

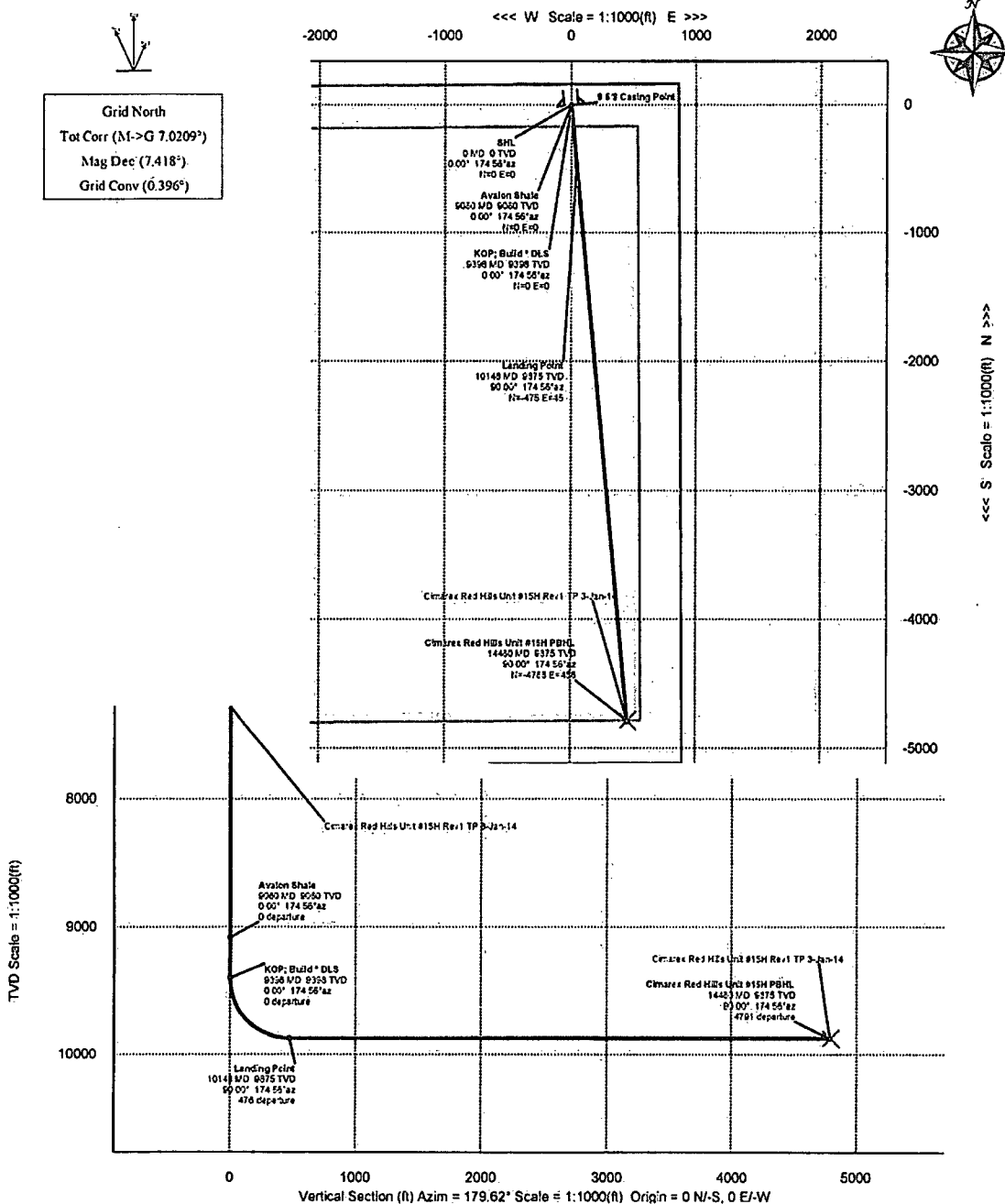


Cimarex

PATHFINDER
A Schlumberger Company

WELL	FIELD	STRUCTURE
Red Hills Unit #15H	NM Lea County (NAD 83)	Cimarex Red Hills Unit #15H

Wellsite Parameters	Co	City	State	Surface Location	Wellbore	Wellhead
Wellsite: 802W 2013	Co: 13126	City: 13126	State: NM	Surface Location: Lat: N 32.83133 Lon: W 103.331845	Wellbore: 802W 2013	Wellhead: Cimarex Red Hills Unit #15H



Critical Points

Critical Point	MD	INCL	AZIM	TVD	YSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL	0.00	0.00	174.56	0.00	0.00	0.00	0.00	
9 5/8 Casing Point	4850.00	0.00	174.56	4850.00	0.00	0.00	0.00	0.00
Avalon Shale	9080.00	0.00	174.56	9080.00	0.00	0.00	0.00	0.00
KOP; Build ° DLS	9397.54	0.00	174.56	9397.54	0.00	0.00	0.00	0.00
Landing Point	10147.54	90.00	174.56	9875.00	475.60	-475.31	45.30	12.00
Cimarex Red Hills Unit #15H PBHL	14480.23	90.00	174.56	9875.00	4791.36	-4788.45	456.41	0.00

FEB 18 2014

Cimarex Red Hills Unit #15H Rev1 TP 3-Jan-14 Proposal Report

(Non-Def Plan)

