

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

Field Name: *Cimarex Nad 83 NMEZ*
Site Name: *Triste Draw 25 Federal*
Well Name: *Triste Draw 25 Federal 8H*
Survey: *Definitive survey*

23 January 2019




Weatherford


Triste Draw 25 Federal 8H

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 8H	Position (Relative to Site Centre)		
	+N/-S: -0.68 US ft	Northing: 462608.33 US ft	Latitude: 32° 16' 11.44"
	+E/-W: -60.01 US ft	Easting: 757678.42 US ft	Longitude: -103° 38' 0.18"
	Elevation above MSL: 3679.80 US ft		
Comment: Lea Co. NM			

Well: Triste Draw 25 Federal 8H	Type: Main well	UWI:
	File Number:	Comment:
	Closure Distance: 4501.5 US ft	Closure Azimuth: 350.38°
	Vertical Section: Position of Origin (Relative to Slot centre)	
+N/-S: -0.00 US ft		+E/-W: -0.00 US ft
		Az: 351.15°

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:
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Magnetic Model:

Model Name: Surcon	Date: 12/Nov/2017	Field Strength: 48105.0 nT	Declination: 6.97°	Dip: 60.05°
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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
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Survey Tool Ranges:

Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD + IFR + MS	0.00	9268.00	All Extreme surveys corrected
MWD + IFR + MS	9268.00	10176.00	WFT MWD Svy_1
MWD + IFR + MS	10176.00	14100.00	WFT MWD SVY_2

Wellpath created using minimum curvature.

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
0.00	0.00	0.00	0.00	-3703.80	0.00	-0.00	-0.00	462608.3 3	757678.4 2	32° 16' 11.44"	-103° 38' 0.18"	0.00	
24.00	0.00	0.00	24.00	-3679.80	0.00	-0.00	-0.00	462608.3 3	757678.4 2	32° 16' 11.44"	-103° 38' 0.18"	0.00	
158.00	0.76	307.84	158.00	-3545.80	0.65	0.55	-0.70	462608.8 8	757677.7 2	32° 16' 11.45"	-103° 38' 0.18"	0.57	
190.00	0.77	300.18	189.99	-3513.81	0.94	0.78	-1.06	462609.1 1	757677.3 6	32° 16' 11.45"	-103° 38' 0.19"	0.32	
218.00	0.82	299.89	217.99	-3485.81	1.18	0.98	-1.39	462609.3 1	757677.0 3	32° 16' 11.45"	-103° 38' 0.19"	0.18	
248.00	0.81	297.20	247.99	-3455.81	1.44	1.18	-1.77	462609.5 1	757676.6 5	32° 16' 11.46"	-103° 38' 0.20"	0.13	
309.00	0.83	300.28	308.98	-3394.82	1.97	1.60	-2.53	462609.9 3	757675.8 9	32° 16' 11.46"	-103° 38' 0.21"	0.08	
402.00	0.81	299.06	401.97	-3301.83	2.80	2.26	-3.69	462610.5 9	757674.7 3	32° 16' 11.47"	-103° 38' 0.22"	0.03	
494.00	0.89	288.86	493.96	-3209.84	3.53	2.81	-4.93	462611.1 4	757673.4 9	32° 16' 11.47"	-103° 38' 0.23"	0.19	
586.00	0.77	296.84	585.95	-3117.85	4.23	3.32	-6.16	462611.6 5	757672.2 6	32° 16' 11.48"	-103° 38' 0.25"	0.18	
674.00	0.68	287.89	673.94	-3029.86	4.81	3.74	-7.18	462612.0 7	757671.2 4	32° 16' 11.48"	-103° 38' 0.26"	0.16	
