

Cimarex Triste Draw 25 Federal #13H MWD to 13,778ft MD TD (Surcon Corr)

Survey Geodetic Report

(Def Survey)



HOBBS OIL

FEB 06 2019

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Report Date: February 25, 2018 - 01:38 PM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex Triste Draw 25 Federal #13H / Cimarex Triste Draw 25 Federal #13H
 Well: Cimarex Triste Draw 25 Federal #13H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Triste Draw 25 Federal #13H MWD to 13,778ft MD TD (Surcon Corr)
 Survey Date: February 03, 2018
 Tort / AHD / DDI / ERD Ratio: 177.127' / 5271.508 ft / 6.128 / 0.551
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 16' 11.98413", W 103° 37' 45.15435"
 Location Grid N/E Y/X: N 462671.400 ftUS, E 758967.810 ftUS
 CRS Grid Convergence Angle: 0.3760°
 Grid Scale Factor: 0.99996334
 Version / Patch: 2.10.683.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 359.590° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3714.300 ft above MSL
 Seabed / Ground Elevation: 3690.300 ft above MSL
 Magnetic Declination: 6.842°
 Total Gravity Field Strength: 998.4367mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48088.805 nT
 Magnetic Dip Angle: 60.021°
 Declination Date: February 13, 2018
 Magnetic Declination Model: HDGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.3760°
 Total Corr Mag North->Grid North: 6.4658°
 Local Coord Referenced To: Structure Reference Point

