

**5D Survey Report****Cimarex Energy**

Field Name: *Cimarex Nad 83 NMEZ*
Site Name: *Triste Draw 25 Federal*
Well Name: *Triste Draw 25 Federal 11H*
Survey: *Definitive survey*

23 January 2019

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Triste Draw 25 Federal 11H

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		

Slot: Triste Draw 25 Federal 11H	Position (Relative to Site Centre)		
	+N/-S: 0.00 US ft	Northing: 462609.01 US ft	Latitude: 32° 16' 11.45"
	+E/-W: 0.00 US ft	Easting: 757738.43 US ft	Longitude: -103° 37' 59.48"
	Elevation above MSL: 3679.80 US ft		

Well: Triste Draw 25 Federal 11H	Type: Main well	UWI:
	File Number:	Comment:
	Closure Distance: 4445.22 US ft	Closure Azimuth: 359.24°
	Vertical Section: Position of Origin (Relative to Slot centre)	

+N/-S: 0.00 US ft **+E/-W:** 0.00 US ft **Az:** 359.20°

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:** 03/Dec/2017 **Field Strength:** 48098.0 nT **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	9766.00	Surcon corrected Extreme
MWD + IFR + MS	9766.00	13774.00	WFT MWD 2

Wellpath created using minimum curvature.

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)													
ID (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	462609.0 1	757738.4 3	32° 16' 11.45"	-103° 37' 59.48"	0.00	
220.00	0.71	276.59	219.99	-3483.81	0.18	0.16	-1.35	462609.1 7	757737.0 8	32° 16' 11.45"	-103° 37' 59.49"	0.32	
403.00	0.88	39.38	402.99	-3300.81	1.39	1.37	-1.59	462610.3 8	757736.8 4	32° 16' 11.46"	-103° 37' 59.50"	0.76	
583.00	0.88	63.17	582.97	-3120.83	3.06	3.07	0.52	462612.0 8	757738.9 5	32° 16' 11.48"	-103° 37' 59.47"	0.20	
764.00	1.10	82.69	763.94	-2939.86	3.86	3.91	3.49	462612.9 2	757741.9 2	32° 16' 11.48"	-103° 37' 59.44"	0.22	
854.00	1.10	83.31	853.92	-2849.88	4.05	4.12	5.20	462613.1 3	757743.6 3	32° 16' 11.49"	-103° 37' 59.42"	0.01	
949.00	1.41	73.40	948.90	-2754.90	4.46	4.56	7.23	462613.5 7	757745.6 6	32° 16' 11.49"	-103° 37' 59.39"	0.40	
1043.00	1.41	76.00	1042.87	-2660.93	5.04	5.17	9.46	462614.1 8	757747.8 9	32° 16' 11.50"	-103° 37' 59.37"	0.07	
1221.00	1.28	67.09	1220.82	-2482.98	6.29	6.48	13.41	462615.4 9	757751.8 4	32° 16' 11.51"	-103° 37' 59.32"	0.14	
1421.00	1.10	62.26	1420.78	-2283.02	8.00	8.24	17.17	462617.2 5	757755.6 0	32° 16' 11.53"	-103° 37' 59.28"	0.10	
1515.00	1.33	48.57	1514.76	-2189.04	9.12	9.38	18.79	462618.3 9	757757.2 2	32° 16' 11.54"	-103° 37' 59.26"	0.39	
1610.00	1.12	55.10	1609.74	-2094.06	10.36	10.64	20.37	462619.6 5	757758.8 0	32° 16' 11.55"	-103° 37' 59.24"	0.27	
1705.00	1.27	41.73	1704.72	-1999.08	11.65	11.96	21.84	462620.9 7	757760.2 7	32° 16' 11.56"	-103° 37' 59.22"	0.33	
1799.00	0.95	304.05	1798.70	-1905.10	12.87	13.17	21.88	462622.1 8	757760.3 1	32° 16' 11.58"	-103° 37' 59.22"	1.79	
1893.00	1.12	311.35	1892.69	-1811.11	13.93	14.22	20.55	462623.2 3	757758.9 8	32° 16' 11.59"	-103° 37' 59.24"	0.23	
1988.00	0.80	320.70	1987.68	-1716.12	15.07	15.34	19.43	462624.3 5	757757.8 6	32° 16' 11.60"	-103° 37' 59.25"	0.37	
2083.00	0.88	322.09	2082.67	-1621.13	16.17	16.43	18.56	462625.4 4	757756.9 9	32° 16' 11.61"	-103° 37' 59.26"	0.09	
2177.00	0.93	328.69	2176.65	-1527.15	17.41	17.65	17.72	462626.6 6	757756.1 5	32° 16' 11.62"	-103° 37' 59.27"	0.12	
2272.00	1.12	309.12	2271.64	-1432.16	18.67	18.90	16.60	462627.9 1	757755.0 3	32° 16' 11.63"	-103° 37' 59.28"	0.42	
2368.00	1.41	259.43	2367.62	-1336.18	19.07	19.27	14.71	462628.2 8	757753.1 4	32° 16' 11.64"	-103° 37' 59.30"	1.14	
2463.00	1.39	249.90	2462.59	-1241.21	18.49	18.66	12.48	462627.6 7	757750.9 1	32° 16' 11.63"	-103° 37' 59.33"	0.25	
2558.00	1.44	254.82	2557.56	-1146.24	17.81	17.96	10.25	462626.9 7	757748.6 8	32° 16' 11.62"	-103° 37' 59.36"	0.14	
2653.00	1.19	256.31	2652.54	-1051.26	17.29	17.41	8.14	462626.4 2	757746.5 7	32° 16' 11.62"	-103° 37' 59.38"	0.27	
2843.00	0.42	153.03	2842.52	-861.28	16.23	16.32	6.54	462625.3 3	757744.9 7	32° 16' 11.61"	-103° 37' 59.40"	0.71	
2937.00	0.20	191.98	2936.52	-767.28	15.76	15.85	6.66	462624.8 6	757745.0 9	32° 16' 11.60"	-103° 37' 59.40"	0.31	
3032.00	0.35	125.76	3031.52	-672.28	15.43	15.52	6.86	462624.5 3	757745.2 9	32° 16' 11.60"	-103° 37' 59.40"	0.34	
3127.00	0.34	205.67	3126.52	-577.28	15.00	15.10	6.97	462624.1 1	757745.4 0	32° 16' 11.60"	-103° 37' 59.40"	0.47	
3221.00	0.44	197.24	3220.52	-483.28	14.41	14.50	6.75	462623.5 1	757745.1 8	32° 16' 11.59"	-103° 37' 59.40"	0.12	
3316.00	0.41	185.24	3315.51	-388.29	13.72	13.82	6.61	462622.8 3	757745.0 4	32° 16' 11.58"	-103° 37' 59.40"	0.10	
3411.00	0.44	237.60	3410.51	-293.29	13.19	13.28	6.27	462622.2 9	757744.7 0	32° 16' 11.58"	-103° 37' 59.40"	0.40	
3505.00	0.93	242.90	3504.50	-199.30	12.67	12.74	5.28	462621.7 5	757743.7 1	32° 16' 11.57"	-103° 37' 59.41"	0.53	
3600.00	0.82	245.98	3599.49	-104.31	12.06	12.11	3.98	462621.1 2	757742.4 1	32° 16' 11.57"	-103° 37' 59.43"	0.13	
3695.00	0.92	61.15	3694.49	-9.31	12.15	12.20	4.02	462621.2 1	757742.4 5	32° 16' 11.57"	-103° 37' 59.43"	1.83	
3790.00	0.80	71.96	3789.48	85.68	12.70	12.78	5.32	462621.7 9	757743.7 5	32° 16' 11.57"	-103° 37' 59.41"	0.21	
3884.00	0.88	92.35	3883.47	179.67	12.86	12.95	6.67	462621.9 6	757745.1 0	32° 16' 11.57"	-103° 37' 59.40"	0.33	

