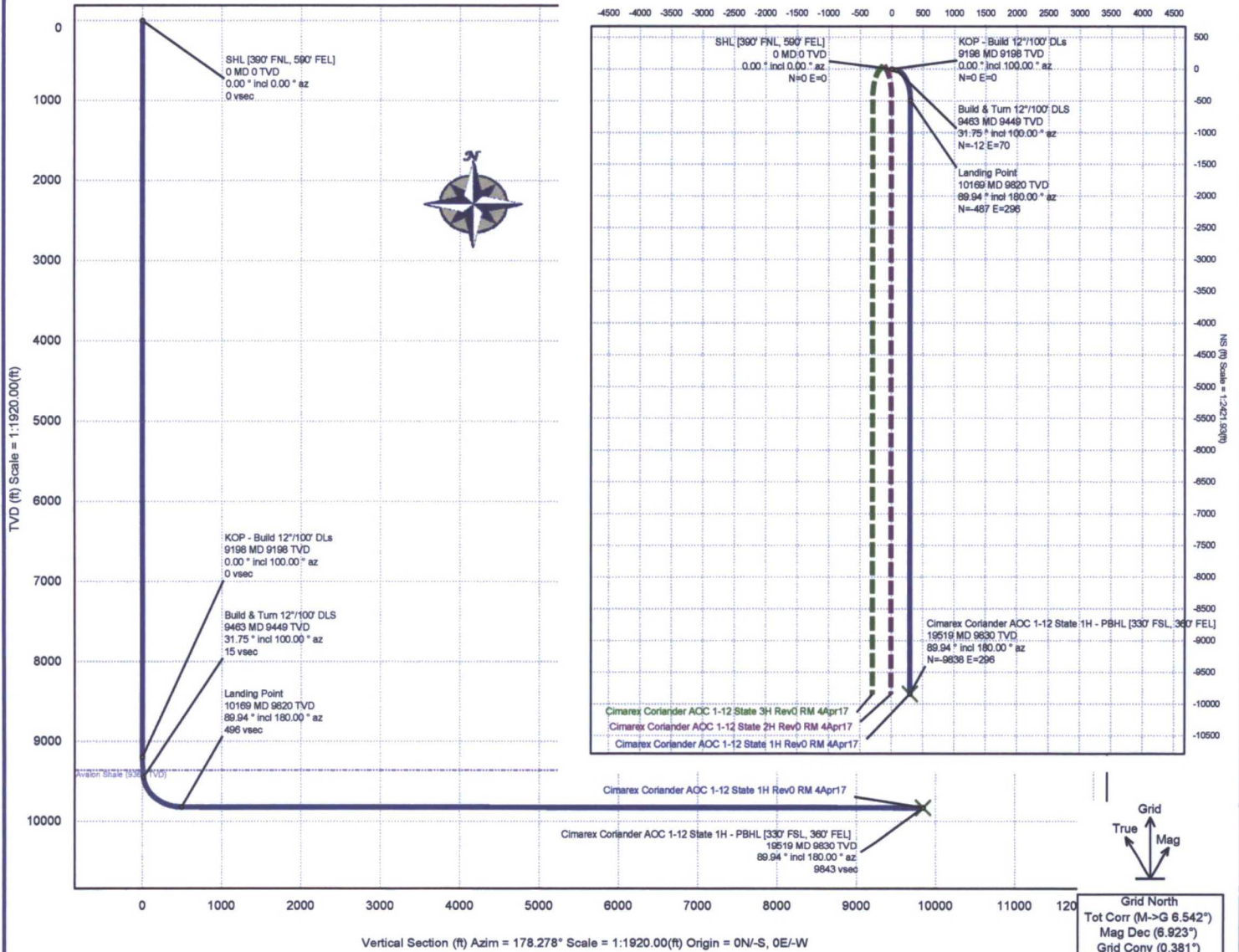


Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Coriander AOC 1-12 State 1H	NM Lea County (NAD 83)	Cimarex Coriander AOC 1-12 State 1H
Gravity & Magnetic Parameters			
Model: HDGM 2016	Dip: 68.189°	Date: 04-Apr-2017	Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
MagDec: 6.923°	FS: 48253.982nT	Gravity FS: 998.44mgn (9.80665 Based)	Lat: N 32 20 23.37 Northing: 488151.18US Grid Conv: 0.3897°
			Lon: W 103 57 18.87 Easting: 761124.58US Scale Fact: 0.98996441
Miscellaneous			
			Slot: Cimarex Coriander AOC 1-12 State 1H
			TVD Ref: RKB(3773ft above MSL)
			Plan: Cimarex Coriander AOC 1-12 State 1H Rev0 RM 4Apr17