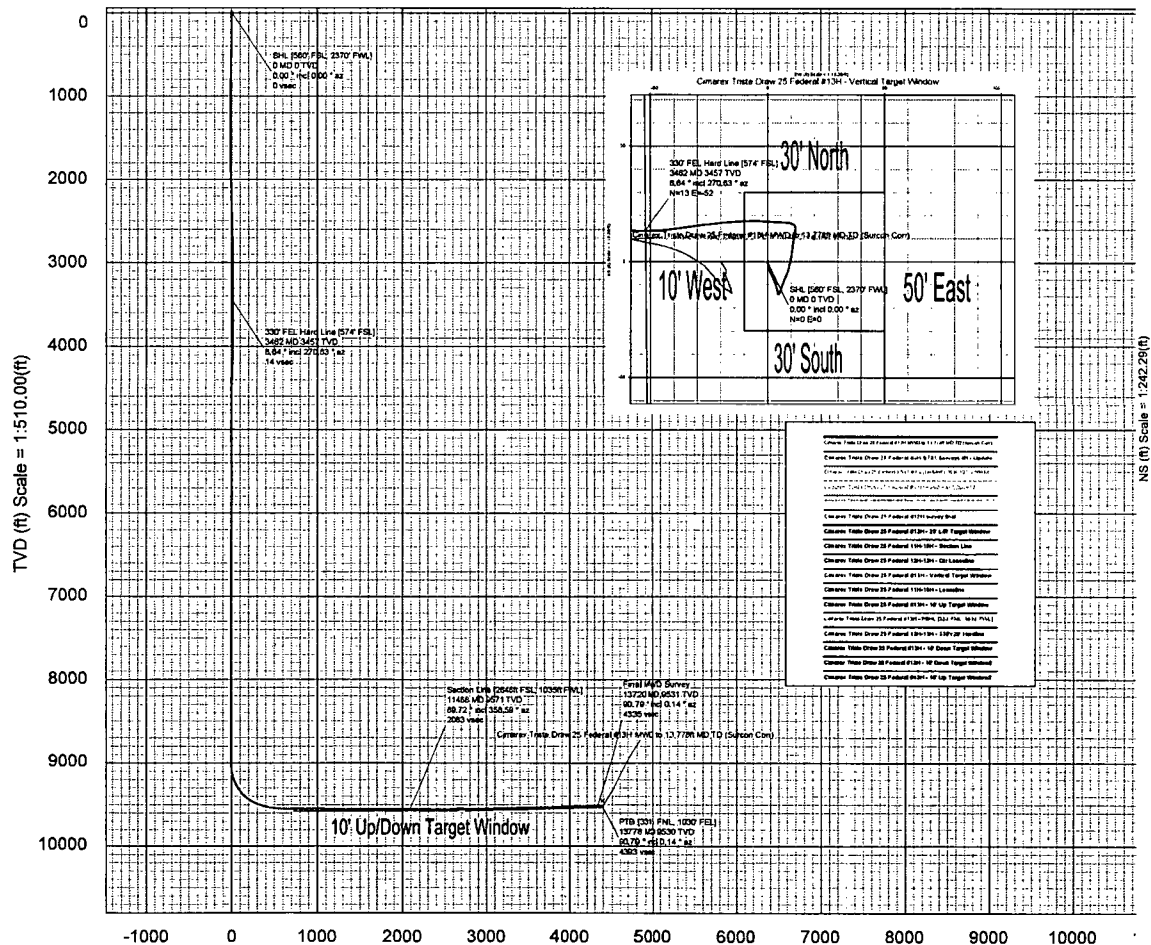
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [560' FSL, 2370' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	462671.40	758967.81	N 32 16 11.98	W 103 37 45.15
	206.00	0.80	170.96	205.99	-1.42	-1.42	0.23	0.39	462669.98	758968.04	N 32 16 11.97	W 103 37 45.15
	296.00	0.73	171.33	295.99	-2.61	-2.61	0.41	0.08	462668.79	758968.22	N 32 16 11.96	W 103 37 45.15
	386.00	0.64	152.15	385.98	-3.62	-3.62	0.73	0.27	462667.78	758968.54	N 32 16 11.95	W 103 37 45.15
	475.00	0.54	155.00	474.97	-4.45	-4.44	1.14	0.12	462666.96	758968.95	N 32 16 11.94	W 103 37 45.14
	566.00	0.51	163.20	565.97	-5.22	-5.21	1.44	0.09	462666.19	758969.25	N 32 16 11.93	W 103 37 45.14
	655.00	0.55	149.85	654.97	-5.98	-5.96	1.77	0.15	462665.44	758969.58	N 32 16 11.93	W 103 37 45.13
	746.00	0.55	145.39	745.96	-6.72	-6.70	2.24	0.05	462664.70	758970.05	N 32 16 11.92	W 103 37 45.13
	838.00	0.65	164.11	837.96	-7.58	-7.57	2.63	0.24	462663.83	758970.44	N 32 16 11.91	W 103 37 45.12
	932.00	0.73	155.57	931.95	-8.65	-8.62	3.02	0.14	462662.78	758970.83	N 32 16 11.90	W 103 37 45.12
	1026.00	0.54	165.79	1025.94	-9.62	-9.60	3.38	0.23	462661.80	758971.19	N 32 16 11.89	W 103 37 45.12
	1121.00	0.63	156.24	1120.94	-10.54	-10.51	3.70	0.14	462660.89	758971.51	N 32 16 11.88	W 103 37 45.11
	1213.00	0.70	167.50	1212.93	-11.55	-11.52	4.03	0.16	462659.88	758971.84	N 32 16 11.87	W 103 37 45.11
	1404.00	0.63	172.73	1403.92	-13.73	-13.70	4.41	0.05	462657.70	758972.22	N 32 16 11.85	W 103 37 45.10
	1499.00	0.43	59.56	1498.92	-14.07	-14.04	4.78	0.94	462657.36	758972.59	N 32 16 11.84	W 103 37 45.10
	1594.00	1.02	16.68	1593.91	-13.09	-13.05	5.33	0.80	462656.35	758973.14	N 32 16 11.85	W 103 37 45.09
	1688.00	1.14	18.86	1687.89	-11.40	-11.36	5.88	0.13	462656.04	758973.69	N 32 16 11.87	W 103 37 45.09
	1783.00	0.95	19.67	1782.88	-9.77	-9.73	6.45	0.20	462656.17	758974.26	N 32 16 11.89	W 103 37 45.08
	1877.00	1.18	21.48	1876.86	-8.14	-8.09	7.06	0.25	462656.31	758974.87	N 32 16 11.90	W 103 37 45.07
	1971.00	1.13	22.05	1970.84	-6.39	-6.33	7.77	0.05	462656.07	758975.58	N 32 16 11.92	W 103 37 45.06
	2066.00	1.22	19.76	2065.82	-4.57	-4.51	8.46	0.11	462656.89	758976.27	N 32 16 11.94	W 103 37 45.06
	2161.00	1.37	11.09	2160.80	-2.51	-2.45	9.02	0.26	462656.95	758976.83	N 32 16 11.96	W 103 37 45.05
	2255.00	1.33	14.41	2254.77	-0.36	-0.29	9.51	0.09	462657.11	758977.32	N 32 16 11.98	W 103 37 45.04
	2349.00	1.34	9.55	2348.75	1.78	1.85	9.96	0.12	462657.25	758977.77	N 32 16 12.00	W 103 37 45.04