765.00	0.79	283.14	764.94	-2938.86	5.28	4.05	-8.31	462612.3 8	757670.1 1	32° 16' 11.48"	-103° 38' 0.27"	0.14	
854.00	0.59	254.08	853.93	-2849.87	5.46	4.07	-9.35	462612.4 0	757669.0 7	32° 16' 11.48"	-103° 38' 0.28"	0.45	
949.00	0.43	266.14	948.93	-2754.87	5.43	3.91	-10.17	462612.2 4	757668.2 5	32° 16' 11.48"	-103° 38' 0.29"	0.20	
1044.00	0.64	248.54	1043.92	-2659.88	5.34	3.69	-11.02	462612.0 2	757667.4 0	32° 16' 11.48"	-103° 38' 0.30"	0.28	
1137.00	1.01	274.41	1136.91	-2566.89	5.42	3.56	-12.32	462611.8 9	757666.1 0	32° 16' 11.48"	-103° 38' 0.32"	0.56	
1200.00	1.19	262.03	1199.90	-2503.90	5.55	3.52	-13.53	462611.8 5	757664.8 9	32° 16' 11.48"	-103° 38' 0.33"	0.47	
1327.00	1.05	257.10	1326.88	-2376.92	5.49	3.07	-15.97	462611.4 0	757662.4 5	32° 16' 11.47"	-103° 38' 0.36"	0.13	
1422.00	1.10	271.52	1421.86	-2281.94	5.60	2.90	-17.73	462611.2 3	757660.6 9	32° 16' 11.47"	-103° 38' 0.38"	0.29	
1519.00	1.23	271.27	1518.84	-2184.96	5.95	2.95	-19.70	462611.2 8	757658.7 2	32° 16' 11.47"	-103° 38' 0.41"	0.13	
1615.00	1.14	262.58	1614.82	-2088.98	6.15	2.85	-21.67	462611.1 8	757656.7 5	32° 16' 11.47"	-103° 38' 0.43"	0.21	
1804.00	1.10	276.90	1803.79	-1900.01	6.69	2.83	-25.34	462611.1 6	757653.0 8	32° 16' 11.47"	-103° 38' 0.47"	0.15	
1994.00	1.15	273.70	1993.75	-1710.05	7.60	3.17	-29.05	462611.5 0	757649.3 7	32° 16' 11.48"	-103° 38' 0.51"	0.04	
2183.00	1.40	284.16	2182.70	-1521.10	8.91	3.85	-33.18	462612.1 8	757645.2 4	32° 16' 11.48"	-103° 38' 0.56"	0.18	
2277.00	1.23	276.49	2276.68	-1427.12	9.63	4.25	-35.30	462612.5 8	757643.1 2	32° 16' 11.49"	-103° 38' 0.59"	0.26	
2462.00	1.35	275.10	2461.63	-1242.17	10.68	4.67	-39.44	462613.0 0	757638.9 8	32° 16' 11.49"	-103° 38' 0.64"	0.07	
2557.00	1.42	285.55	2556.60	-1147.20	11.44	5.08	-41.69	462613.4 1	757636.7 3	32° 16' 11.50"	-103° 38' 0.66"	0.28	
2653.00	2.50	273.14	2652.55	-1051.25	12.36	5.52	-44.93	462613.8 5	757633.4 9	32° 16' 11.50"	-103° 38' 0.70"	1.20	
2748.00	3.82	270.30	2747.40	-956.40	13.30	5.65	-50.16	462613.9 8	757628.2 6	32° 16' 11.50"	-103° 38' 0.76"	1.40	
2843.00	4.62	268.41	2842.14	-861.66	14.28	5.56	-57.15	462613.8 9	757621.2 7	32° 16' 11.50"	-103° 38' 0.84"	0.85	
2939.00	6.04	265.17	2937.72	-766.08	15.13	5.02	-66.05	462613.3 5	757612.3 7	32° 16' 11.50"	-103° 38' 0.95"	1.51	
3034.00	6.09	263.51	3032.19	-671.61	15.68	4.03	-76.04	462612.3 6	757602.3 8	32° 16' 11.49"	-103° 38' 1.06"	0.19	
3106.00	6.01	263.70	3103.79	-600.01	16.01	3.19	-83.58	462611.5 2	757594.8 4	32° 16' 11.48"	-103° 38' 1.15"	0.12	Crossing 330' 1/4 line (3106/ MD)
3129.00	5.98	263.76	3126.67	-577.13	16.12	2.93	-85.96	462611.2 6	757592.4 6	32° 16' 11.48"	-103° 38' 1.18"	0.12	

