

Cimarex Triste Draw 25 Federal Com #9H Rev4 RM 21Sept17 Proposal

Geodetic Report

(Non-Def Plan)



Report Date: September 21, 2017 - 11:13 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Triste Draw 25 Federal Com #9H / Cimarex Triste Draw 25 Federal Com #9H
Well: Cimarex Triste Draw 25 Federal Com #9H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Triste Draw 25 Federal Com #9H Rev4 RM 21Sept17
Survey Date: March 21, 2017
Tort / AHD / DDI / ERD Ratio: 135.910 ° / 4761.174 ft / 5.978 / 0.504
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 16' 11.44489", W 103° 37' 59.94256"
Location Grid N/E Y/X: N 462608.600 ftUS, E 757698.490 ftUS
CRS Grid Convergence Angle: 0.3738 °
Grid Scale Factor: 0.9999627
Version / Patch: 2.10.544.0

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: 3703.900 ft above MSL
Seabed / Ground Elevation: 3679.900 ft above MSL
Magnetic Declination: 6.866 °
Total Gravity Field Strength: 998.4374mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48141.707 nT
Magnetic Dip Angle: 60.067 °
Declination Date: September 21, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.3738 °
Total Corr Mag North->Grid North: 6.4923 °
Local Coord Referenced To: Well Head

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 [510' FSL, 1100' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	100.00	0.00	270.00	100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	200.00	0.00	270.00	200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	300.00	0.00	270.00	300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	400.00	0.00	270.00	400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	500.00	0.00	270.00	500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	600.00	0.00	270.00	600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	700.00	0.00	270.00	700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	800.00	0.00	270.00	800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	900.00	0.00	270.00	900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1000.00	0.00	270.00	1000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1100.00	0.00	270.00	1100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1200.00	0.00	270.00	1200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
Rustler	1240.00	0.00	270.00	1240.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1300.00	0.00	270.00	1300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1400.00	0.00	270.00	1400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1500.00	0.00	270.00	1500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1600.00	0.00	270.00	1600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1700.00	0.00	270.00	1700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
Top of Salt (Salado)	1730.00	0.00	270.00	1730.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1800.00	0.00	270.00	1800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	1900.00	0.00	270.00	1900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2000.00	0.00	270.00	2000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2100.00	0.00	270.00	2100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2200.00	0.00	270.00	2200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94

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 ° ' ")
	2300.00	0.00	270.00	2300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2400.00	0.00	270.00	2400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2500.00	0.00	270.00	2500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2600.00	0.00	270.00	2600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2700.00	0.00	270.00	2700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2800.00	0.00	270.00	2800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	2900.00	0.00	270.00	2900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3000.00	0.00	270.00	3000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3100.00	0.00	270.00	3100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3200.00	0.00	270.00	3200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3300.00	0.00	270.00	3300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3400.00	0.00	270.00	3400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3500.00	0.00	270.00	3500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3600.00	0.00	270.00	3600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3700.00	0.00	270.00	3700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3800.00	0.00	270.00	3800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	3900.00	0.00	270.00	3900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4000.00	0.00	270.00	4000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4100.00	0.00	270.00	4100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4200.00	0.00	270.00	4200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4300.00	0.00	270.00	4300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4400.00	0.00	270.00	4400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4500.00	0.00	270.00	4500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4600.00	0.00	270.00	4600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4700.00	0.00	270.00	4700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
Base of Salt	4800.00	0.00	270.00	4800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	4900.00	0.00	270.00	4900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5000.00	0.00	270.00	5000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
Delaware Sands	5030.00	0.00	270.00	5030.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5100.00	0.00	270.00	5100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5200.00	0.00	270.00	5200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5300.00	0.00	270.00	5300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5400.00	0.00	270.00	5400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5500.00	0.00	270.00	5500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5600.00	0.00	270.00	5600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5700.00	0.00	270.00	5700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5800.00	0.00	270.00	5800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	5900.00	0.00	270.00	5900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6000.00	0.00	270.00	6000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6100.00	0.00	270.00	6100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6200.00	0.00	270.00	6200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6300.00	0.00	270.00	6300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6400.00	0.00	270.00	6400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6500.00	0.00	270.00	6500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6600.00	0.00	270.00	6600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6700.00	0.00	270.00	6700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6800.00	0.00	270.00	6800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	6900.00	0.00	270.00	6900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7000.00	0.00	270.00	7000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7100.00	0.00	270.00	7100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7200.00	0.00	270.00	7200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7300.00	0.00	270.00	7300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
Brushy Canyon	7360.00	0.00	270.00	7360.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7400.00	0.00	270.00	7400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7500.00	0.00	270.00	7500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7600.00	0.00	270.00	7600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7700.00	0.00	270.00	7700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94
	7800.00	0.00	270.00	7800.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44	W 103 37 59.94