	2444.00	1.25	7.92	2443.72	3.90	3.97	10.29	0.10	462657.37	758978.10	N 32 16 12.02	W 103 37 45.03
	2538.00	1.27	6.57	2537.70	5.95	6.03	10.55	0.04	462657.42	758978.36	N 32 16 12.04	W 103 37 45.03
	2632.00	1.57	8.91	2631.67	8.25	8.33	10.87	0.32	462657.73	758978.68	N 32 16 12.07	W 103 37 45.03
	2726.00	1.46	10.50	2725.64	10.70	10.78	11.29	0.13	462658.12	758979.10	N 32 16 12.09	W 103 37 45.02
	2820.00	1.77	10.36	2819.60	13.30	13.39	11.77	0.33	462658.79	758979.58	N 32 16 12.12	W 103 37 45.02
	2914.00	1.43	328.10	2913.57	15.73	15.81	11.41	1.27	462658.21	758979.22	N 32 16 12.14	W 103 37 45.02
	3009.00	3.53	273.85	3008.48	16.96	17.01	7.86	3.09	462658.41	758979.57	N 32 16 12.15	W 103 37 45.06
	3103.00	6.79	273.36	3102.09	17.54	17.53	-0.58	3.47	462658.93	758967.23	N 32 16 12.16	W 103 37 45.16
	3198.00	7.82	266.01	3196.32	17.50	17.41	-12.63	1.46	462658.81	758955.18	N 32 16 12.16	W 103 37 45.30
	3293.00	9.01	262.60	3290.30	16.19	16.01	-26.45	1.36	462658.47	758941.36	N 32 16 12.14	W 103 37 45.46
	3385.00	8.93	261.74	3381.17	14.34	14.05	-40.66	0.17	462658.45	758927.15	N 32 16 12.13	W 103 37 45.63
330' FEL Hard Line [574' FSL]	3461.59	8.64	270.63	3456.87	13.64	13.26	-52.30	1.81	462684.66	758915.51	N 32 16 12.12	W 103 37 45.76
	3480.00	8.60	272.84	3475.07	13.74	13.34	-55.06	1.81	462684.74	758912.76	N 32 16 12.12	W 103 37 45.79
	3575.00	8.02	271.91	3569.07	14.41	13.92	-68.77	0.63	462685.32	758899.04	N 32 16 12.13	W 103 37 45.95
	3669.00	7.81	265.47	3662.18	14.22	13.63	-81.70	0.97	462685.03	758886.12	N 32 16 12.12	W 103 37 46.10
	3764.00	7.33	265.46	3756.35	13.32	12.64	-94.17	0.51	462684.04	758873.64	N 32 16 12.12	W 103 37 46.25
	3859.00	7.32	263.70	3850.57	12.26	11.50	-106.23	0.24	462682.90	758861.59	N 32 16 12.10	W 103 37 46.39
	3954.00	7.55	265.58	3944.77	11.20	10.35	-118.47	0.35	462681.75	758849.35	N 32 16 12.09	W 103 37 46.53
	4049.00	7.40	264.71	4038.97	10.24	9.31	-130.78	0.20	462680.71	758837.04	N 32 16 12.08	W 103 37 46.68
	4144.00	7.70	262.77	4133.14	8.97	7.94	-143.19	0.41	462679.34	758824.63	N 32 16 12.07	W 103 37 46.82
	4238.00	8.47	256.34	4226.21	6.63	5.52	-156.16	1.26	462676.92	758811.66	N 32 16 12.05	W 103 37 46.97
	4333.00	7.72	253.32	4320.26	3.24	2.03	-169.07	0.91	462673.43	758798.75	N 32 16 12.02	W 103 37 47.12
	4427.00	7.78	255.43	4413.41	-0.08	-1.38	-181.28	0.31	462670.02	758786.54	N 32 16 11.98	W 103 37 47.27
	4522.00	8.97	263.32	4507.39	-2.47	-3.86	-194.86	1.74	462667.54	758772.96	N 32 16 11.96	W 103 37 47.42
	4616.00	9.24	266.33	4600.21	-3.69	-5.20	-209.67	0.58	462666.20	758758.15	N 32 16 11.95	W 103 37 47.60