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
3224.00	5.97	265.37	3221.15	-482.65	16.71	1.99	-95.81	462610.3 2	757582.6 1	32° 16' 11.47"	-103° 38' 1.29"	0.18	
3320.00	7.33	267.97	3316.50	-387.30	17.80	1.37	-106.90	462609.7 0	757571.5 2	32° 16' 11.46"	-103° 38' 1.42"	1.45	
3415.00	8.31	266.54	3410.62	-293.18	19.17	0.74	-119.81	462609.0 7	757558.6 1	32° 16' 11.46"	-103° 38' 1.57"	1.05	
3509.00	8.13	268.07	3503.65	-200.15	20.60	0.11	-133.24	462608.4 4	757545.1 8	32° 16' 11.45"	-103° 38' 1.73"	0.30	
3604.00	8.48	272.46	3597.66	-106.14	22.79	0.18	-146.95	462608.5 1	757531.4 7	32° 16' 11.45"	-103° 38' 1.89"	0.76	
3698.00	8.76	272.72	3690.59	-13.21	25.58	0.82	-161.02	462609.1 5	757517.4 0	32° 16' 11.46"	-103° 38' 2.05"	0.30	
3793.00	8.90	273.87	3784.47	80.67	28.65	1.66	-175.58	462609.9 9	757502.8 4	32° 16' 11.47"	-103° 38' 2.22"	0.24	
3889.00	9.20	274.67	3879.27	175.47	32.08	2.78	-190.64	462611.1 1	757487.7 8	32° 16' 11.48"	-103° 38' 2.40"	0.34	
3983.00	9.66	274.96	3972.00	268.20	35.72	4.08	-205.99	462612.4 1	757472.4 3	32° 16' 11.50"	-103° 38' 2.58"	0.49	
4076.00	10.06	276.01	4063.63	359.83	39.67	5.60	-221.84	462613.9 3	757456.5 8	32° 16' 11.51"	-103° 38' 2.76"	0.47	
4169.00	9.28	277.22	4155.31	451.51	43.82	7.40	-237.35	462615.7 3	757441.0 7	32° 16' 11.53"	-103° 38' 2.94"	0.87	
4265.00	9.59	273.16	4250.01	546.21	47.63	8.81	-253.02	462617.1 4	757425.4 0	32° 16' 11.55"	-103° 38' 3.12"	0.76	
4357.00	9.39	269.00	4340.75	636.95	50.25	9.10	-268.17	462617.4 3	757410.2 5	32° 16' 11.55"	-103° 38' 3.30"	0.78	
4452.00	9.42	269.56	4434.47	730.67	52.45	8.91	-283.70	462617.2 4	757394.7 2	32° 16' 11.55"	-103° 38' 3.48"	0.10	
4547.00	9.67	268.52	4528.16	824.36	54.61	8.64	-299.45	462616.9 7	757378.9 7	32° 16' 11.55"	-103° 38' 3.66"	0.32	
4642.00	9.00	266.39	4621.90	918.10	56.31	7.97	-314.84	462616.3 0	757363.5 8	32° 16' 11.54"	-103° 38' 3.84"	0.79	
4737.00	9.35	265.89	4715.68	1011.88	57.63	6.95	-329.95	462615.2 8	757348.4 7	32° 16' 11.53"	-103° 38' 4.02"	0.38	
4831.00	9.46	267.31	4808.42	1104.62	59.08	6.04	-345.28	462614.3 7	757333.1 4	32° 16' 11.53"	-103° 38' 4.20"	0.27	
4914.00	9.23	268.76	4890.32	1186.52	60.70	5.57	-358.75	462613.9 0	757319.6 7	32° 16' 11.52"	-103° 38' 4.35"	0.40	
5009.00	9.16	266.64	4984.10	1280.30	62.43	4.96	-373.92	462613.2 9	757304.5 0	32° 16' 11.52"	-103° 38' 4.53"	0.36	
5104.00	9.76	265.67	5077.81	1374.01	63.79	3.91	-389.50	462612.2 4	757288.9 2	32° 16' 11.51"	-103° 38' 4.71"	0.65	
5198.00	10.39	266.51	5170.36	1466.56	65.21	2.79	-405.90	462611.1 2	757272.5 2	32° 16' 11.50"	-103° 38' 4.90"	0.69	
5292.00	10.36	266.87	5262.82	1559.02	66.84	1.82	-422.80	462610.1 5	757255.6 2	32° 16' 11.49"	-103° 38' 5.10"	0.08	
5479.00	10.18	266.03	5446.82	1743.02	69.92	-0.25	-456.08	462608.0 8	757222.3 4	32° 16' 11.47"	-103° 38' 5.49"	0.13	
5574.00	10.29	267.51	5540.31	1836.51	71.58	-1.20	-472.93	462607.1 3	757205.4 9	32° 16' 11.46"	-103° 38' 5.68"	0.30	
5670.00	10.33	268.03	5634.76	1930.96	73.56	-1.86	-490.10	462606.4 7	757188.3 2	32° 16' 11.46"	-103° 38' 5.88"	0.11	
5765.00	10.42	267.40	5728.21	2024.41	75.51	-2.55	-507.19	462605.7 8	757171.2 3	32° 16' 11.45"	-103° 38' 6.08"	0.15	
5858.00	9.30	270.84	5819.83	2116.03	77.70	-2.82	-523.11	462605.5 1	757155.3 1	32° 16' 11.45"	-103° 38' 6.27"	1.36	
5953.00	8.37	274.12	5913.71	2209.91	80.54	-2.21	-537.68	462606.1 2	757140.7 4	32° 16' 11.46"	-103° 38' 6.44"	1.11	
6049.00	8.77	271.09	6008.64	2304.84	83.37	-1.57	-551.97	462606.7 6	757126.4 5	32° 16' 11.46"	-103° 38' 6.61"	0.63	
6144.00	8.81	270.16	6102.52	2398.72	85.76	-1.41	-566.48	462606.9 2	757111.9 4	32° 16' 11.47"	-103° 38' 6.77"	0.16	
6332.00	8.92	270.67	6288.27	2584.47	90.43	-1.20	-595.45	462607.1 3	757082.9 7	32° 16' 11.47"	-103° 38' 7.11"	0.07	
6426.00	9.09	270.64	6381.12	2677.32	92.86	-1.03	-610.17	462607.3 0	757068.2 5	32° 16' 11.47"	-103° 38' 7.28"	0.18	
6615.00	7.68	270.84	6568.09	2864.29	97.44	-0.68	-637.72	462607.6 5	757040.7 0	32° 16' 11.48"	-103° 38' 7.60"	0.75	
6805.00	6.31	270.35	6756.67	3052.87	101.25	-0.43	-660.86	462607.9 0	757017.5 6	32° 16' 11.48"	-103° 38' 7.87"	0.72	