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)	Coniment
3979.00	0.83	70.30	3978.46	274.66	13.04	13.15	8.04	462622.1 6	757746.4 7	32° 16' 11.58"	-103° 37' 59.38"	0.35	
4073.00	0.77	78.60	4072.45	368.65	13.38	13.51	9.30	462622.5 2	757747.7 3	32° 16' 11.58"	-103° 37' 59.37"	0.14	
4167.00	1.13	62.19	4166.44	462.64	13.91	14.07	10.74	462623.0 8	757749.1 7	32° 16' 11.58"	-103° 37' 59.35"	0.48	
4262.00	1.77	93.20	4261.41	557.61	14.24	14.42	13.04	462623.4 3	757751.4 7	32° 16' 11.59"	-103° 37' 59.32"	1.04	
4357.00	2.17	108.80	4356.35	652.55	13.53	13.76	16.20	462622.7 7	757754.6 3	32° 16' 11.58"	-103° 37' 59.29"	0.70	
4451.00	1.54	76.85	4450.30	746.50	13.20	13.47	19.12	462622.4 8	757757.5 5	32° 16' 11.58"	-103° 37' 59.25"	1.26	
4546.00	1.33	64.38	4545.27	841.47	13.94	14.24	21.36	462623.2 5	757759.7 9	32° 16' 11.59"	-103° 37' 59.23"	0.39	
4641.00	0.55	118.87	4640.26	936.46	14.18	14.50	22.75	462623.5 1	757761.1 8	32° 16' 11.59"	-103° 37' 59.21"	1.16	
4736.00	1.06	188.84	4735.25	1031.45	13.09	13.41	23.01	462622.4 2	757761.4 4	32° 16' 11.58"	-103° 37' 59.21"	1.07	
4831.00	1.24	176.97	4830.23	1126.43	11.19	11.51	22.93	462620.5 2	757761.3 6	32° 16' 11.56"	-103° 37' 59.21"	0.31	
4919.00	1.18	177.33	4918.22	1214.42	9.33	9.66	23.03	462618.6 7	757761.4 6	32° 16' 11.54"	-103° 37' 59.21"	0.07	
5100.00	1.27	164.38	5099.17	1395.37	5.53	5.86	23.65	462614.8 7	757762.0 8	32° 16' 11.50"	-103° 37' 59.20"	0.16	
5195.00	1.14	166.32	5194.15	1490.35	3.59	3.93	24.16	462612.9 4	757762.5 9	32° 16' 11.48"	-103° 37' 59.20"	0.14	
5289.00	0.78	150.87	5288.14	1584.34	2.12	2.46	24.69	462611.4 7	757763.1 2	32° 16' 11.47"	-103° 37' 59.19"	0.47	
5383.00	0.59	330.15	5382.14	1678.34	1.98	2.32	24.76	462611.3 3	757763.1 9	32° 16' 11.47"	-103° 37' 59.19"	1.46	
5478.00	0.50	307.58	5477.13	1773.33	2.66	3.00	24.19	462612.0 1	757762.6 2	32° 16' 11.47"	-103° 37' 59.20"	0.24	
5572.00	0.70	306.89	5571.13	1867.33	3.27	3.60	23.41	462612.6 1	757761.8 4	32° 16' 11.48"	-103° 37' 59.20"	0.21	
5667.00	0.75	309.79	5666.12	1962.32	4.03	4.34	22.46	462613.3 5	757760.8 9	32° 16' 11.49"	-103° 37' 59.22"	0.07	
5762.00	0.75	308.56	5761.11	2057.31	4.83	5.13	21.50	462614.1 4	757759.9 3	32° 16' 11.50"	-103° 37' 59.23"	0.02	
5857.00	0.72	296.74	5856.10	2152.30	5.50	5.78	20.48	462614.7 9	757758.9 1	32° 16' 11.50"	-103° 37' 59.24"	0.16	
5952.00	0.69	286.32	5951.10	2247.30	5.94	6.21	19.40	462615.2 2	757757.8 3	32° 16' 11.51"	-103° 37' 59.25"	0.14	
6046.00	0.62	279.91	6045.09	2341.29	6.20	6.46	18.35	462615.4 7	757756.7 8	32° 16' 11.51"	-103° 37' 59.26"	0.11	
6141.00	0.54	278.54	6140.09	2436.29	6.37	6.62	17.41	462615.6 3	757755.8 4	32° 16' 11.51"	-103° 37' 59.27"	0.09	
6287.00	0.68	288.57	6286.08	2582.28	6.77	6.99	15.90	462616.0 0	757754.3 3	32° 16' 11.51"	-103° 37' 59.29"	0.12	