EW (ft) Scale = 1:2421.93(ft)



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [390° FNL, 590° FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP - Build 12°/100' DLS	9198.16	0.00	100.00	9198.16	0.00	0.00	0.00	0.00
Avalon Shale	9363.27	19.81	100.00	9360.00	5.74	-4.91	27.84	12.00
Build & Turn 12°/100' DLS	9462.74	31.75	100.00	9449.41	14.52	-12.41	70.37	12.00
Landing Point	10168.62	89.94	180.00	9820.00	496.12	-487.44	295.92	12.00
Cimarex Coriander AOC 1-12 State 1H - PBHL [330° FSL, 360° FEL]	19519.45	89.94	180.00	9830.00	9842.72	-9838.27	295.81	0.00

Cimarex Coriander AOC 1-12 State 1H Rev0 RM 4Apr17 Proposal Geodetic Report

(Non-Def Plan)



Report Date: April 04, 2017 - 10:36 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Coriander AOC 1-12 State 1H / Cimarex Coriander AOC 1-12 State 1H
Well: Cimarex Coriander AOC 1-12 State 1H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Coriander AOC 1-12 State 1H Rev0 RM 4Apr17
Survey Date: April 04, 2017
Tort / AHD / DDI / ERD Ratio: 116.455' / 9983.382 ft / 6.363' / 1.016
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 20' 23.96944", W 103° 37' 18.0606"
Location Grid N/E Y/X: N 488151.100 ftUS, E 761124.500 ftUS
CRS Grid Convergence Angle: 0.3807 °
Grid Scale Factor: 0.99998441
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 178.278 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3773.000 ft above MSL
Seabed / Ground Elevation: 3749.000 ft above MSL
Magnetic Declination: 6.923 °
Total Gravity Field Strength: 998.4398mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48253.982 nT
Magnetic Dip Angle: 80.188 °
Declination Date: April 04, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.3807 °
Total Corr Mag North->Grid North: 6.5424 °
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 [390' FNL, 590' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	100.00	0.00	100.00	100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	200.00	0.00	100.00	200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	300.00	0.00	100.00	300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	400.00	0.00	100.00	400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	500.00	0.00	100.00	500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	600.00	0.00	100.00	600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	700.00	0.00	100.00	700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	800.00	0.00	100.00	800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	900.00	0.00	100.00	900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1000.00	0.00	100.00	1000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1100.00	0.00	100.00	1100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1200.00	0.00	100.00	1200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1300.00	0.00	100.00	1300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1400.00	0.00	100.00	1400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1500.00	0.00	100.00	1500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1600.00	0.00	100.00	1600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1700.00	0.00	100.00	1700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1800.00	0.00	100.00	1800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	1900.00	0.00	100.00	1900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2000.00	0.00	100.00	2000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2100.00	0.00	100.00	2100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2200.00	0.00	100.00	2200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2300.00	0.00	100.00	2300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2400.00	0.00	100.00	2400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2500.00	0.00	100.00	2500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2600.00	0.00	100.00	2600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2700.00	0.00	100.00	2700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2800.00	0.00	100.00	2800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	2900.00	0.00	100.00	2900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3000.00	0.00	100.00	3000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3100.00	0.00	100.00	3100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3200.00	0.00	100.00	3200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3300.00	0.00	100.00	3300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3400.00	0.00	100.00	3400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3500.00	0.00	100.00	3500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3600.00	0.00	100.00	3600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3700.00	0.00	100.00	3700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3800.00	0.00	100.00	3800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	3900.00	0.00	100.00	3900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4000.00	0.00	100.00	4000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4100.00	0.00	100.00	4100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4200.00	0.00	100.00	4200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4300.00	0.00	100.00	4300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4400.00	0.00	100.00	4400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4500.00	0.00	100.00	4500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4600.00	0.00	100.00	4600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4700.00	0.00	100.00	4700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4800.00	0.00	100.00	4800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	4900.00	0.00	100.00	4900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5000.00	0.00	100.00	5000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5100.00	0.00	100.00	5100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5200.00	0.00	100.00	5200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5300.00	0.00	100.00	5300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5400.00	0.00	100.00	5400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5500.00	0.00	100.00	5500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5600.00	0.00	100.00	5600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5700.00	0.00	100.00	5700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5800.00	0.00	100.00	5800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	5900.00	0.00	100.00	5900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6000.00	0.00	100.00	6000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6100.00	0.00	100.00	6100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6200.00	0.00	100.00	6200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6300.00	0.00	100.00	6300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6400.00	0.00	100.00	6400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6500.00	0.00	100.00	6500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6600.00	0.00	100.00	6600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6700.00	0.00	100.00	6700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6800.00	0.00	100.00	6800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	6900.00	0.00	100.00	6900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7000.00	0.00	100.00	7000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7100.00	0.00	100.00	7100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7200.00	0.00	100.00	7200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7300.00	0.00	100.00	7300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7400.00	0.00	100.00	7400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7500.00											