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
6900.00	6.10	271.71	6851.12	3147.32	103.01	-0.25	-671.13	462608.0 8	757007.2 9	32° 16' 11.48"	-103° 38' 7.99"	0.27	
7092.00	5.96	270.76	7042.05	3338.25	106.54	0.19	-691.29	462608.5 2	756987.1 3	32° 16' 11.49"	-103° 38' 8.23"	0.09	
7188.00	5.70	268.76	7137.56	3433.76	108.01	0.15	-701.04	462608.4 8	756977.3 8	32° 16' 11.49"	-103° 38' 8.34"	0.34	
7282.00	4.85	269.67	7231.16	3527.36	109.21	0.03	-709.68	462608.3 6	756968.7 4	32° 16' 11.49"	-103° 38' 8.44"	0.91	
7377.00	2.76	269.33	7325.94	3622.14	110.13	-0.02	-715.98	462608.3 1	756962.4 4	32° 16' 11.49"	-103° 38' 8.52"	2.20	
7472.00	1.38	236.75	7420.88	3717.08	109.99	-0.67	-719.23	462607.6 6	756959.1 9	32° 16' 11.48"	-103° 38' 8.55"	1.85	
7566.00	1.01	222.70	7514.86	3811.06	109.00	-1.90	-720.74	462606.4 3	756957.6 8	32° 16' 11.47"	-103° 38' 8.57"	0.50	
7662.00	0.89	187.32	7610.85	3907.05	107.76	-3.26	-721.41	462605.0 7	756957.0 1	32° 16' 11.46"	-103° 38' 8.58"	0.61	
7756.00	1.25	194.81	7704.83	4001.03	106.12	-4.98	-721.76	462603.3 5	756956.6 6	32° 16' 11.44"	-103° 38' 8.58"	0.41	
7851.00	0.98	195.36	7799.81	4096.01	104.43	-6.77	-722.24	462601.5 6	756956.1 8	32° 16' 11.42"	-103° 38' 8.59"	0.28	
7944.00	0.37	183.64	7892.81	4189.01	103.41	-7.83	-722.47	462600.5 0	756955.9 5	32° 16' 11.41"	-103° 38' 8.59"	0.67	
8133.00	0.42	216.61	8081.80	4378.00	102.33	-9.00	-722.92	462599.3 3	756955.5 0	32° 16' 11.40"	-103° 38' 8.60"	0.12	
8226.00	0.13	331.88	8174.80	4471.00	102.19	-9.18	-723.18	462599.1 5	756955.2 4	32° 16' 11.40"	-103° 38' 8.60"	0.53	
8417.00	0.07	105.18	8365.80	4662.00	102.35	-9.02	-723.16	462599.3 1	756955.2 6	32° 16' 11.40"	-103° 38' 8.60"	0.10	
8513.00	0.35	158.64	8461.80	4758.00	102.04	-9.31	-723.00	462599.0 2	756955.4 2	32° 16' 11.40"	-103° 38' 8.60"	0.33	
8608.00	0.69	170.78	8556.80	4853.00	101.18	-10.14	-722.80	462598.1 9	756955.6 2	32° 16' 11.39"	-103° 38' 8.60"	0.37	
8798.00	1.32	187.87	8746.77	5042.97	97.94	-13.44	-722.92	462594.8 9	756955.5 0	32° 16' 11.36"	-103° 38' 8.60"	0.36	
8894.00	1.15	191.76	8842.75	5138.95	95.98	-15.48	-723.27	462592.8 5	756955.1 5	32° 16' 11.34"	-103° 38' 8.60"	0.20	
8988.00	2.21	181.34	8936.70	5232.90	93.32	-18.21	-723.50	462590.1 2	756954.9 2	32° 16' 11.31"	-103° 38' 8.60"	1.17	
9083.00	1.87	177.51	9031.64	5327.84	89.97	-21.59	-723.48	462586.7 4	756954.9 4	32° 16' 11.28"	-103° 38' 8.60"	0.39	
9171.00	1.98	185.86	9119.59	5415.79	87.07	-24.54	-723.57	462583.7 9	756954.8 5	32° 16' 11.25"	-103° 38' 8.61"	0.34	
9268.00	2.92	215.57	9216.51	5512.71	83.69	-28.21	-725.18	462580.1 2	756953.2 4	32° 16' 11.21"	-103° 38' 8.62"	1.60	Tie on Extreme
9339.00	2.66	287.95	9287.44	5583.64	83.14	-29.18	-727.80	462579.1 5	756950.6 2	32° 16' 11.20"	-103° 38' 8.66"	4.65	KOP 9339'MD
9354.00	3.09	298.93	9302.42	5598.62	83.54	-28.88	-728.48	462579.4 5	756949.9 4	32° 16' 11.20"	-103° 38' 8.66"	4.65	First WFT Survey
9385.00	6.60	339.23	9333.32	5629.52	85.80	-26.80	-729.85	462581.5 3	756948.5 7	32° 16' 11.23"	-103° 38' 8.68"	15.12	
9417.00	10.46	350.60	9364.96	5661.16	90.51	-22.22	-730.97	462586.1 1	756947.4 5	32° 16' 11.27"	-103° 38' 8.69"	13.11	
9449.00	14.39	356.53	9396.20	5692.40	97.37	-15.38	-731.69	462592.9 5	756946.7 3	32° 16' 11.34"	-103° 38' 8.70"	12.90	
9481.00	17.97	355.76	9426.93	5723.13	106.26	-6.48	-732.30	462601.8 5	756946.1 2	32° 16' 11.43"	-103° 38' 8.71"	11.21	
9513.00	20.88	355.95	9457.11	5753.31	116.86	4.13	-733.06	462612.4 6	756945.3 6	32° 16' 11.53"	-103° 38' 8.71"	9.10	
9544.00	22.96	356.76	9485.86	5782.06	128.38	15.68	-733.80	462624.0 1	756944.6 2	32° 16' 11.65"	-103° 38' 8.72"	6.78	
9575.00	26.43	356.82	9514.02	5810.22	141.27	28.61	-734.52	462636.9 4	756943.9 0	32° 16' 11.77"	-103° 38' 8.73"	11.19	
9607.00	30.44	356.53	9542.16	5838.36	156.43	43.82	-735.41	462652.1 5	756943.0 1	32° 16' 11.92"	-103° 38' 8.74"	12.54	
9638.00	35.22	356.44	9568.20	5864.40	173.16	60.59	-736.44	462668.9 2	756941.9 8	32° 16' 12.09"	-103° 38' 8.75"	15.42	
9670.00	37.58	358.91	9593.96	5890.16	192.02	79.55	-737.20	462687.8 8	756941.2 2	32° 16' 12.28"	-103° 38' 8.76"	8.68	
9680.00	37.87	359.98	9601.87	5898.07	198.08	85.67	-737.26	462694.0 0	756941.1 6	32° 16' 12.34"	-103° 38' 8.76"	7.17	FTP 9680'MD