	4711.00	10.23	272.94	4693.84	-3.64	-5.25	-225.70	1.57	462664.11	758742.11	N 32 16 11.95	W 103 37 47.78
	4806.00	9.32	271.27	4787.46	-2.92	-4.65	-241.82	1.00	462666.75	758726.00	N 32 16 11.95	W 103 37 47.97
	4901.00	8.68	271.52	4881.29	-2.45	-4.29	-256.68	0.67	462667.11	758711.14	N 32 16 11.96	W 103 37 48.14
	4939.00	8.56	271.24	4918.86	-2.27	-4.15	-262.37	0.33	462667.25	758705.45	N 32 16 11.96	W 103 37 48.21
	5089.00	8.28	271.18	5067.25	-1.65	-3.69	-284.33	0.19	462667.71	758683.49	N 32 16 11.97	W 103 37 48.47
	5184.00	8.68	270.63	5161.21	-1.33	-3.47	-298.34	0.43	462667.93	758669.48	N 32 16 11.97	W 103 37 48.63
	5277.00	9.01	271.38	5253.10	-0.98	-3.21	-312.63	0.38	462668.19	758655.19	N 32 16 11.97	W 103 37 48.80
	5372.00	9.35	271.78	5346.89	-0.45	-2.79	-327.78	0.36	462668.61	758640.04	N 32 16 11.98	W 103 37 48.97
	5466.00	9.54	272.37	5439.61	0.22	-2.24	-343.20	0.23	462669.16	758624.62	N 32 16 11.98	W 103 37 49.15
	5561.00	9.54	271.38	5533.30	0.85	-1.72	-358.94	0.17	462669.68	758608.89	N 32 16 11.99	W 103 37 49.33
	5655.00	9.39	267.78	5626.02	0.85	-1.83	-374.39	0.65	462669.57	758593.44	N 32 16 11.99	W 103 37 49.51
	5750.00	9.53	267.84	5719.73	0.36	-2.43	-389.99	0.15	462668.97	758577.84	N 32 16 11.99	W 103 37 49.70
	5844.00	9.00	266.02	5812.50	-0.33	-3.23	-405.10	0.64	462668.17	758562.73	N 32 16 11.98	W 103 37 49.87
	5938.00	8.16	264.09	5905.45	-1.43	-4.43	-419.07	0.94	462666.97	758548.76	N 32 16 11.97	W 103 37 50.04
	6032.00	8.49	265.13	5998.46	-2.61	-5.70	-432.62	0.39	462665.70	758535.21	N 32 16 11.96	W 103 37 50.19
	6127.00	8.84	267.21	6092.37	-3.46	-6.65	-446.90	0.49	462664.75	758520.93	N 32 16 11.95	W 103 37 50.36
	6221.00	8.67	266.86	6185.28	-4.09	-7.39	-461.19	0.19	462664.01	758506.64	N 32 16 11.94	W 103 37 50.53
	6315.00	8.82	267.07	6278.18	-4.75	-8.15	-475.46	0.16	462663.25	758492.37	N 32 16 11.93	W 103 37 50.69
	6410.00	9.09	266.90	6372.03	-5.42	-8.93	-490.22	0.29	462662.47	758477.60	N 32 16 11.93	W 103 37 50.86
	6504.00	8.91	267.69	6464.87	-6.01	-9.62	-504.91	0.23	462661.78	758462.92	N 32 16 11.92	W 103 37 51.04
	6599.00	7.88	268.74	6558.85	-6.35	-10.06	-518.77	1.10	462661.34	758449.06	N 32 16 11.92	W 103 37 51.20
	6693.00	7.92	268.54	6651.96	-6.56	-10.37	-531.69	0.05	462661.03	758436.14	N 32 16 11.92	W 103 37 51.35
	6787.00	7.90	268.68	6745.06	-6.79	-10.68	-544.62	0.03	462660.72	758423.21	N 32 16 11.91	W 103 37 51.50
	6882.00	7.98	271.32	6839.15	-6.69	-10.68	-557.74	0.39	462660.72	758410.09	N 32 16 11.91	W 103 37 51.65
	6977.00	8.00	270.32	6933.23	-6.41	-10.49						