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 ° ' ")
	7600.00	0.00	100.00	7600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7700.00	0.00	100.00	7700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7800.00	0.00	100.00	7800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	7900.00	0.00	100.00	7900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8000.00	0.00	100.00	8000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8100.00	0.00	100.00	8100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8200.00	0.00	100.00	8200.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8300.00	0.00	100.00	8300.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8400.00	0.00	100.00	8400.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8500.00	0.00	100.00	8500.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8600.00	0.00	100.00	8600.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8700.00	0.00	100.00	8700.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8800.00	0.00	100.00	8800.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	8900.00	0.00	100.00	8900.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	9000.00	0.00	100.00	9000.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	9100.00	0.00	100.00	9100.00	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
KOP - Build 12"/100' DLS	9198.16	0.00	100.00	9198.16	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	9200.00	0.22	100.00	9200.00	0.00	0.00	0.00	12.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	9300.00	12.22	100.00	9299.23	2.20	-1.88	10.86	12.00	488149.22	761135.15	N 32 20 23.95	W 103 37 17.94
Avalon Shale	9363.27	19.81	100.00	9360.00	5.74	-4.91	27.84	12.00	488146.19	761152.33	N 32 20 23.92	W 103 37 17.74
	9400.00	24.22	100.00	9394.04	8.54	-7.30	41.39	12.00	488143.80	761165.89	N 32 20 23.97	W 103 37 17.58
Build & Turn 12"/100' DLS	9462.74	31.75	100.00	9449.41	14.52	-12.41	70.37	12.00	488138.69	761194.86	N 32 20 23.84	W 103 37 17.25
	9500.00	32.68	108.21	9480.94	19.94	-17.26	89.58	12.00	488133.85	761214.08	N 32 20 23.79	W 103 37 17.02
	9600.00	37.49	127.43	9563.00	48.46	-44.29	139.58	12.00	488106.81	761264.07	N 32 20 23.52	W 103 37 16.44
	9700.00	44.73	142.06	9638.47	96.24	-80.71	185.55	12.00	488060.39	761310.04	N 32 20 23.06	W 103 37 15.91
	9800.00	53.38	153.11	9704.06	161.19	-154.49	225.48	12.00	487996.62	761349.97	N 32 20 22.43	W 103 37 15.45
	9900.00	62.85	161.82	9756.89	240.47	-232.84	257.63	12.00	487918.27	761382.12	N 32 20 21.65	W 103 37 15.08
	10000.00	72.76	169.14	9794.66	330.62	-322.33	280.59	12.00	487828.78	761405.08	N 32 20 20.76	W 103 37 14.82
	10100.00	82.91	175.69	9815.72	427.69	-419.06	293.36	12.00	487732.05	761417.85	N 32 20 19.80	W 103 37 14.68
Landing Point	10168.62	89.94	180.00	9820.00	496.12	-487.44	295.92	12.00	487963.68	761420.41	N 32 20 19.13	W 103 37 14.65
	10200.00	89.94	180.00	9820.03	527.48	-518.62	295.92	0.00	487632.30	761420.41	N 32 20 18.82	W 103 37 14.66
	10300.00	89.94	180.00	9820.14	627.44	-618.62	295.92	0.00	487532.30	761420.41	N 32 20 17.83	W 103 37 14.67
	10400.00	89.94	180.00	9820.25	727.39	-718.62	295.92	0.00	487432.31	761420.41	N 32 20 16.84	W 103 37 14.67
	10500.00	89.94	180.00	9820.35	827.34	-818.62	295.92	0.00	487332.31	761420.41	N 32 20 15.85	W 103 37 14.68
	10600.00	89.94	180.00	9820.46	927.30	-918.62	295.92	0.00	487232.31	761420.41	N 32 20 14.86	W 103 37 14.68
	10700.00	89.94	180.00	9820.57	1027.25	-1018.62	295.92	0.00	487132.32	761420.40	N 32 20 13.87	W 103 37 14.70
	10800.00	89.94	180.00	9820.68	1127.21	-1118.62	295.91	0.00	487032.32	761420.40	N 32 20 12.88	W 103 37 14.70
	10900.00	89.94	180.00	9820.78	1227.16	-1218.62	295.91	0.00	486932.33	761420.40	N 32 20 11.89	W 103 37 14.71
	11000.00	89.94	180.00	9820.89	1327.12	-1318.62	295.91	0.00	486832.33	761420.40	N 32 20 10.90	W 103 37 14.72
	11100.00	89.94	180.00	9821.00	1427.07	-1418.62	295.91	0.00	486732.33	761420.40	N 32 20 9.91	W 103 37 14.73