6330.00	0.75	278.17	6329.07	2625.27	6.90	7.11	15.38	462616.1 2	757753.8 1	32° 16' 11.52"	-103° 37' 59.30"	0.34	
6425.00	0.76	285.65	6424.07	2720.27	7.17	7.37	14.16	462616.3 8	757752.5 9	32° 16' 11.52"	-103° 37' 59.31"	0.10	
6520.00	0.60	281.63	6519.06	2815.26	7.46	7.64	13.07	462616.6 5	757751.5 0	32° 16' 11.52"	-103° 37' 59.32"	0.18	
6614.00	0.71	283.65	6613.05	2909.25	7.71	7.88	12.02	462616.8 9	757750.4 5	32° 16' 11.52"	-103° 37' 59.34"	0.12	
6709.00	0.75	271.11	6708.05	3004.25	7.88	8.03	10.83	462617.0 4	757749.2 6	32° 16' 11.53"	-103° 37' 59.35"	0.17	
6898.00	0.63	278.50	6897.03	3193.23	8.09	8.21	8.56	462617.2 2	757746.9 9	32° 16' 11.53"	-103° 37' 59.38"	0.08	
6993.00	0.44	249.62	6992.03	3288.23	8.05	8.16	7.70	462617.1 7	757746.1 3	32° 16' 11.53"	-103° 37' 59.39"	0.34	
7088.00	0.44	241.54	7087.03	3383.23	7.76	7.86	7.04	462616.8 7	757745.4 7	32° 16' 11.52"	-103° 37' 59.39"	0.07	
7278.00	0.59	289.13	7277.02	3573.22	7.75	7.83	5.47	462616.8 4	757743.9 0	32° 16' 11.52"	-103° 37' 59.41"	0.23	
7373.00	0.53	266.36	7372.01	3668.21	7.90	7.96	4.57	462616.9 7	757743.0 0	32° 16' 11.52"	-103° 37' 59.42"	0.24	
7468.00	0.96	261.34	7467.01	3763.21	7.77	7.82	3.35	462616.8 3	757741.7 8	32° 16' 11.52"	-103° 37' 59.44"	0.46	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)													
HD (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
7563.00	0.98	255.17	7561.99	3858.19	7.46	7.49	1.78	462616.5 0	757740.2 1	32° 16' 11.52"	-103° 37' 59.46"	0.11	
7658.00	1.07	248.03	7656.98	3953.18	6.94	6.95	0.17	462615.9 6	757738.6 0	32° 16' 11.52"	-103° 37' 59.47"	0.16	
7753.00	1.16	232.70	7751.96	4048.16	6.05	6.03	-1.42	462615.0 4	757737.0 1	32° 16' 11.51"	-103° 37' 59.49"	0.33	
7847.00	1.15	225.32	7845.94	4142.14	4.83	4.79	-2.85	462613.8 0	757735.5 8	32° 16' 11.49"	-103° 37' 59.51"	0.16	
7942.00	1.42	230.03	7940.92	4237.12	3.43	3.37	-4.43	462612.3 8	757734.0 0	32° 16' 11.48"	-103° 37' 59.53"	0.30	
8037.00	1.56	230.26	8035.88	4332.08	1.87	1.78	-6.32	462610.7 9	757732.1 1	32° 16' 11.46"	-103° 37' 59.55"	0.15	
8130.00	1.58	5.59	8128.87	4425.07	2.35	2.25	-7.17	462611.2 6	757731.2 6	32° 16' 11.47"	-103° 37' 59.56"	3.12	
8226.00	0.63	114.83	8224.86	4521.06	3.44	3.35	-6.56	462612.3 6	757731.8 7	32° 16' 11.48"	-103° 37' 59.55"	1.96	
8321.00	0.60	135.89	8319.85	4616.05	2.85	2.77	-5.74	462611.7 8	757732.6 9	32° 16' 11.47"	-103° 37' 59.54"	0.24	
8415.00	0.71	154.00	8413.85	4710.05	1.96	1.89	-5.15	462610.9 0	757733.2 8	32° 16' 11.47"	-103° 37' 59.54"	0.25	
8510.00	0.75	166.31	8508.84	4805.04	0.83	0.76	-4.74	462609.7 7	757733.6 9	32° 16' 11.45"	-103° 37' 59.53"	0.17	
8604.00	0.81	180.72	8602.83	4899.03	-0.44	-0.50	-4.60	462608.5 1	757733.8 3	32° 16' 11.44"	-103° 37' 59.53"	0.22	
