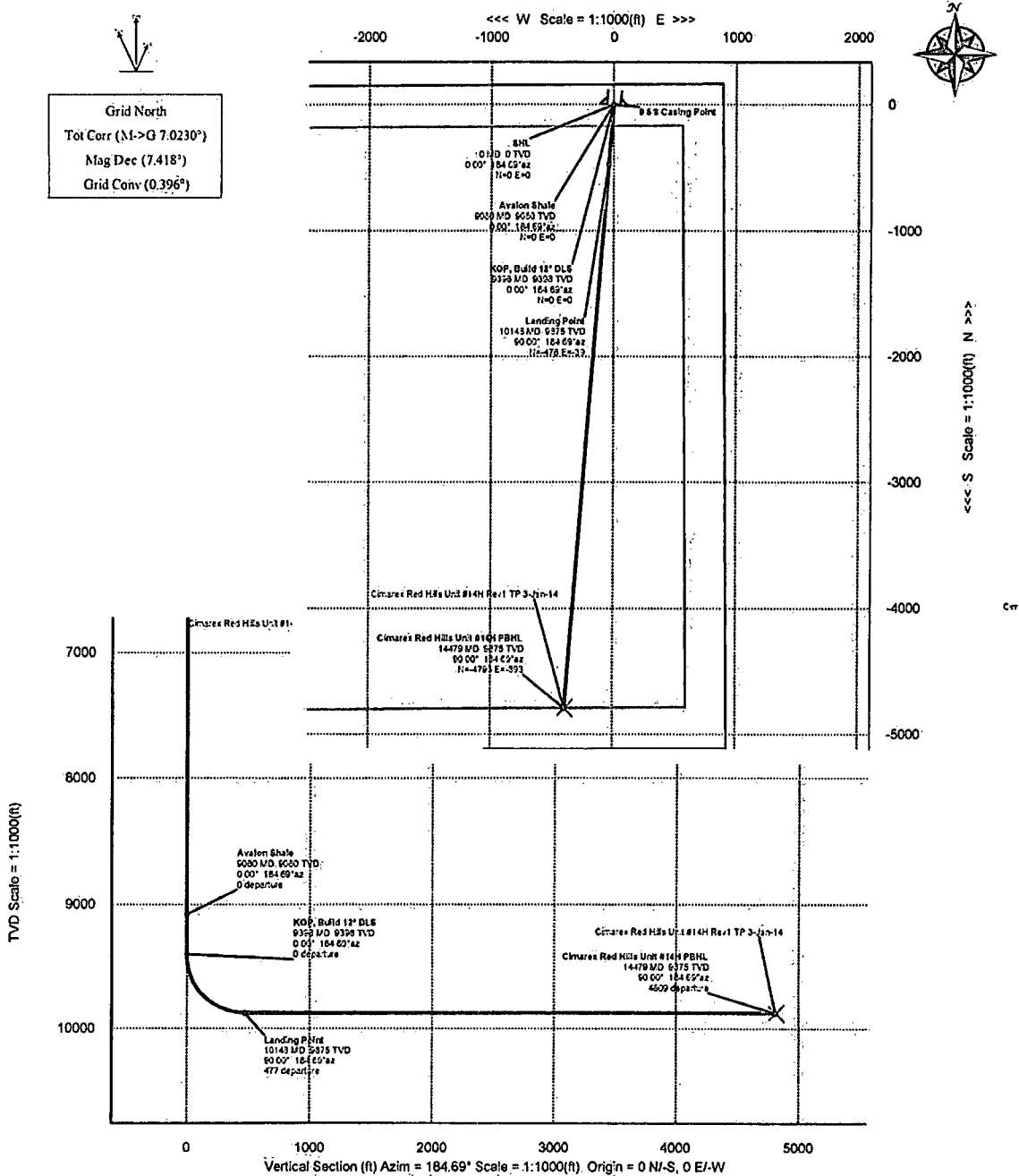




Cimarex

PATHFINDER
A Schlumberger Company

WELL	Red Hills Unit #14H	FIELD	NM Lea County (NAD 83)	STRUCTURE	Cimarex Red Hills Unit #14H
Well Name	Red Hills Unit #14H	Field Name	NM Lea County (NAD 83)	Structure Name	Cimarex Red Hills Unit #14H
Well ID	Red Hills Unit #14H	Field ID	NM Lea County (NAD 83)	Structure ID	Cimarex Red Hills Unit #14H
Well Type	Red Hills Unit #14H	Field Type	NM Lea County (NAD 83)	Structure Type	Cimarex Red Hills Unit #14H
Well Status	Red Hills Unit #14H	Field Status	NM Lea County (NAD 83)	Structure Status	Cimarex Red Hills Unit #14H



Critical Points

Critical Point	MD	INCL	AZIM	TVD	YSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL	0.00	0.00	184.69	0.00	0.00	0.00	0.00	
9 5/8 Casing Point	4850.00	0.00	184.69	4850.00	0.00	0.00	0.00	0.00
Avalon Shale	9080.00	0.00	184.69	9080.00	0.00	0.00	0.00	0.00
KOP, Build 12° DLS	9397.54	0.00	184.69	9397.54	0.00	0.00	0.00	0.00
Landing Point	10147.54	90.00	184.69	9875.00	-477.46	-475.86	-39.06	12.00
Cimarex Red Hills Unit #14H PBHL	14479.14	90.00	184.69	9875.00	4809.07	-4792.95	-393.41	0.00

FEB 18 2014



Cimarex Red Hills Unit #14H Rev2 WEB 12-Feb-14 Proposal Report 100'
Interpolated
(Non-Def Plan)

Report Date: February 12, 2014 - 04:20 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills Unit #14H / Red Hills Unit #14H
Well: Red Hills Unit #14H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills Unit #14H Rev2 WEB 12-Feb-14
Survey Date: August 22, 2013
Tort / AHD / DDI / ERD Ratio: 90.000' / 4808.189 ft / 5.802 / 0.487
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 37.93766", W 103° 35' 19.19460"
Location Grid N/E Y/X: N 398683.500 ftUS, E 771943.100 ftUS
CRS Grid Convergence Angle: 0.3957°
Grid Scale Factor: 0.99997

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 184.577° (Grid North)
Vertical Section Origin: 0.000' ft, 0.000' ft
TVD Reference Datum: Ground Level
TVD Reference Elevation: 3395.000 ft above MSL
Seabed / Ground Elevation: 3395.000 ft above MSL
Magnetic Declination: 7.418°
Total Gravity Field Strength: 998.4769mgn (9.80665 Based)
Total Magnetic Field Strength: 48305.658 nT
Magnetic Dip Angle: 59.995°
Declination Date: January 03, 2014
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.3955°