	11200.00	89.94	180.00	9821.10	1527.03	-1518.62	295.91	0.00	486632.34	761420.40	N 32 20 8.92	W 103 37 14.73
	11300.00	89.94	180.00	9821.21	1626.98	-1618.62	295.91	0.00	486532.34	761420.40	N 32 20 7.93	W 103 37 14.74
	11400.00	89.94	180.00	9821.32	1726.94	-1718.62	295.91	0.00	486432.34	761420.40	N 32 20 6.94	W 103 37 14.75
	11500.00	89.94	180.00	9821.42	1826.89	-1818.62	295.91	0.00	486332.35	761420.40	N 32 20 5.95	W 103 37 14.76
	11600.00	89.94	180.00	9821.53	1926.85	-1918.62	295.91	0.00	486232.35	761420.39	N 32 20 4.96	W 103 37 14.77
	11700.00	89.94	180.00	9821.64	2026.80	-2018.62	295.90	0.00	486132.36	761420.39	N 32 20 3.97	W 103 37 14.77
	11800.00	89.94	180.00	9821.74	2126.76	-2118.62	295.90	0.00	486032.36	761420.39	N 32 20 2.98	W 103 37 14.78
	11900.00	89.94	180.00	9821.85	2226.71	-2218.62	295.90	0.00	485932.36	761420.39	N 32 20 1.99	W 103 37 14.79
	12000.00	89.94	180.00	9821.96	2326.67	-2318.62	295.90	0.00	485832.37	761420.39	N 32 20 1.01	W 103 37 14.80
	12100.00	89.94	180.00	9822.07	2426.62	-2418.62	295.90	0.00	485732.37	761420.39	N 32 20 0.02	W 103 37 14.80
	12200.00	89.94	180.00	9822.17	2526.58	-2518.62	295.90	0.00	485632.37	761420.39	N 32 19 59.03	W 103 37 14.81
	12300.00	89.94	180.00	9822.28	2626.53	-2618.62	295.90	0.00	485532.38	761420.39	N 32 19 58.04	W 103 37 14.82
	12400.00	89.94	180.00	9822.39	2726.48	-2718.62	295.90	0.00	485432.38	761420.38	N 32 19 57.05	W 103 37 14.83
	12500.00	89.94	180.00	9822.49	2826.44	-2818.62	295.89	0.00	485332.39	761420.38	N 32 19 56.06	W 103 37 14.84
	12600.00	89.94	180.00	9822.60	2926.39	-2918.62	295.89	0.00	485232.39	761420.38	N 32 19 55.07	W 103 37 14.84
	12700.00	89.94	180.00	9822.71	3026.35	-3018.62	295.89	0.00	485132.39	761420.38	N 32 19 54.08	W 103 37 14.85
	12800.00	89.94	180.00	9822.81	3126.30	-3118.62	295.89	0.00	485032.40	761420.38	N 32 19 53.09	W 103 37 14.86
	12900.00	89.94	180.00	9822.92	3226.26	-3218.62	295.89	0.00	484932.40	761420.38	N 32 19 52.10	W 103 37 14.87
	13000.00	89.94	180.00	9823.03	3326.21	-3318.62	295.89	0.00	484832.41	761420.38	N 32 19 51.11	W 103 37 14.87
	13100.00	89.94	180.00	9823.13	3426.17	-3418.62	295.89	0.00	484732.41	761420.38	N 32 19 50.12	W 103 37 14.88
	13200.00	89.94	180.00	9823.24	3526.12	-3518.62	295.89	0.00	484632.41	761420.38	N 32 19 49.13	W 103 37 14.89
	13300.00	89.94	180.00	9823.35	3626.08	-3618.62	295.88	0.00	484532.42	761420.37	N 32 19 48.14	W 103 37 14.90
	13400.00	89.94	180.00	9823.46	3726.03	-3718.62	295.88	0.00	484432.42	761420.37	N 32 19 47.15	W 103 37 14.91
	13500.00	89.94	180.00	9823.56	3825.99	-3818.62	295.88	0.00	484332.42	761420.37	N 32 19 46.16	W 103 37 14.91
	13600.00	89.94	180.00	9823.67	3925.94	-3918.62	295.88	0.00	484232.43	761420.37	N 32 19 45.17	W 103 37 14.92
	13700.00	89.94	180.00	9823.78	4025.90	-4018.62	295.88	0.00	484132.43	761420.37	N 32 19 44.18	W 103 37 14.93
	13800.00	89.94	180.00	9823.88	4125.85	-4118.62	295.88	0.00	484032.44	761420.37	N 32 19 43.20	W 103 37 14.94
	13900.00	89.94	180.00	9823.99	4225.81	-4218.62	295.88	0.00	483932.44	761420.37	N 32 19 42.21	W 103 37 14.94
	14000.00	89.94	180.00	9824.10	4325.76	-4318.62	295.88	0.00	483832.44	761420.37	N 32 19 41.22	W 103 37 14.95
	14100.00	89.94	180.00	9824.20	4425.72	-4418.62	295.88	0.00	483732.45	761420.36	N 32 19 40.23	W 103 37 14.96
	14200.00	89.94	180.00	9824.31	4525.67	-4518.62	295.87	0.00	483632.45	761420.36	N 32 19 39.24	W 103 37 14.97
	14300.00	89.94	180.00	9824.42	4625.62	-4618.62	295.87	0.00	483532.45	761420.36	N 32 19 38.25	W 103 37 14.98
	14400.00	89.94	180.00	9824.53	4725.58	-4718.62	295.87	0.00	483432.46	761420.36	N 32 19 37.26	W 103 37 14.98
	14500.00	89.94	180.00	9824.63	4825.53	-4818.62	295.87	0.00	483332.46	761420.36	N 32 19 36.27	W 103 37 14.99
	14600.00	89.94	180.00	9824.74	4925.49	-4918.62	295.87	0.00	483232.47	761420.36	N 32 19 35.28	W 103 37 15.00
	14700.00	89.94	180.00	9824.85	5025.44	-5018.62	295.87	0.00	483132.47	761420.36	N 32 19 34.29	W 103 37 15.01
	14800.00	89.9										