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	
9702.00	38.53	2.30	9619.16	5915.36	211.47	99.27	-736.98	462707.6 0	756941.4 4	32° 16' 12.47"	-103° 38' 8.75"	7.17		
9733.00	40.64	3.23	9643.05	5939.25	230.82	119.00	-736.03	462727.3 3	756942.3 9	32° 16' 12.67"	-103° 38' 8.74"	7.07		
9765.00	43.92	2.02	9666.72	5962.92	251.92	140.50	-735.05	462748.8 3	756943.3 7	32° 16' 12.88"	-103° 38' 8.73"	10.56		
9797.00	48.20	1.00	9688.92	5985.12	274.58	163.53	-734.45	462771.8 6	756943.9 7	32° 16' 13.11"	-103° 38' 8.72"	13.57		
9828.00	52.71	1.05	9708.65	6004.85	298.12	187.43	-734.02	462795.7 6	756944.4 0	32° 16' 13.35"	-103° 38' 8.71"	14.55		
9860.00	57.65	1.10	9726.92	6023.12	323.99	213.68	-733.53	462822.0 1	756944.8 9	32° 16' 13.61"	-103° 38' 8.70"	15.44		
9891.00	62.88	1.98	9742.29	6038.49	350.46	240.58	-732.80	462848.9 1	756945.6 2	32° 16' 13.87"	-103° 38' 8.69"	17.05		
9923.00	66.77	1.83	9755.90	6052.10	378.90	269.52	-731.84	462877.8 5	756946.5 8	32° 16' 14.16"	-103° 38' 8.68"	12.16		
9955.00	69.63	2.35	9767.78	6063.98	408.07	299.21	-730.75	462907.5 4	756947.6 7	32° 16' 14.45"	-103° 38' 8.66"	9.06		
9986.00	72.81	1.61	9777.76	6073.96	436.90	328.54	-729.74	462936.8 7	756948.6 8	32° 16' 14.74"	-103° 38' 8.65"	10.50		
10018.00	77.02	359.78	9786.09	6082.29	467.36	359.42	-729.37	462967.7 5	756949.0 5	32° 16' 15.05"	-103° 38' 8.64"	14.27		
10050.00	79.59	359.13	9792.57	6088.77	498.36	390.76	-729.67	462999.0 9	756948.7 5	32° 16' 15.36"	-103° 38' 8.64"	8.27		
10082.00	82.70	358.00	9797.50	6093.70	529.71	422.36	-730.46	463030.6 9	756947.9 6	32° 16' 15.67"	-103° 38' 8.65"	10.33		
10176.00	90.56	356.69	9803.02	6099.22	622.93	516.02	-734.81	463124.3 5	756943.6 1	32° 16' 16.60"	-103° 38' 8.70"	8.48		
10212.00	90.84	356.38	9802.58	6098.78	658.77	551.95	-736.98	463160.2 8	756941.4 4	32° 16' 16.95"	-103° 38' 8.72"	1.16		
10306.00	90.35	358.75	9801.60	6097.80	752.16	645.86	-740.98	463254.1 9	756937.4 4	32° 16' 17.88"	-103° 38' 8.76"	2.57		
10400.00	89.02	359.57	9802.12	6098.32	845.24	739.84	-742.36	463348.1 7	756936.0 6	32° 16' 18.81"	-103° 38' 8.77"	1.66		
10495.00	88.18	0.54	9804.44	6100.64	939.07	834.81	-742.26	463443.1 4	756936.1 6	32° 16' 19.75"	-103° 38' 8.76"	1.35		
10589.00	87.62	0.43	9807.89	6104.09	1031.76	928.74	-741.47	463537.0 7	756936.9 5	32° 16' 20.68"	-103° 38' 8.74"	0.61		
10684.00	88.11	0.82	9811.42	6107.62	1125.40	1023.67	-740.43	463632.0 0	756937.9 9	32° 16' 21.62"	-103° 38' 8.72"	0.66		
10779.00	89.93	1.38	9813.05	6109.25	1218.95	1118.64	-738.61	463726.9 7	756939.8 1	32° 16' 22.56"	-103° 38' 8.69"	2.00		
10873.00	90.21	1.21	9812.93	6109.13	1311.48	1212.61	-736.49	463820.9 4	756941.9 3	32° 16' 23.49"	-103° 38' 8.66"	0.35		
10968.00	89.79	1.52	9812.93	6109.13	1404.98	1307.59	-734.22	463915.9 2	756944.2 0	32° 16' 24.43"	-103° 38' 8.63"	0.55		
11063.00	89.86	1.32	9813.22	6109.42	1498.45	1402.56	-731.87	464010.8 9	756946.5 5	32° 16' 25.37"	-103° 38' 8.59"	0.22		
11157.00	90.70	1.12	9812.77	6108.97	1591.00	1496.53	-729.87	464104.8 6	756948.5 5	32° 16' 26.30"	-103° 38' 8.56"	0.92		
11251.00	90.77	0.76	9811.56	6107.76	1683.63	1590.51	-728.32	464198.8 4	756950.1 0	32° 16' 27.23"	-103° 38' 8.54"	0.39		
11346.00	89.16	0.38	9811.62	6107.82	1777.34	1685.50	-727.38	464293.8 3	756951.0 4	32° 16' 28.17"	-103° 38' 8.52"	1.74		
11441.00	88.67	0.49	9813.42	6109.62	1871.08	1780.48	-726.66	464388.8 1	756951.7 6	32° 16' 29.11"	-103° 38' 8.50"	0.53		
11536.00	88.32	358.93	9815.91	6112.11	1964.99	1875.45	-727.14	464483.7 8	756951.2 8	32° 16' 30.05"	-103° 38' 8.50"	1.68		
11631.00	88.46	358.78	9818.58	6114.78	2059.09	1970.39	-729.04	464578.7 2	756949.3 8	32° 16' 30.99"	-103° 38' 8.52"	0.22		
11726.00	89.02	358.52	9820.67	6116.87	2153.26	2065.34	-731.27	464673.6 7	756947.1 5	32° 16' 31.93"	-103° 38' 8.54"	0.65		