Comments	MD	Incl	Azim Grid	TVD	VSEC	NS	EW	DLS	Northng	Eastng	Longitude
(ft)	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°W ...)
7353.00	271.03	7.70	7305.50	-5.88	-10.35	-63.74	-63.74	0.39	452661.06	758344.09	N 32 16 11.92 W 103 37 52.42
7448.00	269.47	5.75	7492.75	-5.75	-10.30	-63.54	-63.54	0.25	452661.10	758331.40	N 32 16 11.92 W 103 37 52.57
7542.00	267.87	7.98	7472.75	-5.97	-10.61	-61.42	-61.42	0.31	452660.79	758318.12	N 32 16 11.92 W 103 37 52.72
7637.00	268.33	8.11	7569.83	-11.05	-11.05	-66.27	-66.27	0.15	452660.35	758303.51	N 32 16 11.92 W 103 37 52.87
7731.00	270.73	8.52	7679.83	-6.32	-11.05	-67.30	-67.30	0.57	452660.24	758291.54	N 32 16 11.92 W 103 37 53.03
7825.00	270.30	8.67	7772.77	-6.09	-11.03	-69.35	-69.35	0.17	452660.37	758277.97	N 32 16 11.92 W 103 37 53.20
7920.00	269.70	8.36	7866.73	-5.99	-11.03	-70.41	-70.41	0.34	452660.37	758263.43	N 32 16 11.92 W 103 37 53.36
8015.00	276.46	8.29	7960.72	-5.98	-11.13	-71.17	-71.17	0.08	452660.22	758249.67	N 32 16 11.92 W 103 37 53.52
8108.00	270.13	7.85	8053.81	-5.95	-11.18	-72.21	-72.21	0.66	452660.44	758236.61	N 32 16 11.92 W 103 37 53.67
8204.00	272.13	6.82	8148.05	-5.64	-10.96	-73.21	-73.21	0.94	452660.82	758223.74	N 32 16 11.93 W 103 37 53.81
8298.00	271.80	6.50	8241.42	-5.19	-10.58	-74.10	-74.10	0.34	452660.82	758210.33	N 32 16 11.93 W 103 37 53.94
8393.00	276.81	5.41	8335.90	-4.96	-10.43	-75.06	-75.06	0.97	452660.97	758203.88	N 32 16 11.93 W 103 37 54.05
8488.00	272.26	4.19	8430.57	-4.78	-10.31	-75.90	-75.90	1.30	452661.09	758195.94	N 32 16 11.93 W 103 37 54.14
8585.00	271.75	3.38	8526.36	-10.08	-10.08	-76.17	-76.17	0.85	452661.32	758188.67	N 32 16 11.93 W 103 37 54.22
8677.00	271.59	3.40	8620.19	-9.82	-10.08	-76.33	-76.33	0.02	452661.48	758181.94	N 32 16 11.93 W 103 37 54.28
8768.00	271.59	3.40	8715.03	-9.85	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
8860.00	268.87	3.42	8809.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
8955.00	268.87	3.42	8904.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9050.00	268.87	3.42	9004.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9145.00	268.87	3.42	9104.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9240.00	268.87	3.42	9204.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9335.00	268.87	3.42	9304.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9430.00	268.87	3.42	9404.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9525.00	268.87	3.42	9504.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9620.00	268.87	3.42	9604.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9715.00	268.87	3.42	9704.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9810.00	268.87	3.42	9804.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
9905.00	268.87	3.42	9904.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
10000.00	268.87	3.42	10004.89	-9.83	-10.08	-76.33	-76.33	0.12	452661.55	758175.47	N 32 16 11.94 W 103 37 54.35
10095.00	359.83	89.59	9549.77	613.57	608.13	613.57	613.57	3.53	453279.51	758205.87	N 32 16 12.00 W 103 37 54.36
10190.00	359.83	89.59	9648.06	565.58	560.15	565.58	565.58	1.13	453231.52	758206.13	N 32 16 12.00 W 103 37 54.36
10285.00	359.83	89.59	9746.33	518.75	513.32	518.75	518.75	8.83	453184.70	758206.01	N 32 16 12.00 W 103 37 54.36
10380.00	359.83	89.59	9844.28	471.40	465.96	471.40	471.40	1.41	453131.34	758204.94	N 32 16 12.00 W 103 37 54.36
10475.00	359.83	89.59	9942.50	425.40	419.94	425.40	425.40	5.97	453091.32	758203.91	N 32 16 12.00 W 103 37 54.36
10570.00	359.83	89.59	10040.81	405.87	400.41	405.87	405.87	8.49	453071.79	758202.70	N 32 16 12.00 W 103 37 54.36
10665.00	359.83	89.59	10138.08	361.92	355.79	361.92	361.92	7.79	453021.31	758202.05	N 32 16 12.00 W 103 37 54.36
10760.00	359.83	89.59	10235.35	315.86	310.38	315.86	315.86	12.31	452981.77	758201.82	N 32 16 12.00 W 103 37 54.36
10855.00	359.83	89.59	10332.62	272.59	267.11	272.59	272.59	12.29	452941.50	758201.48	N 32 16 12.00 W 103 37 54.36
10950.00	359.83	89.59	10429.89	228.85	223.36	228.85	228.85	13.81	452898.24	758196.69	N 32 16 12.00 W 103 37 54.36
11045.00	359.83	89.59	10527.16	186.80	181.35	186.80	186.80	10.10	452858.19	758191.46	N 32 16 12.00 W 103 37 54.36