8699.00	0.96	184.27	8697.82	4994.02	-1.90	-1.97	-4.67	462607.0 4	757733.7 6	32° 16' 11.43"	-103° 37' 59.53"	0.17	
8793.00	0.83	185.96	8791.81	5088.01	-3.36	-3.43	-4.80	462605.5 8	757733.6 3	32° 16' 11.41"	-103° 37' 59.53"	0.14	
8886.00	1.03	193.23	8884.79	5180.99	-4.84	-4.91	-5.06	462604.1 0	757733.3 7	32° 16' 11.40"	-103° 37' 59.54"	0.25	
8980.00	0.91	201.49	8978.78	5274.98	-6.35	-6.43	-5.53	462602.5 8	757732.9 0	32° 16' 11.38"	-103° 37' 59.54"	0.20	
8988.00	1.09	191.91	8986.78	5282.98	-6.49	-6.56	-5.57	462602.4 5	757732.8 6	32° 16' 11.38"	-103° 37' 59.54"	3.06	
9025.00	1.29	199.75	9023.77	5319.97	-7.22	-7.30	-5.78	462601.7 1	757732.6 5	32° 16' 11.37"	-103° 37' 59.55"	0.70	
9057.00	0.25	290.26	9055.77	5351.97	-7.53	-7.61	-5.97	462601.4 0	757732.4 6	32° 16' 11.37"	-103° 37' 59.55"	4.11	
9059.00	0.43	328.09	9057.77	5353.97	-7.52	-7.61	-5.98	462601.4 0	757732.4 5	32° 16' 11.37"	-103° 37' 59.55"	14.07	KOP 9059°MD
9089.00	4.59	358.16	9087.73	5383.93	-6.22	-6.31	-6.07	462602.7 0	757732.3 6	32° 16' 11.38"	-103° 37' 59.55"	14.07	
9121.00	9.10	358.28	9119.50	5415.70	-2.41	-2.50	-6.19	462606.5 1	757732.2 4	32° 16' 11.42"	-103° 37' 59.55"	14.09	
9152.00	14.52	359.82	9149.83	5446.03	3.93	3.84	-6.28	462612.8 5	757732.1 5	32° 16' 11.48"	-103° 37' 59.55"	17.51	
9183.00	19.37	0.07	9179.48	5475.68	12.96	12.87	-6.28	462621.8 8	757732.1 5	32° 16' 11.57"	-103° 37' 59.55"	15.65	
9215.00	22.80	359.67	9209.33	5505.53	24.47	24.38	-6.31	462633.3 9	757732.1 2	32° 16' 11.69"	-103° 37' 59.55"	10.73	
9246.00	26.45	359.20	9237.50	5533.70	37.38	37.30	-6.44	462646.3 1	757731.9 9	32° 16' 11.82"	-103° 37' 59.55"	11.79	
9278.00	30.33	357.79	9265.65	5561.85	52.59	52.50	-6.85	462661.5 1	757731.5 8	32° 16' 11.97"	-103° 37' 59.55"	12.30	
9309.00	32.52	357.39	9292.10	5588.30	68.75	68.65	-7.54	462677.6 6	757730.8 9	32° 16' 12.13"	-103° 37' 59.56"	7.10	
9341.00	34.30	357.33	9318.81	5615.01	86.36	86.25	-8.35	462695.2 6	757730.0 8	32° 16' 12.30"	-103° 37' 59.57"	5.56	
9372.00	37.15	356.55	9343.98	5640.18	104.44	104.32	-9.32	462713.3 3	757729.1 1	32° 16' 12.48"	-103° 37' 59.58"	9.31	
9404.00	40.63	354.87	9368.88	5665.08	124.49	124.35	-10.83	462733.3 6	757727.6 0	32° 16' 12.68"	-103° 37' 59.59"	11.36	
9436.00	45.66	354.52	9392.22	5688.42	146.30	146.14	-12.86	462755.1 5	757725.5 7	32° 16' 12.89"	-103° 37' 59.62"	15.74	
9467.00	50.36	354.25	9412.96	5709.16	169.25	169.06	-15.11	462778.0 7	757723.3 2	32° 16' 13.12"	-103° 37' 59.64"	15.18	
9499.00	54.51	355.45	9432.46	5728.66	194.54	194.32	-17.38	462803.3 3	757721.0 5	32° 16' 13.37"	-103° 37' 59.67"	13.30	
9530.00	58.30	356.38	9449.61	5745.81	220.32	220.07	-19.22	462829.0 8	757719.2 1	32° 16' 13.63"	-103° 37' 59.68"	12.48	FTP 9530°MD

