

Cimarex Canyonlands 2 State Com 1H Rev0 RM 10Apr18 Proposal

Geodetic Report

(Non-Def Plan)



Report Date: April 13, 2018 - 08:27 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Canyonlands 2 State Com 1H / Cimarex Canyonlands 2 State Com 1H
Well: Cimarex Canyonlands 2 State Com 1H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Canyonlands 2 State Com 1H Rev0 RM 10Apr18
Survey Date: April 10, 2018
Tort / AHD / DDI / ERD Ratio: 99.554 ° / 4687.766 ft / 5.809 / 0.403
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 14' 25.30073", W 103° 26' 7.83742"
Location Grid N/E Y/X: N 452337.280 ftUS, E 818928.330 ftUS
CRS Grid Convergence Angle: 0.4790 °
Grid Scale Factor: 0.99999734
Version / Patch: 2.10.715.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 359.297 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3452.300 ft above MSL
Seabed / Ground Elevation: 3426.300 ft above MSL
Magnetic Declination: 6.757 °
Total Gravity Field Strength: 998.4631mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48052.954 nT
Magnetic Dip Angle: 59.975 °
Declination Date: April 10, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.4790 °
Total Corr Mag North->Grid North: 6.2784 °
Local Coord Referenced To: Structure Reference Point