11140.00	359.83	89.59	10624.43	161.91	156.43	161.91	161.91	12.16	452818.30	758187.54	N 32 16 12.00 W 103 37 54.36
11235.00	359.83	89.59	10721.70	143.92	138.31	143.92	143.92	15.09	452778.46	758183.70	N 32 16 12.00 W 103 37 54.36
11330.00	359.83	89.59	10818.97	122.71	117.07	122.71	122.71	13.60	452738.56	758178.65	N 32 16 12.00 W 103 37 54.36
11425.00	359.83	89.59	10916.24	103.29	97.61	103.29	103.29	12.68	452698.00	758173.00	N 32 16 12.00 W 103 37 54.36
11520.00	359.83	89.59	11013.51	84.96	79.24	84.96	84.96	13.79	452657.64	758169.33	N 32 16 12.00 W 103 37 54.36
11615.00	359.83	89.59	11110.78	68.92	63.38	68.92	68.92	8.82	452617.58	758164.58	N 32 16 12.00 W 103 37 54.36
11710.00	359.83	89.59	11208.05	54.93	49.37	54.93	54.93	6.65	452577.03	758162.64	N 32 16 12.00 W 103 37 54.36
11805.00	359.83	89.59	11305.32	40.97	34.78	40.97	40.97	10.55	452536.19	758160.19	N 32 16 12.00 W 103 37 54.36
11900.00	359.83	89.59	11402.59	26.99	22.59	26.99	26.99	11.29	452495.32	758158.00	N 32 16 12.00 W 103 37 54.36
12000.00	359.83	89.59	11500.00	12.99	8.99	12.99	12.99	13.89	452454.45	758155.12	N 32 16 12.00 W 103 37 54.36
12100.00	359.83	89.59	11597.27	0.00	0.00	0.00	0.00	13.88	452413.57	758152.27	N 32 16 12.00 W 103 37 54.36
12200.00	359.83	89.59	11694.54	-1.90	-7.70	-810.60	-810.60	13.52	452372.67	758149.74	N 32 16 12.00 W 103 37 54.36
12300.00	359.83	89.59	11791.81	-3.96	-9.75	-819.79	-819.79	7.45	452331.85	758145.91	N 32 16 12.00 W 103 37 54.36
12400.00	359.83	89.59	11889.08	-6.01	-11.80	-818.98	-818.98	0.27	452291.03	758142.08	N 32 16 12.00 W 103 37 54.36
12500.00	359.83	89.59	11986.35	-8.06	-13.85	-818.17	-818.17	0.15	452250.21	758138.25	N 32 16 12.00 W 103 37 54.36
12600.00	359.83	89.59	12083.62	-10.11	-15.90	-817.36	-817.36	0.08	452209.39	758134.42	N 32 16 12.00 W 103 37 54.36
12700.00	359.83	89.59	12180.89	-12.16	-17.95	-816.55	-816.55	0.12	452168.57	758130.59	N 32 16 12.00 W 103 37 54.36
12800.00	359.83	89.59	12278.16	-14.21	-20.00	-815.74	-815.74	0.02	452127.75	758126.76	N 32 16 12.00 W 103 37 54.36
12900.00	359.83	89.59	12375.43	-16.26	-22.05	-814.93	-814.93	0.85	452086.93	758122.93	N 32 16 12.00 W 103 37 54.36
13000.00	359.83	89.59	12472.70	-18.31	-24.10	-814.12	-814.12	0.02	452046.11	758119.10	N 32 16 12.00 W 103 37 54.36
13100.00	359.83	89.59	12570.00	-20.36	-26.15	-813.31	-813.31	0.02	452005.29	758115.27	N 32 16 12.00 W 103 37 54.36
13200.00	359.83	89.59	12667.27	-22.41	-28.20	-812.50	-812.50	0.02	451964.47	758111.44	N 32 16 12.00 W 103 37 54.36
13300.00	359.83	89.59	12764.54	-24.46	-30.25	-811.69	-811.69	0.02	451923.65	758107.61	N 32 16 12.00 W 103 37 54.36
13400.00	359.83	89.59	12861.81	-26.51	-32.30	-810.88	-810.88	0.02	451882.83	758103.78	N 32 16 12.00 W 103 37 54.36
13500.00	359.83	89.59	12959.08	-28.56	-34.35	-810.07	-810.07	0.02	451842.01	758099.95	N 32 16 12.00 W 103 37 54.36
13600.00	359.83	89.59	13056.35	-30.61	-36.40	-809.26	-809.26	0.02	451801.19	758096.12	N 32 16 12.00 W 103 37 54.36
13700.00	359.83	89.59	13153.62	-32.66	-38.45	-808.45	-808.45	0.02	451760.37	758092.29	N 32 16 12.00 W 103 37 54.36
13800.00	359.83	89.59	13250.89	-34.71	-40.50	-807.64	-807.64	0.02	451719.55	758088.46	N 32 16 12.00 W 103 37 54.36
13900.00	359.83	89.59	13348.16	-36.76	-42.55	-806.83	-806.83	0.02	451678.73	758084.63	N 32 16 12.00 W 103 37 54.36
14000.00	359.83	89.59	13445.43	-38.81	-44.60	-806.02	-806.02	0.02	451637.91	758080.80	N 32 16 12.00 W 103 37 54.36
14100.00	359.83	89.59	13542.70	-40.86	-46.65	-805.21	-805.21	0.02	451597.09	758076.97	N 32 16 12.00 W 103 37 54.36
14200.00	359.83	89.59	13640.00	-42.91	-48.70	-804.40	-804.40	0.02	451556.27	758073.14	N 32 16 12.00 W 103 37 54.36
14300.00	359.83	89.59	13737.27	-44.96	-50.75	-803.59	-803.59	0.02	451515.45	758069.31	N 32 16 12.00 W 103 37 54.36
14400.00	359.83	89.59	13834.54	-47.01	-52.80	-802.78	-802.78	0.02	451474.63	758065.48	N 32 16 12.00 W 103 37 54.36
14500.00	359.83	89.59	13931.81	-49.06	-54.85	-801.97	-801.97	0.02	451433.81	758061.65	N 32 16 12.00 W 103 37 54.36
14600.00	359.83	89.59	14029.08	-51.11	-56.90	-801.16	-801.16	0.02	451392.99	758057.82	N 32 16 12.00 W 103 37 54.36
14700.00											