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS "/100ft	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	17900.00	89.94	180.00	9828.27	8223.99	-8218.82	295.83	0.00	479832.59	761420.32	N 32 19 2.63	W 103 37 15.26
	18000.00	89.94	180.00	9828.38	8323.95	-8318.82	295.83	0.00	479832.60	761420.32	N 32 19 1.64	W 103 37 15.26
	18100.00	89.94	180.00	9828.48	8423.90	-8418.82	295.83	0.00	479732.60	761420.32	N 32 19 0.65	W 103 37 15.27
	18200.00	89.94	180.00	9828.59	8523.86	-8518.82	295.83	0.00	479632.60	761420.32	N 32 18 59.66	W 103 37 15.28
	18300.00	89.94	180.00	9828.70	8623.81	-8618.82	295.83	0.00	479532.61	761420.31	N 32 18 58.67	W 103 37 15.29
	18400.00	89.94	180.00	9828.80	8723.77	-8718.82	295.82	0.00	479432.61	761420.31	N 32 18 57.68	W 103 37 15.29
	18500.00	89.94	180.00	9828.91	8823.72	-8818.82	295.82	0.00	479332.62	761420.31	N 32 18 56.69	W 103 37 15.30
	18600.00	89.94	180.00	9829.02	8923.68	-8918.82	295.82	0.00	479232.62	761420.31	N 32 18 55.70	W 103 37 15.31
	18700.00	89.94	180.00	9829.12	9023.63	-9018.82	295.82	0.00	479132.62	761420.31	N 32 18 54.71	W 103 37 15.32
	18800.00	89.94	180.00	9829.23	9123.59	-9118.82	295.82	0.00	479032.63	761420.31	N 32 18 53.72	W 103 37 15.32
	18900.00	89.94	180.00	9829.34	9223.54	-9218.82	295.82	0.00	478932.63	761420.31	N 32 18 52.73	W 103 37 15.33
	19000.00	89.94	180.00	9829.44	9323.50	-9318.82	295.82	0.00	478832.63	761420.31	N 32 18 51.74	W 103 37 15.34
	19100.00	89.94	180.00	9829.55	9423.45	-9418.82	295.82	0.00	478732.64	761420.30	N 32 18 50.75	W 103 37 15.35
	19200.00	89.94	180.00	9829.66	9523.41	-9518.82	295.81	0.00	478632.64	761420.30	N 32 18 49.76	W 103 37 15.36
	19300.00	89.94	180.00	9829.77	9623.36	-9618.82	295.81	0.00	478532.65	761420.30	N 32 18 48.77	W 103 37 15.36
	19400.00	89.94	180.00	9829.87	9723.32	-9718.82	295.81	0.00	478432.65	761420.30	N 32 18 47.78	W 103 37 15.37
	19500.00	89.94	180.00	9829.98	9823.27	-9818.82	295.81	0.00	478332.65	761420.30	N 32 18 46.80	W 103 37 15.38
Cimarex Coriander AOC 1-12 State 1H - PBHL [330' FSL, 360' FEL]	19519.45	89.94	180.00	9830.00	9842.72	-9838.27	295.81	0.00	478313.20	761420.30	N 32 18 46.80	W 103 37 15.38