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)	
9562.00	61.35	357.28	9465.69	5761.89	247.95	247.69	-20.74	462856.7 0	757717.6 9	32° 16' 13.90"	-103° 37' 59.70"	9.84	
9593.00	64.18	358.23	9479.88	5776.08	275.50	275.23	-21.82	462884.2 4	757716.6 1	32° 16' 14.17"	-103° 37' 59.71"	9.53	
9625.00	66.64	359.04	9493.19	5789.39	304.60	304.31	-22.51	462913.3 2	757715.9 2	32° 16' 14.46"	-103° 37' 59.72"	8.02	
9657.00	69.66	359.36	9505.10	5801.30	334.29	334.01	-22.92	462943.0 2	757715.5 1	32° 16' 14.75"	-103° 37' 59.72"	9.48	
9689.00	73.34	359.76	9515.25	5811.45	364.64	364.35	-23.16	462973.3 6	757715.2 7	32° 16' 15.05"	-103° 37' 59.72"	11.56	
9720.00	76.81	0.62	9523.24	5819.44	394.58	394.30	-23.05	463003.3 1	757715.3 8	32° 16' 15.35"	-103° 37' 59.72"	11.51	
9752.00	79.53	0.81	9529.80	5826.00	425.89	425.61	-22.66	463034.6 2	757715.7 7	32° 16' 15.66"	-103° 37' 59.71"	8.52	
9766.00	81.16	0.58	9532.15	5828.35	439.68	439.41	-22.50	463048.4 2	757715.9 3	32° 16' 15.80"	-103° 37' 59.71"	11.75	Tie on extreme
9800.00	84.25	0.05	9536.46	5832.66	473.40	473.13	-22.31	463082.1 4	757716.1 2	32° 16' 16.13"	-103° 37' 59.70"	9.22	First Weatherfo rd SVY
9832.00	85.94	359.88	9539.20	5835.40	505.28	505.01	-22.33	463114.0 2	757716.1 0	32° 16' 16.45"	-103° 37' 59.70"	5.31	
9863.00	87.83	358.96	9540.88	5837.08	536.23	535.96	-22.64	463144.9 7	757715.7 9	32° 16' 16.75"	-103° 37' 59.70"	6.78	
9895.00	88.88	358.30	9541.80	5838.00	568.21	567.94	-23.41	463176.9 5	757715.0 2	32° 16' 17.07"	-103° 37' 59.71"	3.88	
9927.00	90.07	357.55	9542.09	5838.29	600.20	599.92	-24.57	463208.9 3	757713.8 6	32° 16' 17.38"	-103° 37' 59.72"	4.40	
10022.00	90.91	356.55	9541.28	5837.48	695.13	694.79	-29.46	463303.8 0	757708.9 7	32° 16' 18.32"	-103° 37' 59.77"	1.37	
10116.00	92.17	356.36	9538.76	5834.96	788.99	788.57	-35.27	463397.5 8	757703.1 6	32° 16' 19.25"	-103° 37' 59.83"	1.36	
10211.00	90.77	357.37	9536.32	5832.52	883.87	883.39	-40.46	463492.4 0	757697.9 7	32° 16' 20.19"	-103° 37' 59.88"	1.82	
10306.00	90.77	357.72	9535.04	5831.24	978.82	978.30	-44.53	463587.3 1	757693.9 0	32° 16' 21.13"	-103° 37' 59.92"	0.37	
10400.00	88.67	358.81	9535.50	5831.70	1072.80	1072.25	-47.37	463681.2 6	757691.0 6	32° 16' 22.06"	-103° 37' 59.95"	2.52	
10494.00	88.88	0.16	9537.51	5833.71	1166.78	1166.22	-48.22	463775.2 3	757690.2 1	32° 16' 22.99"	-103° 37' 59.95"	1.45	
10589.00	90.77	0.57	9537.80	5834.00	1261.75	1261.21	-47.61	463870.2 2	757690.8 2	32° 16' 23.93"	-103° 37' 59.94"	2.04	
10684.00	89.65	0.56	9537.45	5833.65	1356.73	1356.21	-46.68	463965.2 2	757691.7 5	32° 16' 24.87"	-103° 37' 59.92"	1.18	
10778.00	89.86	1.20	9537.85	5834.05	1450.68	1450.19	-45.23	464059.2 0	757693.2 0	32° 16' 25.80"	-103° 37' 59.89"	0.72	
10873.00	90.21	0.66	9537.80	5834.00	1545.64	1545.18	-43.69	464154.1 9	757694.7 4	32° 16' 26.74"	-103° 37' 59.87"	0.68	
11063.00	91.75	359.51	9534.55	5830.75	1735.58	1735.14	-43.41	464344.1 5	757695.0 2	32° 16' 28.62"	-103° 37' 59.85"	1.01	
11158.00	90.91	359.28	9532.34	5828.54	1830.55	1830.11	-44.41	464439.1 2	757694.0 2	32° 16' 29.56"	-103° 37' 59.86"	0.92	
11253.00	88.25	358.92	9533.04	5829.24	1925.54	1925.09	-45.90	464534.1 0	757692.5 3	32° 16' 30.50"	-103° 37' 59.87"	2.83	
11348.00	88.88	358.46	9535.42	5831.62	2020.51	2020.03	-48.08	464629.0 4	757690.3 5	32° 16' 31.44"	-103° 37' 59.88"	0.82	
11443.00	90.42	358.91	9536.00	5832.20	2115.50	2115.00	-50.26	464724.0 1	757688.1 7	32° 16' 32.38"	-103° 37' 59.90"	1.69	
11538.00	91.68	357.87	9534.26	5830.46	2210.47	2209.95	-52.92	464818.9 6	757685.5 1	32° 16' 33.32"	-103° 37' 59.93"	1.72	
11634.00	92.66	359.32	9530.62	5826.82	2306.39	2305.85	-55.28	464914.8 6	757683.1 5	32° 16' 34.27"	-103° 37' 59.95"	1.82	
11729.00	91.82	0.51	9526.91	5823.11	2401.31	2400.77	-55.42	465009.7 8	757683.0 1	32° 16' 35.21"	-103° 37' 59.94"	1.53	
11823.00	91.40	1.70	9524.27	5820.47	2495.22	2494.71	-53.61	465103.7 2	757684.8 2	32° 16' 36.14"	-103° 37' 59.91"	1.34	
11919.00	89.44	0.44	9523.56	5819.76	2591.16	2590.69	-51.81	465199.7 0	757686.6 2	32° 16' 37.09"	-103° 37' 59.88"	2.43	
12013.00	89.65	359.80	9524.31	5820.51	2685.14	2684.68	-51.62	465293.6 9	757686.8 1	32° 16' 38.02"	-103° 37' 59.87"	0.72	
12108.00	89.72	359.37	9524.83	5821.03	2780.14	2779.68	-52.30	465388.6 9	757686.1 3	32° 16' 38.96"	-103° 37' 59.88"	0.46	