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 ° ' ")
	7900.00	0.00	270.00	7900.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8000.00	0.00	270.00	8000.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8100.00	0.00	270.00	8100.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8200.00	0.00	270.00	8200.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8300.00	0.00	270.00	8300.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8400.00	0.00	270.00	8400.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8500.00	0.00	270.00	8500.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8600.00	0.00	270.00	8600.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8700.00	0.00	270.00	8700.00	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
KOP - Build 12°/100' DLS	8776.61	0.00	270.00	8776.61	0.00	0.00	0.00	0.00	462608.60	757698.49	N 32 16 11.44 W 103 37 59.94	
	8800.00	2.81	270.00	8799.99	0.00	0.00	-0.57	12.00	462608.60	757697.92	N 32 16 11.44 W 103 37 59.95	
Bone Spring	8830.11	6.42	270.00	8830.00	0.02	0.00	-2.99	12.00	462608.60	757695.50	N 32 16 11.45 W 103 37 59.98	
	8900.00	14.81	270.00	8898.63	0.11	0.00	-15.85	12.00	462608.60	757682.64	N 32 16 11.45 W 103 38 0.13	
	9000.00	26.81	270.00	8991.94	0.37	0.00	-51.31	12.00	462608.60	757647.18	N 32 16 11.45 W 103 38 0.54	
	9100.00	38.81	270.00	9075.84	0.75	0.00	-105.39	12.00	462608.60	757593.10	N 32 16 11.45 W 103 38 1.17	
Build & Turn 12°/100' DLS	9161.66	46.21	270.00	9121.26	1.05	0.00	-147.03	12.00	462608.60	757551.47	N 32 16 11.45 W 103 38 1.65	
	9200.00	46.41	276.36	9147.76	2.79	1.54	-174.67	12.00	462610.14	757523.82	N 32 16 11.47 W 103 38 1.98	
	9300.00	48.53	292.41	9215.60	21.66	19.90	-245.56	12.00	462628.50	757452.94	N 32 16 11.66 W 103 38 2.80	
	9400.00	52.71	306.99	9279.24	60.49	58.26	-312.21	12.00	462666.86	757386.29	N 32 16 12.04 W 103 38 3.57	
Avalon Shale	9470.39	56.62	316.18	9320.00	98.92	96.38	-355.00	12.00	462704.98	757343.50	N 32 16 12.42 W 103 38 4.07	
	9500.00	58.46	319.78	9335.89	117.60	114.94	-371.71	12.00	462723.54	757326.79	N 32 16 12.61 W 103 38 4.26	
	9600.00	65.32	330.96	9383.10	190.48	187.46	-421.47	12.00	462796.06	757277.04	N 32 16 13.33 W 103 38 4.84	
	9700.00	72.93	340.91	9418.79	275.94	272.66	-459.30	12.00	462881.25	757239.21	N 32 16 14.17 W 103 38 5.27	
	9800.00	80.97	350.05	9441.39	370.26	366.81	-483.55	12.00	462975.40	757214.96	N 32 16 15.11 W 103 38 5.55	
	9900.00	89.24	358.79	9449.94	469.31	465.80	-493.17	12.00	463074.38	757205.34	N 32 16 16.09 W 103 38 5.65	
Landing Point	9909.20	90.00	359.59	9450.00	478.51	474.99	-493.30	12.00	463083.57	757205.21	N 32 16 16.18 W 103 38 5.65	
	10000.00	90.00	359.59	9450.00	569.31	565.79	-493.95	0.00	463174.37	757204.56	N 32 16 17.08 W 103 38 5.65	
	10100.00	90.00	359.59	9450.00	669.31	665.79	-494.67	0.00	463274.36	757203.84	N 32 16 18.06 W 103 38 5.65	
	10200.00	90.00	359.59	9450.00	769.31	765.79	-495.38	0.00	463374.36	757203.13	N 32 16 19.05 W 103 38 5.65	