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 Coriander AOC 1-12 State 1H Rev0 RM 4Apr17
	1	24.000	19519.454	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Coriander AOC 1-12 State 1H

Cimarex Coriander AOC 1-12 State 1H Rev0 RM 4Apr17 Proposal Geodetic Report

(Non-Def Plan)



Report Date: April 04, 2017 - 10:36 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Coriander AOC 1-12 State 1H / Cimarex Coriander AOC 1-12 State 1H
Well: Cimarex Coriander AOC 1-12 State 1H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Coriander AOC 1-12 State 1H Rev0 RM 4Apr17
Survey Date: April 04, 2017
Tort / AHD / DDI / ERD Ratio: 116.455 * / 9983.382 ft / 6.363 / 1.016
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 20' 23.98944", W 103° 37' 18.06806"
Location Grid N/E Y/X: N 488151.100 ftUS, E 761124.500 ftUS
CRS Grid Convergence Angle: 0.3807 °
Grid Scale Factor: 0.99996441
Version / Patch: 2.10.254.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 178.278 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3773.000 ft above MSL
Seabed / Ground Elevation: 3749.000 ft above MSL
Magnetic Declination: 6.923 °
Total Gravity Field Strength: 998.4398mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48253.982 nT
Magnetic Dip Angle: 60.188 °
Declination Date: April 04, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.3807 °
Total Corr Mag North->Grid North: 6.5424 °
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 [390' FNL, 590' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
KOP - Build 12' / 100' DLS	9198.16	0.00	100.00	9198.16	0.00	0.00	0.00	0.00	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
Build & Turn 12' / 100' DLS	9462.74	31.75	100.00	9449.41	14.52	-12.41	70.37	12.00	488138.69	761194.86	N 32 20 23.84	W 103 37 17.25
Landing Point Cimarex Coriander AOC 1-12 State 1H - PBHL [330' FSL, 360' FEL]	10168.62	89.94	180.00	9820.00	496.12	-487.44	295.92	12.00	487663.68	761420.41	N 32 20 19.13	W 103 37 14.65
	19519.45	89.94	180.00	9830.00	9842.72	-9838.27	295.81	0.00	478313.20	761420.30	N 32 18 46.60	W 103 37 15.38

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 Coriander AOC 1-12 State 1H Rev0 RM 4Apr17
	1	24.000	19519.454	1/100.000	30.000	30.000		NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Coriander AOC 1-12 State 1H