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
12203.00	91.82	359.68	9523.56	5819.76	2875.12	2874.66	-53.09	465483.6 7	757685.3 4	32° 16' 39.90"	-103° 37' 59.88"	2.23	
12298.00	89.86	359.94	9522.16	5818.36	2970.10	2969.65	-53.41	465578.6 6	757685.0 2	32° 16' 40.84"	-103° 37' 59.87"	2.08	
12393.00	89.72	359.60	9522.51	5818.71	3065.10	3064.65	-53.79	465673.6 6	757684.6 4	32° 16' 41.78"	-103° 37' 59.87"	0.39	
12487.00	90.84	359.50	9522.05	5818.25	3159.09	3158.64	-54.53	465767.6 5	757683.9 0	32° 16' 42.71"	-103° 37' 59.87"	1.20	
12582.00	91.82	359.49	9519.85	5816.05	3254.07	3253.61	-55.36	465862.6 2	757683.0 7	32° 16' 43.65"	-103° 37' 59.87"	1.03	
12676.00	92.52	359.30	9516.29	5812.49	3348.00	3347.54	-56.35	465956.5 5	757682.0 8	32° 16' 44.57"	-103° 37' 59.88"	0.77	
12771.00	90.77	359.04	9513.56	5809.76	3442.95	3442.48	-57.73	466051.4 9	757680.7 0	32° 16' 45.51"	-103° 37' 59.89"	1.86	
12867.00	91.61	359.25	9511.57	5807.77	3538.93	3538.45	-59.16	466147.4 6	757679.2 7	32° 16' 46.46"	-103° 37' 59.90"	0.90	
12962.00	90.21	358.96	9510.06	5806.26	3633.92	3633.43	-60.65	466242.4 4	757677.7 8	32° 16' 47.40"	-103° 37' 59.91"	1.50	
13056.00	91.40	358.95	9508.74	5804.94	3727.91	3727.40	-62.36	466336.4 1	757676.0 7	32° 16' 48.33"	-103° 37' 59.92"	1.27	
13151.00	92.45	358.71	9505.55	5801.75	3822.85	3822.32	-64.30	466431.3 3	757674.1 3	32° 16' 49.27"	-103° 37' 59.94"	1.13	
13246.00	90.28	359.39	9503.28	5799.48	3917.82	3917.28	-65.87	466526.2 9	757672.5 6	32° 16' 50.21"	-103° 37' 59.95"	2.39	
13341.00	90.21	0.22	9502.88	5799.08	4012.81	4012.28	-66.20	466621.2 9	757672.2 3	32° 16' 51.15"	-103° 37' 59.94"	0.88	
13436.00	91.26	0.62	9501.66	5797.86	4107.78	4107.26	-65.50	466716.2 7	757672.9 3	32° 16' 52.09"	-103° 37' 59.93"	1.18	
13531.00	91.54	0.76	9499.34	5795.54	4202.72	4202.23	-64.36	466811.2 4	757674.0 7	32° 16' 53.03"	-103° 37' 59.91"	0.33	
13626.00	92.80	1.20	9495.74	5791.94	4297.60	4297.14	-62.73	466906.1 5	757675.7 0	32° 16' 53.97"	-103° 37' 59.88"	1.40	
13712.00	93.65	1.68	9490.90	5787.10	4383.40	4382.98	-60.58	466991.9 9	757677.8 5	32° 16' 54.82"	-103° 37' 59.85"	1.13	Last Svy
13747.00	93.65	1.68	9488.67	5784.87	4418.29	4417.89	-59.55	467026.9 0	757678.8 8	32° 16' 55.17"	-103° 37' 59.84"	0.00	LTP 13747MD
13774.00	93.65	1.68	9486.96	5783.16	4445.21	4444.83	-58.76	467053.8 4	757679.6 7	32° 16' 55.43"	-103° 37' 59.82"	0.00	PTB