	10300.00	90.00	359.59	9450.00	869.31	865.79	-496.10	0.00	463474.35	757202.41	N 32 16 20.04 W 103 38 5.65	
	10400.00	90.00	359.59	9450.00	969.31	965.78	-496.81	0.00	463574.34	757201.70	N 32 16 21.03 W 103 38 5.66	
	10500.00	90.00	359.59	9450.00	1069.31	1065.78	-497.53	0.00	463674.34	757200.98	N 32 16 22.02 W 103 38 5.66	
	10600.00	90.00	359.59	9450.00	1169.31	1165.78	-498.24	0.00	463774.33	757200.27	N 32 16 23.01 W 103 38 5.66	
	10700.00	90.00	359.59	9450.00	1269.31	1265.77	-498.96	0.00	463874.33	757199.55	N 32 16 24.00 W 103 38 5.66	
	10800.00	90.00	359.59	9450.00	1369.31	1365.77	-499.67	0.00	463974.32	757198.84	N 32 16 24.99 W 103 38 5.66	
	10900.00	90.00	359.59	9450.00	1469.31	1465.77	-500.39	0.00	464074.31	757198.12	N 32 16 25.98 W 103 38 5.66	
	11000.00	90.00	359.59	9450.00	1569.31	1565.77	-501.11	0.00	464174.31	757197.40	N 32 16 26.97 W 103 38 5.66	
	11100.00	90.00	359.59	9450.00	1669.31	1665.76	-501.82	0.00	464274.30	757196.69	N 32 16 27.96 W 103 38 5.66	
	11200.00	90.00	359.59	9450.00	1769.31	1765.76	-502.54	0.00	464374.29	757195.97	N 32 16 28.95 W 103 38 5.66	
	11300.00	90.00	359.59	9450.00	1869.31	1865.76	-503.25	0.00	464474.29	757195.26	N 32 16 29.94 W 103 38 5.66	
	11400.00	90.00	359.59	9450.00	1969.31	1965.76	-503.97	0.00	464574.28	757194.54	N 32 16 30.93 W 103 38 5.66	
	11500.00	90.00	359.59	9450.00	2069.31	2065.75	-504.68	0.00	464674.27	757193.83	N 32 16 31.92 W 103 38 5.66	
	11600.00	90.00	359.59	9450.00	2169.31	2165.75	-505.40	0.00	464774.27	757193.11	N 32 16 32.91 W 103 38 5.66	
	11700.00	90.00	359.59	9450.00	2269.31	2265.75	-506.11	0.00	464874.26	757192.40	N 32 16 33.90 W 103 38 5.67	
	11800.00	90.00	359.59	9450.00	2369.31	2365.75	-506.83	0.00	464974.25	757191.68	N 32 16 34.89 W 103 38 5.67	
	11900.00	90.00	359.59	9450.00	2469.31	2465.74	-507.55	0.00	465074.25	757190.96	N 32 16 35.88 W 103 38 5.67	
	12000.00	90.00	359.59	9450.00	2569.31	2565.74	-508.26	0.00	465174.24	757190.25	N 32 16 36.87 W 103 38 5.67	
	12100.00	90.00	359.59	9450.00	2669.31	2665.74	-508.98	0.00	465274.23	757189.53	N 32 16 37.85 W 103 38 5.67	
	12200.00	90.00	359.59	9450.00	2769.31	2765.74	-509.69	0.00	465374.23	757188.82	N 32 16 38.84 W 103 38 5.67	
	12300.00	90.00	359.59	9450.00	2869.31	2865.73	-510.41	0.00	465474.22	757188.10	N 32 16 39.83 W 103 38 5.67	
	12400.00	90.00	359.59	9450.00	2969.31	2965.73	-511.12	0.00	465574.21	757187.39	N 32 16 40.82 W 103 38 5.67	
	12500.00	90.00	359.59	9450.00	3069.31	3065.73	-511.84	0.00	465674.21	757186.67	N 32 16 41.81 W 103 38 5.67	
	12600.00	90.00	359.59	9450.00	3169.31	3165.73	-512.56	0.00	465774.20	757185.96	N 32 16 42.80 W 103 38 5.67	
	12700.00	90.00	359.59	9450.00	3269.31	3265.72	-513.27	0.00	465874.20	757185.24	N 32 16 43.79 W 103 38 5.67	
	12800.00	90.00	359.59	9450.00	3369.31	3365.72	-513.99	0.00	465974.19	757184.52	N 32 16 44.78 W 103 38 5.67	
	12900.00	90.00	359.59	9450.00	3469.31	3465.72	-514.70	0.00	466074.18	757183.81	N 32 16 45.77 W 103 38 5.67	
	13000.00	90.00	359.59	9450.00	3569.31	3565.72	-515.42	0.00	466174.18	757183.09	N 32 16 46.76 W 103 38 5.67	