11821.00	89.09	358.48	9822.24	6118.44	2247.46	2160.29	-733.76	464768.6 2	756944.6 6	32° 16' 32.87"	-103° 38' 8.56"	0.08		
11915.00	88.46	358.27	9824.25	6120.45	2340.69	2254.23	-736.43	464862.5 6	756941.9 9	32° 16' 33.80"	-103° 38' 8.58"	0.71		
12010.00	88.74	358.27	9826.57	6122.77	2434.93	2349.16	-739.29	464957.4 9	756939.1 3	32° 16' 34.74"	-103° 38' 8.61"	0.29		
12104.00	88.46	357.94	9828.86	6125.06	2528.21	2443.08	-742.40	465051.4 1	756936.0 2	32° 16' 35.67"	-103° 38' 8.64"	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
12294.00	89.51	359.43	9832.23	6128.43	2716.54	2633.00	-746.76	465241.3 3	756931.6 6	32° 16' 37.55"	-103° 38' 8.67"	0.96	
12389.00	89.37	359.42	9833.16	6129.36	2810.54	2727.99	-747.71	465336.3 2	756930.7 1	32° 16' 38.49"	-103° 38' 8.68"	0.15	
12577.00	92.10	0.12	9830.75	6126.95	2996.38	2915.95	-748.47	465524.2 8	756929.9 5	32° 16' 40.35"	-103° 38' 8.67"	1.50	
12672.00	90.84	1.18	9828.31	6124.51	3090.05	3010.91	-747.39	465619.2 4	756931.0 3	32° 16' 41.29"	-103° 38' 8.65"	1.73	
12766.00	88.74	1.40	9828.65	6124.85	3182.57	3104.88	-745.27	465713.2 1	756933.1 5	32° 16' 42.22"	-103° 38' 8.62"	2.25	
12956.00	88.95	2.15	9832.48	6128.68	3369.28	3294.75	-739.39	465903.0 8	756939.0 3	32° 16' 44.09"	-103° 38' 8.54"	0.41	
13050.00	89.65	1.03	9833.63	6129.83	3461.71	3388.70	-736.78	465997.0 3	756941.6 4	32° 16' 45.02"	-103° 38' 8.50"	1.40	
13145.00	88.46	358.71	9835.20	6131.40	3555.59	3483.68	-737.00	466092.0 1	756941.4 2	32° 16' 45.96"	-103° 38' 8.50"	2.74	
13240.00	89.37	358.68	9837.00	6133.20	3649.75	3578.64	-739.16	466186.9 7	756939.2 6	32° 16' 46.90"	-103° 38' 8.51"	0.96	
13335.00	90.77	358.56	9836.88	6133.08	3743.94	3673.61	-741.45	466281.9 4	756936.9 7	32° 16' 47.84"	-103° 38' 8.53"	1.48	
13428.00	88.39	359.12	9837.56	6133.76	3836.10	3766.58	-743.33	466374.9 1	756935.0 9	32° 16' 48.76"	-103° 38' 8.55"	2.63	
13523.00	87.62	359.21	9840.87	6137.07	3930.11	3861.51	-744.71	466469.8 4	756933.7 1	32° 16' 49.70"	-103° 38' 8.56"	0.82	
13618.00	88.11	359.41	9844.41	6140.61	4024.08	3956.44	-745.86	466564.7 7	756932.5 6	32° 16' 50.64"	-103° 38' 8.56"	0.56	
13712.00	89.37	359.26	9846.48	6142.68	4117.10	4050.41	-746.95	466658.7 4	756931.4 7	32° 16' 51.57"	-103° 38' 8.57"	1.35	
13808.00	89.58	359.35	9847.36	6143.56	4212.13	4146.40	-748.11	466754.7 3	756930.3 1	32° 16' 52.52"	-103° 38' 8.58"	0.24	
13903.00	88.95	359.45	9848.58	6144.78	4306.14	4241.38	-749.11	466849.7 1	756929.3 1	32° 16' 53.46"	-103° 38' 8.58"	0.67	
13998.00	88.18	359.08	9850.95	6147.15	4400.15	4336.35	-750.33	466944.6 8	756928.0 9	32° 16' 54.40"	-103° 38' 8.59"	0.90	
14039.00	87.69	359.10	9852.43	6148.63	4440.74	4377.31	-750.98	466985.6 4	756927.4 4	32° 16' 54.81"	-103° 38' 8.59"	1.20	Last WFT SVY
14052.00	87.69	359.10	9852.96	6149.16	4453.60	4390.30	-751.18	466998.6 3	756927.2 4	32° 16' 54.94"	-103° 38' 8.59"	0.00	LTP 14052'MD
14100.00	87.69	359.10	9854.89	6151.09	4501.10	4438.26	-751.93	467046.5 9	756926.4 9	32° 16' 55.41"	-103° 38' 8.60"	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	
1240.11	1.14	260.60	1240.00	3.39	-14.33	-2463.80	462611.72	757664.09	Rustler	
1730.20	1.11	271.19	1730.00	2.73	-23.92	-1973.80	462611.06	757654.50	Top of Salt (Salado)	
4822.46	9.45	267.18	4800.00	6.10	-343.88	1096.20	462614.43	757334.54	Base of Salt	
5055.51	9.45	266.15	5030.00	4.49	-381.43	1326.20	462612.82	757296.99	Delaware Sands	
7411.09	2.20	262.38	7360.00	-0.12	-717.45	3656.20	462608.21	756960.97	Brushy Canyon	
8881.25	1.17	191.18	8830.00	-15.22	-723.22	5126.20	462593.11	756955.20	Bone Spring	
9371.62	4.85	328.96	9320.00	-28.01	-729.28	5616.20	462580.32	756949.14	Avalon Shale	
12150.08	88.71	358.30	9830.00	2489.13	-743.91	6126.20	465097.46	756934.51	Avalon Target	