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Triste Draw 25 Federal #13H	NM Lea County (NAD 83)	Cimarex Triste Draw 25 Federal #13H

Gravity & Magnetic Parameters	Dip:	60.021°	Date:	13-Feb-2018	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Grid Conv:	0.378°	Miscellaneous	Cimarex Triste Draw 25	TVD Ref:	RKB (314.3ft above MSL)
Model:	HDGM 2017	FB:	48038.806nT	Gravity FS:	999.437mg (8.80665 Based)	Lat:	N 32 18 11.88	Northing:	482871.470US	Slot:	Federal #13H	
MagDec:	8.842°					Long:	W 103 37 45.15	Easting:	788897.818US	Plan:	Cimarex Triste Draw 25 Federal #13H MWD to 13,778ft MD TO (Surcon Corr)	

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DL5
SHL [560' FSL, 2370' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
330' FEL Hard Line [574' FSL]	3461.59	8.84	270.83	3456.87	13.84	13.28	-52.30	1.81
Section Line [2648ft FSL, 1035ft FWL]	11468.11	89.72	358.59	9570.84	2083.28	2077.80	-773.74	1.99
Final MWD Survey	13720.00	90.79	0.14	9531.24	4334.80	4329.09	-786.63	1.74
PTB [331' FNL, 1030' FEL]	13778.00	90.79	0.14	9530.44	4392.80	4387.08	-786.49	0.00