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 ° ' ")	
	13100.00	90.00	359.59	9450.00	3669.31	3665.71	-516.13	0.00	466274.17	757182.38	N	32 16 47.75	W 103 38 5.68	
	13200.00	90.00	359.59	9450.00	3769.31	3765.71	-516.85	0.00	466374.16	757181.66	N	32 16 48.74	W 103 38 5.68	
	13300.00	90.00	359.59	9450.00	3869.31	3865.71	-517.56	0.00	466474.16	757180.95	N	32 16 49.73	W 103 38 5.68	
	13400.00	90.00	359.59	9450.00	3969.31	3965.71	-518.28	0.00	466574.15	757180.23	N	32 16 50.72	W 103 38 5.68	
	13500.00	90.00	359.59	9450.00	4069.31	4065.70	-519.00	0.00	466674.14	757179.51	N	32 16 51.71	W 103 38 5.68	
	13600.00	90.00	359.59	9450.00	4169.31	4165.70	-519.71	0.00	466774.14	757178.80	N	32 16 52.70	W 103 38 5.68	
	13700.00	90.00	359.59	9450.00	4269.31	4265.70	-520.43	0.00	466874.13	757178.08	N	32 16 53.69	W 103 38 5.68	
	13800.00	90.00	359.59	9450.00	4369.31	4365.70	-521.14	0.00	466974.12	757177.37	N	32 16 54.68	W 103 38 5.68	
Cimarex Triste Draw 25 Federal #9H - PBHL [330' FNL, 610' FWL]	13875.22	90.00	359.59	9450.00	4444.53	4440.91	-521.68	0.00	467049.34	757176.83	N	32 16 55.42	W 103 38 5.68	