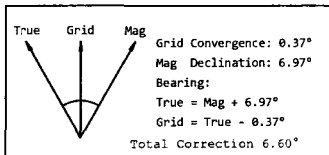
Plan vs Actual



Weatherford

Triste Draw 25 Federal 8H Lea County, NM

KB: 3703.80
GL: 3679.80
9 5/8 in
4975.21 (TVD)



Plan Data for Triste Draw 25 Federal 8H

Casing Point Information:

MD	Inc	Az	TVD
(USft)	(°)	(°)	(USft)
1320.00	1.06	257.41	1319.88
5000.00	9.17	266.84	4975.21

Formation Point Information:

Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
1st Bone Spring Sand	10040.00	0.00	-1.00
Rustler	1240.00	2463.00	1240.11
Top of Salt (Salado)	1730.00	1973.00	1730.20
Base of Salt	4800.00	-1095.20	4822.46
Delaware Sands	5030.00	-1326.20	5055.51
Brushy Canyon	7360.00	-3656.20	7411.09
Bone Spring	8830.00	-5126.20	8881.25
Avalon Shale	9320.00	-5616.20	9371.60
Avalon Target	9830.00	-6126.20	12516.79

Plan Data for Triste Draw 25 Federal 8H

Field: Cimarex Nad 83 NMEZ
Map Unit: USFt
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: 462689.01USft 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 8H
Position: Offset is from Site centre
+N/-S: -0.68USft Northing: 462688.33USft Latitude: 32.269845°
+E/-W: -60.01USft Easting: 757678.42USft Longitude: -103.633382°
Elevation Above VRD: 3679.80USft
Comment: Lea Co. NM

Well: Triste Draw 25 Federal 8H
Type: Main-Well
File Number:
Plan Folder: P2
Plan: P2:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: -0.68USft Azimuth: 351.15°
+E/-W: -60.01USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
Surcon: 48105(nT) 6.97° 60.05° 2017-11-12

Plan Data for Triste Draw 25 Federal 8H

Plan Point Information:

MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Comments
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	
9268.00	2.92	215.57	9216.51	-28.18	-725.23	75.17	1.68	Last Svy
9339.00	2.92	215.57	9287.42	-31.12	-727.33	72.59	0.00	PTB/Build
9617.44	30.00	2.00	9554.20	34.44	-729.07	137.64	11.66	Build/Turn
10126.10	89.28	359.63	9800.00	453.98	-725.98	551.71	11.66	LP
14111.11	89.28	359.63	9850.00	4438.59	-751.54	4492.81	0.00	PBHL 360° FWL, 330 FNL

