32° 16' 41.12"	-103° 38' 2.88"	0.95	
12773.00	91.54	1.46	9827.24	6123.44	3103.18	3090.54	-288.99	465699.2 8	757429.4 4	32° 16' 42.05"	-103° 38' 2.84"	1.02	
12868.00	92.03	2.13	9824.28	6120.48	3197.64	3185.44	-286.02	465794.1 8	757432.4 1	32° 16' 42.98"	-103° 38' 2.80"	0.87	
12962.00	91.47	1.94	9821.41	6117.61	3291.08	3279.34	-282.68	465888.0 8	757435.7 5	32° 16' 43.91"	-103° 38' 2.75"	0.63	
13057.00	89.44	1.69	9820.65	6116.85	3385.58	3374.28	-279.67	465983.0 2	757438.7 6	32° 16' 44.85"	-103° 38' 2.71"	2.15	
13151.00	88.60	1.35	9822.26	6118.46	3479.13	3468.23	-277.18	466076.9 7	757441.2 5	32° 16' 45.78"	-103° 38' 2.68"	0.96	
13246.00	89.02	0.91	9824.23	6120.43	3573.72	3563.20	-275.31	466171.9 4	757443.1 2	32° 16' 46.72"	-103° 38' 2.65"	0.64	
13340.00	90.84	1.45	9824.35	6120.55	3667.33	3657.17	-273.37	466265.9 1	757445.0 6	32° 16' 47.65"	-103° 38' 2.62"	2.02	
13435.00	90.91	0.55	9822.90	6119.10	3761.96	3752.14	-271.71	466360.8 8	757446.7 2	32° 16' 48.59"	-103° 38' 2.59"	0.95	
13530.00	89.23	359.40	9822.78	6118.98	3856.73	3847.14	-271.75	466455.8 8	757446.6 8	32° 16' 49.53"	-103° 38' 2.58"	2.14	
13625.00	89.30	359.08	9824.00	6120.20	3951.56	3942.12	-273.01	466550.8 6	757445.4 2	32° 16' 50.47"	-103° 38' 2.59"	0.34	
13720.00	87.83	358.82	9826.38	6122.58	4046.41	4037.07	-274.75	466645.8 1	757443.6 8	32° 16' 51.41"	-103° 38' 2.60"	1.57	
13814.00	88.18	358.62	9829.65	6125.85	4140.24	4130.99	-276.85	466739.7 3	757441.5 8	32° 16' 52.34"	-103° 38' 2.62"	0.43	
13909.00	88.11	358.28	9832.73	6128.93	4235.10	4225.91	-279.42	466834.6 5	757439.0 1	32° 16' 53.28"	-103° 38' 2.64"	0.37	
14003.00	88.88	357.47	9835.19	6131.39	4329.02	4319.81	-282.91	466928.5 5	757435.5 2	32° 16' 54.21"	-103° 38' 2.68"	1.19	
14064.00	88.74	357.05	9836.46	6132.66	4389.99	4380.73	-285.82	466989.4 7	757432.6 1	32° 16' 54.81"	-103° 38' 2.71"	0.73	Last Svy
14096.00	88.74	357.05	9837.16	6133.36	4421.98	4412.68	-287.47	467021.4 2	757430.9 6	32° 16' 55.13"	-103° 38' 2.72"	0.00	LTP 14096'MD
14126.00	88.74	357.05	9837.82	6134.02	4451.97	4442.63	-289.01	467051.3 7	757429.4 2	32° 16' 55.42"	-103° 38' 2.74"	0.00	PTB