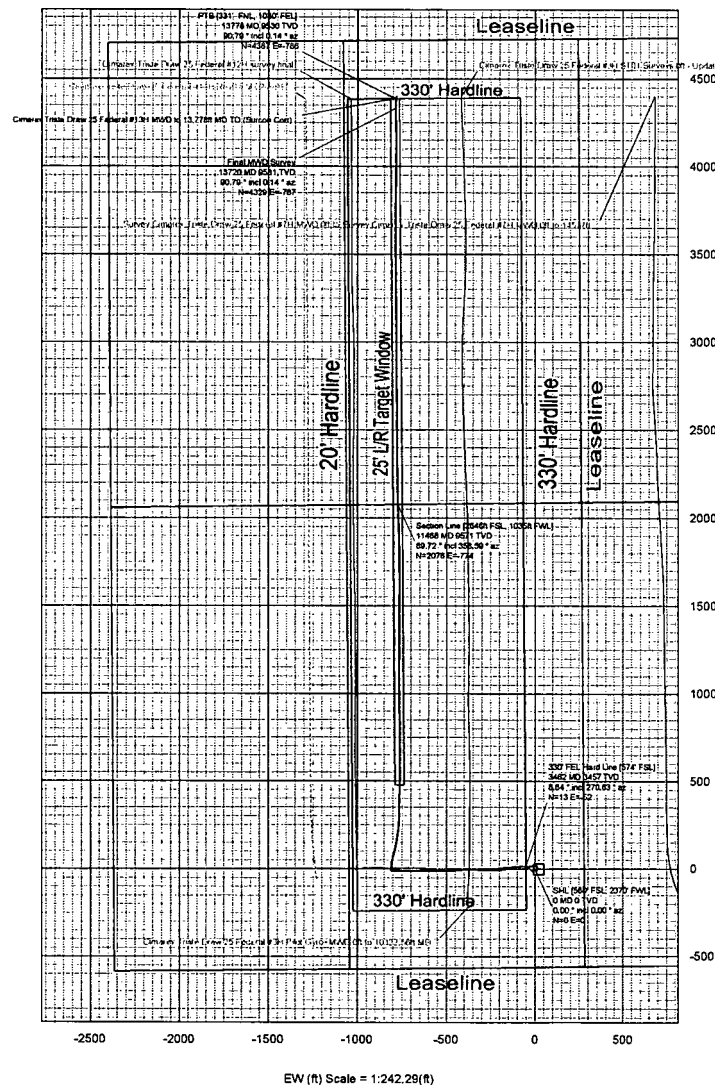


Vertical Section (ft) Azim = 359.59° Scale = 1:510.00(ft) Origin = 0N/-S, 0E/-W



Grid North
True
Mag
Grid North
Tot Corr (M-G 8.486°)
Mag Dec (8.842°)
Grid Conv (0.378°)

CONTROLLED	
Plan no.	13778MD
Drawing no.	13778MD
Copy number	1
Date	24-Feb-2018
Client	
2. Client	
3. Office	
4. Office	
Copy number	1



EW (ft) Scale = 1:242.29(ft)