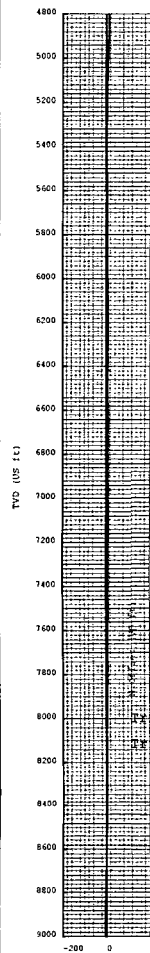
Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	TVD (MSL) (US ft)	Northing (US ft)	Easting (US ft)	Name	Comment
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1st Bone Spring Sand	
1240.18	1.26	66.69	1240.00	6.65	13.80	-2463.80	462615.66	757752.23	Rustler	
1730.29	0.93	25.91	1730.00	12.35	22.11	-1973.80	462621.36	757760.54	Top of Salt (Salado)	
4800.76	1.18	180.35	4800.00	12.15	22.92	1096.20	462621.16	757761.35	Base of Salt	
5030.81	1.23	169.10	5030.00	7.33	23.31	1326.20	462616.34	757761.74	Delaware Sands	
7360.99	0.53	269.47	7360.00	7.97	4.69	3656.20	462616.98	757743.12	Brushy Canyon	
8831.20	0.91	189.33	8830.00	-4.00	-4.88	5126.20	462605.01	757733.55	Bone Spring	
9342.44	34.43	357.29	9320.00	87.06	-8.39	5616.20	462696.07	757730.04	Avalon Shale	
9530.74	58.37	356.40	9450.00	220.70	-19.26	5746.20	462829.71	757719.17	Avalon Target	