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	TVD.(MSL) (US ft)	Northing (US ft)	Easting (US ft)	Name	Comment
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1st Bone Spring Sand	
1240.05	0.29	166.88	1240.00	-9.72	1.95	-2463.80	462599.02	757720.38	Rustler	
1730.06	0.29	49.47	1730.00	-10.56	4.11	-1973.80	462598.18	757722.54	Top of Salt (Salado)	
4802.74	4.47	266.24	4800.00	-5.13	-83.65	1096.20	462603.61	757634.78	Base of Salt	
5033.49	4.59	270.85	5030.00	-4.69	-102.17	1326.20	462604.05	757616.26	Delaware Sands	
7369.06	2.79	264.54	7360.00	0.26	-260.59	3656.20	462609.00	757457.84	Brushy Canyon	
8839.36	0.82	263.84	8830.00	-15.85	-279.25	5126.20	462592.89	757439.18	Bone Spring	
9329.57	1.13	308.24	9320.00	-22.15	-290.92	5616.20	462586.59	757427.51	Avalon Shale	
9970.99	73.70	4.61	9830.00	292.63	-245.73	6126.20	462901.37	757472.70	Avalon Target	



Plan vs Actual



Triste Draw 25 Federal 10H
Lea County, NM

Plan Data for Triste Draw 25 Federal 10H

Plan Point Information:									
Dogleg Severity Unit: */100.00ft					Position offsets from Slot centre				
MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Comments	
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)		
9258.00	2.55	230.77	9248.46	-21.58	-289.13	-1.31	0.61	Last Svy	
9327.00	2.55	230.77	9317.39	-23.52	-291.51	-3.08	0.00	PTB	
9343.91	2.55	230.77	9334.29	-24.00	-292.09	-3.51	0.00	KOP	
9610.18	30.00	9.00	9589.15	39.64	-286.11	59.55	12.00	Build/Turn	
10113.77	90.00	359.63	9830.00	455.10	-266.14	472.59	12.00	LP	
14101.78	90.00	359.63	9830.00	4443.03	-291.66	4452.55	0.00	PBHL 860' FWL, 330' FNL	

Plan Data for Triste Draw 25 Federal 10H

Field: Cimarex Mad 83 NMEZ
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / New Mexico East (ftUS)

Site: Triste Draw 25 Federal
Unit: USFt TVD Reference: Mean Sea Level
Company Name: Cimarex Energy
Position: Northing: 462609.01USFt Latitude: 32.269846°
Easting: 757738.43USFt Longitude: -103.633188°
North Reference: Grid Grid Convergence: 0.37°
Elevation Above VRD: 3679.80USFt

Slot: Triste Draw 25 Federal 10H

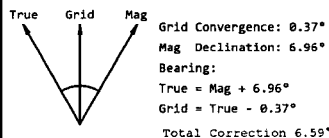
Position:
Offset is from Site centre
+N/-S: -0.27USFt Northing: 462608.74USFt Latitude: 32.269846°
+E/-W: -20.00USFt Easting: 757718.43USFt Longitude: -103.633253°
Elevation Above VRD: 3679.80USFt
Comment: Lea Co. NM

Well: Triste Draw 25 Federal 10H

Type: Main-Well
File Number:
Plan Folder: P2 Plan: P2:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USFt Azimuth: 355.99°
+E/-W: 0.00USFt
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
Surcon 48100(nT) 6.96° 60.05° 2017-11-26

Plan Data for Triste Draw 25 Federal 10H

Target Set Information:									
Name: Triste Draw 25 Federal 10H									
Position offsets from Slot centre									
Name	TVD	Elevation	+N/-S	+E/-W	Northing	Easting			
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)			
Triste Draw 25 Federal 10H	7890.00	-3796.20	-0.41	-262.82	462608.33	757455.61			
LP	9830.00	-6126.20	397.30	-262.82	463906.04	757455.61			
PBHL 860' FWL, 330' FNL	9830.00	-6126.20	4443.03	-291.66	467951.77	757426.77			
Vertical Target box	0.00	3703.80	0.00	0.00	462608.74	757718.43			



Grid Convergence: 0.37°
Mag Declination: 6.96°
Bearing:
True = Mag + 6.96°
Grid = True - 0.37°
Total Correction 6.59°