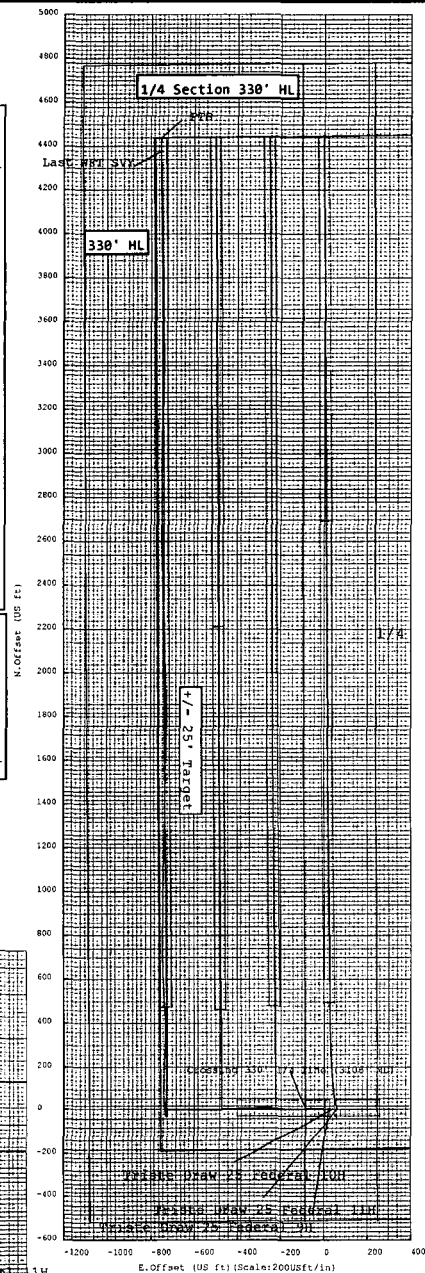
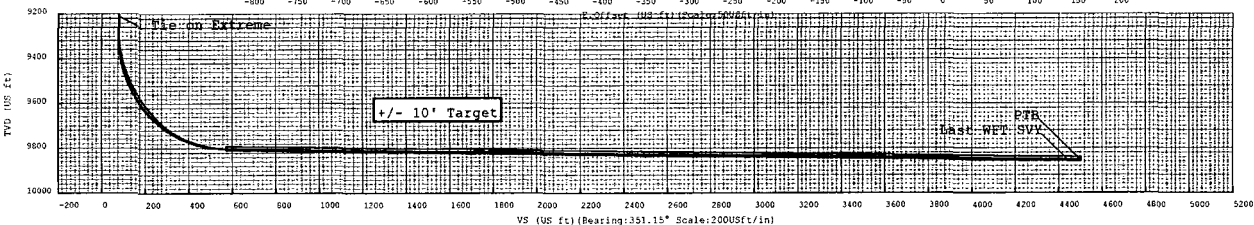
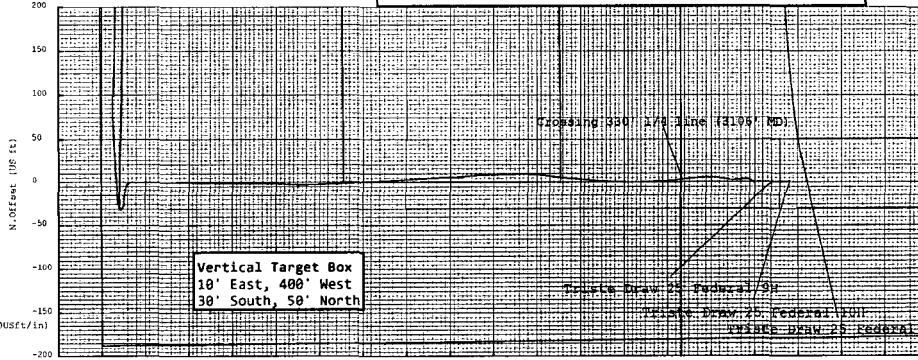
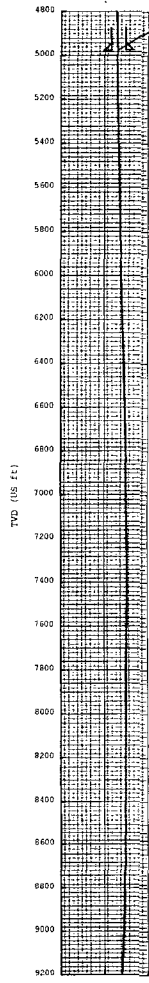
Plan Data for Triste Draw 25 Federal 8H

Target Set Information:

Name: Triste Draw 25 Federal 8H
Position offsets from Slot centre

Name	TVD	Elevation	+N/-S	+E/-W	Northing	Easting
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)
Nudge Target	7500.00	-3796.20	0.00	-722.70	462688.33	756955.72
LP	9830.00	-6126.20	392.62	-722.70	463000.95	756955.72
PBHL 360° FWL, 330 FNL	9850.00	-6146.20	4438.59	-751.54	467046.92	756926.88

Vertical Target box 0.00 3703.80 0.00 0.00 462688.33 757678.42



Drawing By: CBO Date: 10/24/2017
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