Plan vs Actual



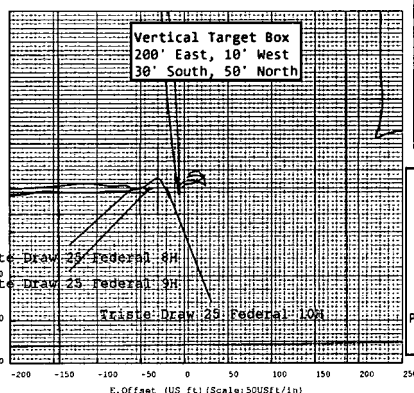
Triste Draw 25 Federal 11H
Lea County, NM

KB: 3703.80
GL: 3679.80



Plan Data for Triste Draw 25 Federal 11H

Formation Point Information:			
Name	TVD (USFT)	Elevation (USFT)	MD (USFT)
1st Bone Spring Sand	10404.00	0.00	-1.00
Rustler	12440.00	2463.88	12440.18
Top of Salt (Salado)	17300.00	1973.80	17300.20
Base of Salt	48000.00	-1096.28	48000.76
Delaware Sands	50300.00	-1326.28	50300.81
Brushy Canyon	73600.00	-3656.28	73600.99
Bone Spring	88300.00	-5126.28	88301.20
Avalon Shale	93200.00	-5616.28	9335.33
Avalon Target	94500.00	-5746.28	9514.92



Drawing By: Christian Davis Date: 22 January 2018
Office Name: Weatherford Drilling Services
Address: 12101 Cutten Road
Houston, Tx 77066
Phone: 832-621-5196

Plan Data for Triste Draw 25 Federal 11H

Plan Point Information:									
Dogleg Severity Unit: °/100.00ft				Position Offsets from Slot Center					
MD	Inc	Az	TVD	+N/-S	+E/-W	V50C	DLS Comments		
(USFt)	(°)	(°)	(USFt)	(USFt)	(USFt)	(USFt)	(DLSU)		
8988.00	1.09	191.91	8986.78	-6.56	-5.57	-6.49	3.06 Tie on Extreme		
9059.00	1.09	191.91	9057.77	-7.89	-5.85	-7.80	0.00 PTB/KOP		
9315.04	0.80	352.90	9302.65	54.79	-14.47	54.99	12.12 Build		
9513.80	0.90	354.39	9488.65	46.87	-33.67	79.12	12.12 LP		
11986.45	0.24	359.55	9530.72	2639.45	49.26	28.00	0.00 Build		
12039.58	91.31	359.60	9530.00	2692.57	49.42	2693.00	2.00 Hold/2693 VS		
13792.69	91.31	359.60	9490.00	4445.18	-61.71	4445.61	0.00 PBHL 1113° FWL 330° FNW		

Plan Data for Triste Draw 25 Federal 11H

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

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Site: Triste Draw 25 Federal
Unit: USFeet      TVD Reference: Mean Sea Level
Company Name: Cimarex Energy
Position:  Northing: 462689.81USft  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 11H
Position:
Offset is from Site centre
+N/-S: 0.00USft  Northing: 462689.81USft  Latitude: 32.269846°
+E/-W: 0.00USft  Easting: 757738.43USft  Longitude: -103.633188°
                  Elevation Above VRD: 3679.80USft
                  Comment: Lea Co, NM

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Well: Triste Draw 25 Federal 11H
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: 359.20°
+E-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
Surcon 48098(nT) 6.96° 60.05° 2017-12-03

Plan Data for Triste Draw 25 Federal 11H

Target Set Information:						
Name: Triste Draw 25 Federal 11H						
Position offsets from S10t centre						
Name	TVD	Elevation	+N/-S	+E/-W	Northing	Easting
	(USFt)	(USFt)	(USFt)	(USFt)	(USFt)	(USFt)
LP	9540.00	9535.00	359.58	-32.88	46358.59	57789.55
2693 VS	9538.00	-582.20	2692.57	-49.42	46358.31	577689.01
PBHL 1110' FNL, 330' FNL	9490.00	-5786.20	4445.18	-61.71	467054.19	577676.72
Vertical Target box	0.00	3783.00	0.00	0.00	462609.01	577738.43