Plan Data for Triste Draw 25 Federal 10H

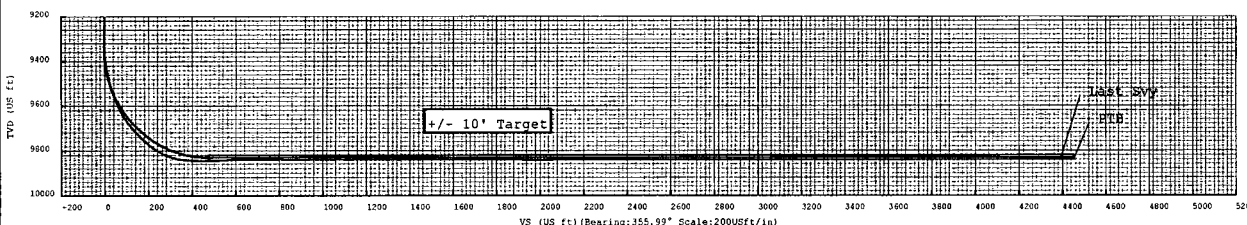
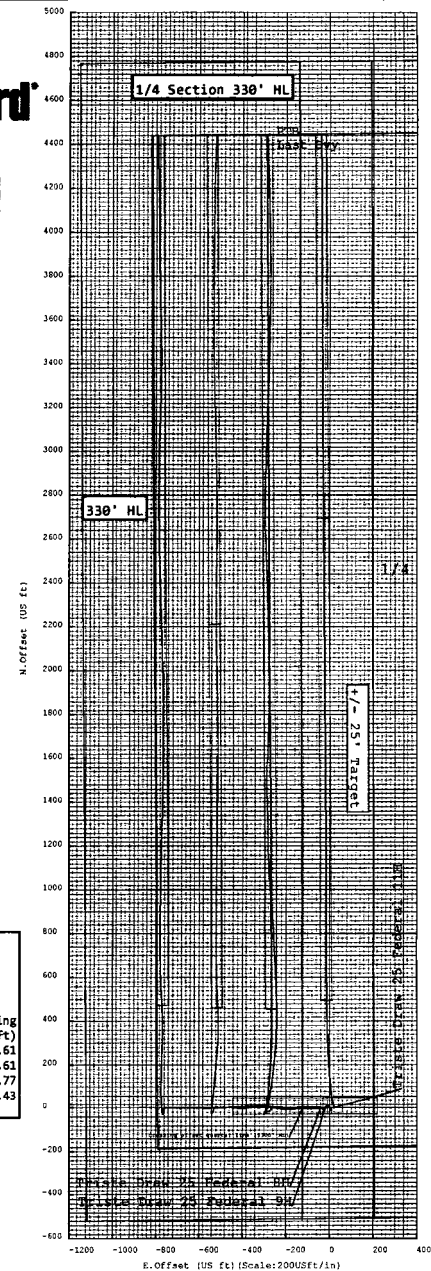
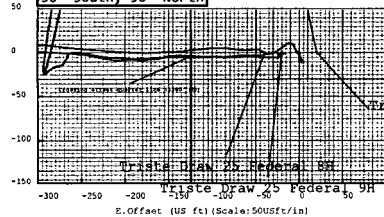
Casing Point Information:

MD	Inc	Az	TVD
(USft)	(°)	(°)	(USft)
120.00	0.22	193.79	120.00
1316.00	0.48	147.81	1315.95
4985.00	4.67	271.70	4981.67

Formation Point Information:

Name	TVD	Elevation	MD
(USft)	(USft)	(USft)	(USft)
1st Bone Spring Sand	10940.00	0.00	-1.00
Rustler	1240.00	2463.80	1240.05
Top of Salt (Salado)	1730.00	1973.80	1730.06
Base of Salt	4800.00	-1096.20	4802.74
Delaware Sands	5030.00	-1326.20	5033.49
Brushy Canyon	7360.00	-3656.20	7369.06
Bone Spring	8830.00	-5126.20	8839.36
Avalon Shale	9320.00	-5616.20	9329.61
Avalon Target	9830.00	-6126.20	10111.26

Vertical Target Box 10' East, 10' West 30' South, 50' North



Drawing By: CSD Date: 10/24/2017
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