MODIFIED
 APR 25 2018
 RECEIVED

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° FSL, 1020° FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	100.00	0.00	197.98	100.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	200.00	0.00	197.98	200.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	300.00	0.00	197.98	300.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	400.00	0.00	197.98	400.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	500.00	0.00	197.98	500.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	600.00	0.00	197.98	600.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	700.00	0.00	197.98	700.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	800.00	0.00	197.98	800.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	900.00	0.00	197.98	900.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
Rustler	990.00	0.00	197.98	990.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	1000.00	0.00	197.98	1000.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	1100.00	0.00	197.98	1100.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
Top of Salt	1200.00	0.00	197.98	1200.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	1300.00	0.00	197.98	1300.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	1400.00	0.00	197.98	1400.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
Nudge 2"/100' DLS	1500.00	0.00	197.98	1500.00	0.00	0.00	0.00	0.00	452337.28	818928.33	N 32 14 25.30 W 103 26	7.84
	1600.00	2.00	197.98	1599.98	-1.65	-1.66	-0.54	2.00	452335.62	818927.79	N 32 14 25.28 W 103 26	7.84
Hold Nudge	1620.55	2.41	197.98	1620.51	-2.40	-2.41	-0.78	2.00	452334.87	818927.55	N 32 14 25.28 W 103 26	7.85
	1700.00	2.41	197.98	1699.89	-5.57	-5.59	-1.81	0.00	452331.69	818926.52	N 32 14 25.25 W 103 26	7.86
	1800.00	2.41	197.98	1799.81	-9.55	-9.59	-3.11	0.00	452327.69	818925.22	N 32 14 25.21 W 103 26	7.87
	1900.00	2.41	197.98	1899.72	-13.54	-13.59	-4.41	0.00	452323.69	818923.92	N 32 14 25.17 W 103 26	7.89
	2000.00	2.41	197.98	1999.63	-17.52	-17.60	-5.71	0.00	452319.68	818922.62	N 32 14 25.13 W 103 26	7.91
	2100.00	2.41	197.98	2099.54	-21.51	-21.60	-7.01	0.00	452315.68	818921.32	N 32 14 25.09 W 103 26	7.92
	2200.00	2.41	197.98	2199.45	-25.49	-25.60	-8.31	0.00	452311.68	818920.02	N 32 14 25.05 W 103 26	7.94
	2300.00	2.41	197.98	2299.36	-29.48	-29.60	-9.60	0.00	452307.68	818918.73	N 32 14 25.01 W 103 26	7.95
	2400.00	2.41	197.98	2399.27	-33.47	-33.60	-10.90	0.00	452303.68	818917.43	N 32 14 24.97 W 103 26	7.97
	2500.00	2.41	197.98	2499.19	-37.45	-37.60	-12.20	0.00	452299.68	818916.13	N 32 14 24.93 W 103 26	7.98
	2600.00	2.41	197.98	2599.10	-41.44	-41.60	-13.50	0.00	452295.68	818914.83	N 32 14 24.89 W 103 26	8.00
	2700.00	2.41	197.98	2699.01	-45.42	-45.61	-14.80	0.00	452291.67	818913.53	N 32 14 24.85 W 103 26	8.01
	2800.00	2.41	197.98	2798.92	-49.41	-49.61	-16.09	0.00	452287.67	818912.24	N 32 14 24.81 W 103 26	8.03
	2900.00	2.41	197.98	2898.83	-53.39	-53.61	-17.39	0.00	452283.67	818910.94	N 32 14 24.77 W 103 26	8.05
	3000.00	2.41	197.98	2998.74	-57.38	-57.61	-18.69	0.00	452279.67	818909.64	N 32 14 24.73 W 103 26	8.06
Drop to Vertical 2"/100' DLS	3001.26	2.41	197.98	3000.00	-57.43	-57.66	-18.71	0.00	452279.62	818909.62	N 32 14 24.73 W 103 26	8.06
	3100.00	0.44	197.98	3098.71	-59.75	-59.99	-19.46	2.00	452277.29	818908.87	N 32 14 24.71 W 103 26	8.07
Hold Vertical	3121.81	0.00	197.98	3120.51	-59.83	-60.07	-19.49	2.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3200.00	0.00	197.98	3198.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3300.00	0.00	197.98	3298.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3400.00	0.00	197.98	3398.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3500.00	0.00	197.98	3498.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3600.00	0.00	197.98	3598.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3700.00	0.00	197.98	3698.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3800.00	0.00	197.98	3798.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	3900.00	0.00	197.98	3898.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4000.00	0.00	197.98	3998.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4100.00	0.00	197.98	4098.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4200.00	0.00	197.98	4198.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4300.00	0.00	197.98	4298.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4400.00	0.00	197.98	4398.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4500.00	0.00	197.98	4498.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4600.00	0.00	197.98	4598.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4700.00	0.00	197.98	4698.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4800.00	0.00	197.98	4798.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
Base of Salt	4876.29	0.00	197.98	4875.00	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	4900.00	0.00	197.98	4898.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5000.00	0.00	197.98	4998.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5100.00	0.00	197.98	5098.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
Lamar	5181.29	0.00	197.98	5180.00	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5200.00	0.00	197.98	5198.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
Bell Canyon	5241.29	0.00	197.98	5240.00	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5300.00	0.00	197.98	5298.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5400.00	0.00	197.98	5398.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5500.00	0.00	197.98	5498.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5600.00	0.00	197.98	5598.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5700.00	0.00	197.98	5698.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5800.00	0.00	197.98	5798.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	5900.00	0.00	197.98	5898.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	6000.00	0.00	197.98	5998.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	6100.00	0.00	197.98	6098.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
Cherry Canyon	6151.29	0.00	197.98	6150.00	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	6200.00	0.00	197.98	6198.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	6300.00	0.00	197.98	6298.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	6400.00	0.00	197.98	6398.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 103 26	8.07
	6500.00	0.00	197.98	6498.71	-59.83	-60.07	-19.49	0.00	452277.21	818908.84	N 32 14 24.71 W 10	

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 ° ' ")
Cimarex Canyonlands 2 State Com 1H - PBHL [330' FNL, 1040' FEL]	16066.69	94.73	359.30	11290.00	4564.78	4564.19	-76.19	0.00	456901.45	818852.14	N 32 15 10.47 W 103 26 8.28	

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	26.000	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Cimarex Canyonlands 2 State Com 1H Rev0 RM 10Apr18
	1	26.000	16066.694	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS	Original Borehole / Cimarex Canyonlands 2 State Com 1H