Total Corr Mag North->Grid North: 7.0230°

Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
SHL	0.00	0.00	184.58	0.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	N/A
	100.00	0.00	184.58	100.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	200.00	0.00	184.58	200.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	300.00	0.00	184.58	300.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	400.00	0.00	184.58	400.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	500.00	0.00	184.58	500.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	600.00	0.00	184.58	600.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	700.00	0.00	184.58	700.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	800.00	0.00	184.58	800.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	900.00	0.00	184.58	900.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1000.00	0.00	184.58	1000.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1100.00	0.00	184.58	1100.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1200.00	0.00	184.58	1200.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1300.00	0.00	184.58	1300.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1400.00	0.00	184.58	1400.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1500.00	0.00	184.58	1500.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1600.00	0.00	184.58	1600.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1700.00	0.00	184.58	1700.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1800.00	0.00	184.58	1800.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	1900.00	0.00	184.58	1900.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2000.00	0.00	184.58	2000.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2100.00	0.00	184.58	2100.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2200.00	0.00	184.58	2200.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2300.00	0.00	184.58	2300.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2400.00	0.00	184.58	2400.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2500.00	0.00	184.58	2500.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2600.00	0.00	184.58	2600.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2700.00	0.00	184.58	2700.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2800.00	0.00	184.58	2800.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00
	2900.00	0.00	184.58	2900.00	0.00	0.00	0.00	398683.50	771943.10	N 32° 5' 37.94"	W 103° 35' 19.19"	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (ft/100ft)
	8400.00	0.00	184.58	8400.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	8500.00	0.00	184.58	8500.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	8600.00	0.00	184.58	8600.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	8700.00	0.00	184.58	8700.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	8800.00	0.00	184.58	8800.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	8900.00	0.00	184.58	8900.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	9000.00	0.00	184.58	9000.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
Avalon Shale	9080.00	0.00	184.58	9080.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	9100.00	0.00	184.58	9100.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	9200.00	0.00	184.58	9200.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	9300.00	0.00	184.58	9300.00	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
KOP - Build 12"/100ft DLS	9397.54	0.00	184.58	9397.54	0.00	0.00	0.00	398683.50	771943.10	N 32 5 37.94	W 103 35 19.19	0.00	0.00	0.00
	9400.00	0.30	184.58	9400.00	0.01	-0.01	0.00	398683.49	771943.10	N 32 5 37.94	W 103 35 19.19	0.01	184.58	12.00
	9500.00	12.30	184.58	9499.22	10.95	-10.92	-0.87	398672.58	771942.23	N 32 5 37.83	W 103 35 19.21	10.95	184.58	12.00
	9600.00	24.30	184.58	9593.99	42.29	-42.15	-3.37	398641.35	771939.73	N 32 5 37.52	W 103 35 19.24	42.29	184.58	12.00
	9700.00	36.30	184.58	9680.17	92.64	-92.35	-7.39	398591.16	771935.71	N 32 5 37.02	W 103 35 19.29	92.64	184.58	12.00
	9800.00	48.30	184.58	9754.01	159.81	-159.30	-12.75	398524.20	771930.35	N 32 5 36.36	W 103 35 19.36	159.81	184.58	12.00
	9900.00	60.30	184.58	9812.26	240.87	-240.10	-19.22	398443.41	771923.88	N 32 5 35.58	W 103 35 19.44	240.87	184.58	12.00
	10000.00	72.30	184.58	9852.39	332.27	-331.21	-26.52	398352.30	771916.58	N 32 5 34.66	W 103 35 19.53	332.27	184.58	12.00