Survey Type: Non-Def Plan

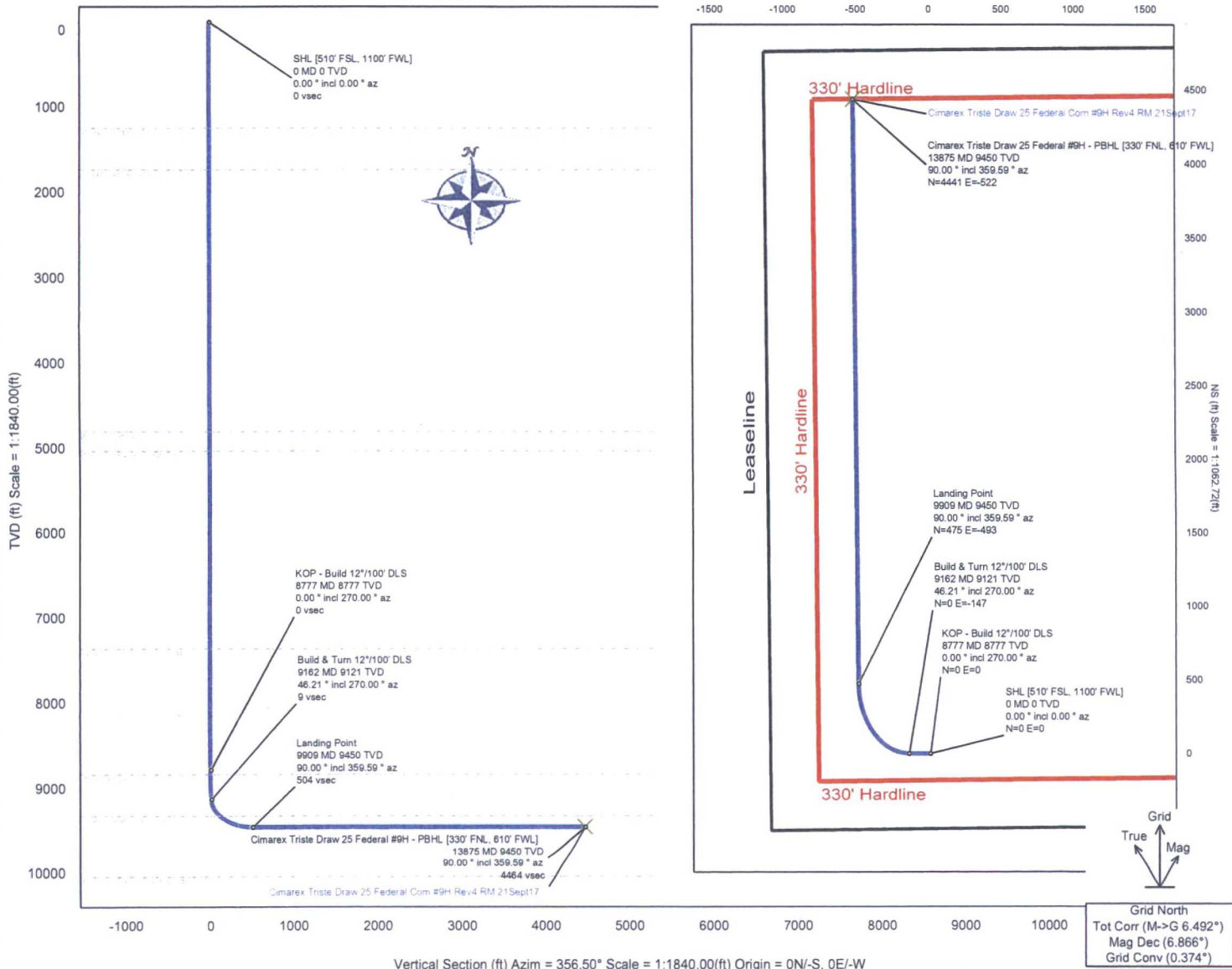
Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	24.000	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Triste Draw 25 Federal Com #9H Rev4 RM 21Sept17
	1	24.000	13875.221	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Triste Draw 25 Federal Com #9H

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Triste Draw 25 Federal Com # 9H	NM Lea County (NAD 83)	Cimarex Triste Draw 25 Federal Com # 9H

Gravity & Magnetic Parameters				Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	HDGM 2016	Dip:	60.067°	Date:	21-Sep-2017	Lat:	N 32 16 11.44	Northing:	462608.6HUS	Grid Conv:	0.3738°
MagDec:	8.866°	FS:	48141.707nT	Gravity FS:	998.437mgn (9.80665 Based)	Lon:	W 103 37 59.94	Easting:	757698.49HUS	Scale Fact:	0.9999827
								Cimarex Triste Draw 25 Federal Com #9H Rev4 RM 21Sept17			

EW (ft) Scale = 1:1062.72(ft)



Vertical Section (ft) Azim = 356.50° Scale = 1:1840.00(ft) Origin = 0N/-S, 0E/-W

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [510' FSL, 1100' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rustler	1240.00	0.00	270.00	1240.00	0.00	0.00	0.00	0.00
Top of Salt (Salado)	1730.00	0.00	270.00	1730.00	0.00	0.00	0.00	0.00
Base of Salt	4800.00	0.00	270.00	4800.00	0.00	0.00	0.00	0.00
Delaware Sands	5030.00	0.00	270.00	5030.00	0.00	0.00	0.00	0.00
Brushy Canyon	7360.00	0.00	270.00	7360.00	0.00	0.00	0.00	0.00
KOP - Build 12°/100' DLS	8776.61	0.00	270.00	8776.61	0.00	0.00	0.00	0.00
Bone Spring	8830.11	6.42	270.00	8830.00	0.02	0.00	-2.99	12.00
Build & Turn 12°/100' DLS	9161.66	46.21	270.00	9121.26	1.05	0.00	-147.03	12.00
Avalon Shale	9470.39	56.62	316.18	9320.00	98.92	96.38	-355.00	12.00
Landing Point	9909.20	90.00	359.59	9450.00	478.51	474.99	-493.30	12.00
Cimarex Triste Draw 25 Federal #9H - PBHL [330' FNL, 610' FWL]	13875.22	90.00	359.59	9450.00	4444.53	4440.91	-521.68	0.00
1st Bone Spring Sand	NaN			10040.00				