	10100.00	84.30	184.58	9872.64	430.01	-428.64	-34.32	398254.88	771908.78	N 32 5 33.70	W 103 35 19.63	430.01	184.58	12.00
Landing point	10147.54	90.00	184.58	9875.00	477.46	-475.94	-38.10	398207.57	771905.00	N 32 5 33.23	W 103 35 19.68	477.46	184.58	12.00
	10200.00	90.00	184.58	9875.00	529.93	-528.24	-42.29	398155.28	771900.81	N 32 5 32.71	W 103 35 19.73	529.93	184.58	0.00
	10300.00	90.00	184.58	9875.00	629.93	-627.92	-50.27	398055.60	771892.83	N 32 5 31.73	W 103 35 19.83	629.93	184.58	0.00
	10400.00	90.00	184.58	9875.00	729.93	-727.60	-58.26	397955.92	771884.85	N 32 5 30.74	W 103 35 19.93	729.93	184.58	0.00
	10500.00	90.00	184.58	9875.00	829.93	-827.28	-66.23	397856.24	771876.87	N 32 5 29.76	W 103 35 20.03	829.93	184.58	0.00
	10600.00	90.00	184.58	9875.00	929.93	-926.96	-74.21	397756.57	771868.89	N 32 5 28.77	W 103 35 20.13	929.93	184.58	0.00
	10700.00	90.00	184.58	9875.00	1029.93	-1026.64	-82.19	397656.89	771860.91	N 32 5 27.78	W 103 35 20.23	1029.93	184.58	0.00
	10800.00	90.00	184.58	9875.00	1129.93	-1126.33	-90.17	397557.21	771852.93	N 32 5 26.80	W 103 35 20.33	1129.93	184.58	0.00
	10900.00	90.00	184.58	9875.00	1229.93	-1226.01	-98.15	397457.53	771844.95	N 32 5 25.81	W 103 35 20.43	1229.93	184.58	0.00
	11000.00	90.00	184.58	9875.00	1329.93	-1325.69	-106.13	397357.85	771836.97	N 32 5 24.83	W 103 35 20.53	1329.93	184.58	0.00
	11100.00	90.00	184.58	9875.00	1429.93	-1425.37	-114.11	397258.18	771828.99	N 32 5 23.84	W 103 35 20.64	1429.93	184.58	0.00
	11200.00	90.00	184.58	9875.00	1529.93	-1525.05	-122.09	397158.50	771821.01	N 32 5 22.86	W 103 35 20.74	1529.93	184.58	0.00
	11300.00	90.00	184.58	9875.00	1629.93	-1624.73	-130.07	397058.82	771813.03	N 32 5 21.87	W 103 35 20.84	1629.93	184.58	0.00
	11400.00	90.00	184.58	9875.00	1729.93	-1724.41	-138.06	396959.14	771805.05	N 32 5 20.88	W 103 35 20.94	1729.93	184.58	0.00
	11500.00	90.00	184.58	9875.00	1829.93	-1824.09	-146.04	396859.47	771797.07	N 32 5 19.90	W 103 35 21.04	1829.93	184.58	0.00
	11600.00	90.00	184.58	9875.00	1929.93	-1923.77	-154.02	396759.79	771789.09	N 32 5 18.91	W 103 35 21.14	1929.93	184.58	0.00
	11700.00	90.00	184.58	9875.00	2029.93	-2023.46	-162.00	396660.11	771781.11	N 32 5 17.93	W 103 35 21.24	2029.93	184.58	0.00
	11800.00	90.00	184.58	9875.00	2129.93	-2123.14	-169.98	396560.43	771773.13	N 32 5 16.94	W 103 35 21.34	2129.93	184.58	0.00
	11900.00	90.00	184.58	9875.00	2229.93	-2222.82	-177.96	396460.75	771765.15	N 32 5 15.95	W 103 35 21.44	2229.93	184.58	0.00
	12000.00	90.00	184.58	9875.00	2329.93	-2322.50	-185.94	396361.08	771757.17	N 32 5 14.97	W 103 35 21.54	2329.93	184.58	0.00
	12100.00	90.00	184.58	9875.00	2429.93	-2422.18	-193.92	396261.40	771749.19	N 32 5 13.98	W 103 35 21.64	2429.93	184.58	0.00
	12200.00	90.00	184.58	9875.00	2529.93	-2521.86	-201.90	396161.72	771741.21	N 32 5 13.00	W 103 35 21.74	2529.93	184.58	0.00
	12300.00	90.00	184.58	9875.00	2629.93	-2621.54	-209.88	396062.04	771733.23	N 32 5 12.01	W 103 35 21.84	2629.93	184.58	0.00
	12400.00	90.00	184.58	9875.00	2729.93	-2721.22	-217.86	395962.36	771725.25	N 32 5 11.03	W 103 35 21.95	2729.93	184.58	0.00
	12500.00	90.00	184.58	9875.00	2829.93	-2820.90	-225.84	395862.69	771717.27	N 32 5 10.04	W 103 35 22.05	2829.93	184.58	0.00
	12600.00	90.00	184.58	9875.00	2929.93	-2920.58	-233.82	395763.01	771709.29	N 32 5 9.05	W 103 35 22.15	2929.93	184.58	0.00
	12700.00	90.00	184.58	9875.00	3029.93	-3020.27	-241.80	395663.33	771701.31	N 32 5 8.07	W 103 35 22.25	3029.93	184.58	0.00
	12800.00	90.00	184.58	9875.00	3129.93	-3119.95	-249.78	395563.65	771693.33	N 32 5 7.08	W 103 35 22.35	3129.93	184.58	0.00
	12900.00	90.00	184.58	9875.00	3229.93	-3219.63	-257.76	395463.97	771685.35	N 32 5 6.10	W 103 35 22.45	3229.93	184.58	0.00
	13000.00	90.00	184.58	9875.00	3329.93	-3319.31	-265.74	395364.30	771677.37	N 32 5 5.11	W 103 35 22.55	3329.93	184.58	0.00
	13100.00	90.00	184.58	9875.00	3429.93	-3418.99	-273.72	395264.62	771669.39	N 32 5 4.13	W 103 35 22.65	3429.93	184.58	0.00
	13200.00	90.00	184.58	9875.00	3529.93	-3518.67	-281.70	395164.94	771661.41	N 32 5 3.14	W 103 35 22.75	3529.93	184.58	0.00
	13300.00	90.00	184.58	9875.00	3629.93	-3618.35	-289.68	395065.26	771653.43	N 32 5 2.15	W 103 35 22.85	3629.93	184.58	0.00
	13400.00	90.00	184.58	9875.00	3729.93	-3718.03	-297.66	394965.59	771645.45	N 32 5 1.17	W 103 35 22.95	3729.93	184.58	0.00
	13500.00	90.00	184.58	9875.00	3829.93	-3817.71	-305.64	394865.91	771637.47	N 32 5 0.18	W 103 35 23.05	3829.93	184.58	0.00

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	13600.00	90.00	184.58	9875.00	3929.93	-3917.40	-313.62	394766.23	771829.49	N 32 4 59.20	W 103 35 23.15	3929.93	184.58	0.00
	13700.00	90.00	184.58	9875.00	4029.93	-4017.08	-321.60	394666.55	771621.51	N 32 4 58.21	W 103 35 23.25	4029.93	184.58	0.00
	13800.00	90.00	184.58	9875.00	4129.93	-4116.76	-329.58	394566.87	771613.53	N 32 4 57.22	W 103 35 23.36	4129.93	184.58	0.00
	13900.00	90.00	184.58	9875.00	4229.93	-4216.44	-337.56	394467.20	771605.55	N 32 4 56.24	W 103 35 23.46	4229.93	184.58	0.00
	14000.00	90.00	184.58	9875.00	4329.93	-4316.12	-345.55	394367.52	771597.57	N 32 4 55.25	W 103 35 23.56	4329.93	184.58	0.00
	14100.00	90.00	184.58	9875.00	4429.93	-4415.80	-353.53	394267.84	771589.59	N 32 4 54.27	W 103 35 23.66	4429.93	184.58	0.00
	14200.00	90.00	184.58	9875.00	4529.93	-4515.48	-361.51	394168.16	771581.61	N 32 4 53.28	W 103 35 23.76	4529.93	184.58	0.00
	14300.00	90.00	184.58	9875.00	4629.93	-4615.16	-369.49	394068.48	771573.63	N 32 4 52.30	W 103 35 23.86	4629.93	184.58	0.00
	14400.00	90.00	184.58	9875.00	4729.93	-4714.84	-377.47	393968.81	771565.65	N 32 4 51.31	W 103 35 23.96	4729.93	184.58	0.00
Cimarex Red Hills Unit #14H PBHL	14478.26	90.00	184.58	9875.00	4808.19	-4792.85	-383.71	393869.80	771559.40	N 32 4 50.54	W 103 35 24.04	4808.19	184.58	0.00

Survey Type: Non-Def Plan

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

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	14478.259	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Red Hills Unit #14H Rev2 WEB 12-