Report Date: January 03, 2014 - 01:35 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills Unit #15H / Red Hills Unit #15H
Well: Red Hills Unit #15H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills Unit #15H Rev1 TP 3-Jan-14
Survey Date: August 22, 2013
Tort / AHD / DDI / ERD Ratio: 90.000 * / 4810.156 ft / 5.803 / 0.487
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 37.93759", W 103° 35' 18.84586"
Location Grid N/E Y/X: N 398683.700 ftUS, E 771973.100 ftUS
CRS Grid Convergence Angle: 0.3957 *
Grid Scale Factor: 0.99997001

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.622 * (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 Field Strength: 48306.168 nT
Magnetic Dip Angle: 59.996 *
Declination Date: August 22, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.3966 *
Total Corr Mag North->Grid North: 7.0209 *
Local Coord Referenced To: Structure Reference Point

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 ("/100ft)
SHL	0.00	0.00	174.56	0.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	N/A
	100.00	0.00	174.56	100.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	200.00	0.00	174.56	200.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	300.00	0.00	174.56	300.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	400.00	0.00	174.56	400.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	500.00	0.00	174.56	500.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	600.00	0.00	174.56	600.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	700.00	0.00	174.56	700.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	800.00	0.00	174.56	800.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	900.00	0.00	174.56	900.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1000.00	0.00	174.56	1000.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1100.00	0.00	174.56	1100.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1200.00	0.00	174.56	1200.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1300.00	0.00	174.56	1300.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1400.00	0.00	174.56	1400.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1500.00	0.00	174.56	1500.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1600.00	0.00	174.56	1600.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1700.00	0.00	174.56	1700.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1800.00	0.00	174.56	1800.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	1900.00	0.00	174.56	1900.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2000.00	0.00	174.56	2000.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2100.00	0.00	174.56	2100.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2200.00	0.00	174.56	2200.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2300.00	0.00	174.56	2300.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2400.00	0.00	174.56	2400.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2500.00	0.00	174.56	2500.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2600.00	0.00	174.56	2600.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2700.00	0.00	174.56	2700.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2800.00	0.00	174.56	2800.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	2900.00	0.00	174.56	2900.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	3000.00	0.00	174.56	3000.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	3100.00	0.00	174.56	3100.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	3200.00	0.00	174.56	3200.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	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 (°/100ft)
	8700.00	0.00	174.56	8700.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	8800.00	0.00	174.56	8800.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
Avalon Shale	8900.00	0.00	174.56	8900.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	9000.00	0.00	174.56	9000.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	9080.00	0.00	174.56	9080.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	9100.00	0.00	174.56	9100.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	9200.00	0.00	174.56	9200.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
KOP; Build * DLS	9300.00	0.00	174.56	9300.00	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	9397.54	0.00	174.56	9397.54	0.00	0.00	0.00	398683.70	771973.10	N 32 5 37.94	W 103 35 18.85	0.00	0.00	0.00
	9400.00	0.30	174.56	9400.00	0.01	-0.01	0.00	398683.69	771973.10	N 32 5 37.94	W 103 35 18.85	0.01	174.58	12.00
	9500.00	12.30	174.56	9499.22	10.91	-10.90	1.04	398672.80	771974.14	N 32 5 37.83	W 103 35 18.83	10.95	174.58	12.00
	9600.00	24.30	174.56	9593.99	42.12	-42.10	4.01	398641.60	771977.11	N 32 5 37.52	W 103 35 18.80	42.29	174.56	12.00
Landina Point	9700.00	36.30	174.56	9680.17	92.28	-92.22	8.79	398591.48	771981.89	N 32 5 37.02	W 103 35 18.75	92.64	174.56	12.00
	9800.00	48.30	174.56	9754.01	159.19	-159.09	15.16	398524.81	771988.26	N 32 5 36.36	W 103 35 18.68	159.81	174.56	12.00
	9900.00	60.30	174.56	9812.28	239.93	-239.78	22.86	398443.92	771995.95	N 32 5 35.56	W 103 35 18.60	240.87	174.56	12.00
	10000.00	72.30	174.56	9852.39	330.97	-330.77	31.53	398352.94	772004.63	N 32 5 34.66	W 103 35 18.51	332.27	174.56	12.00
	10100.00	84.30	174.56	9872.64	428.33	-428.07	40.80	398255.65	772013.90	N 32 5 33.70	W 103 35 18.41	430.01	174.56	12.00
	10147.54	90.00	174.56	9875.00	475.60	-475.31	45.30	398208.40	772018.40	N 32 5 33.23	W 103 35 18.36	477.46	174.56	12.00
	10200.00	90.00	174.56	9875.00	527.86	-527.54	50.28	398156.18	772023.38	N 32 5 32.71	W 103 35 18.30	529.93	174.56	0.00
	10300.00	90.00	174.56	9875.00	627.47	-627.09	59.77	398056.63	772032.87	N 32 5 31.73	W 103 35 18.20	629.93	174.56	0.00
	10400.00	90.00	174.56	9875.00	727.08	-726.64	69.26	397957.09	772042.36	N 32 5 30.74	W 103 35 18.10	729.93	174.56	0.00
	10500.00	90.00	174.56	9875.00	826.69	-826.19	78.75	397857.54	772051.85	N 32 5 29.76	W 103 35 18.00	829.93	174.56	0.00
	10600.00	90.00	174.56	9875.00	926.30	-925.73	88.24	397758.00	772061.33	N 32 5 28.77	W 103 35 17.89	929.93	174.56	0.00
	10700.00	90.00	174.56	9875.00	1025.90	-1025.28	97.73	397658.45	772070.82	N 32 5 27.79	W 103 35 17.79	1029.93	174.56	0.00
	10800.00	90.00	174.56	9875.00	1125.51	-1124.83	107.21	397558.90	772080.31	N 32 5 26.80	W 103 35 17.69	1129.93	174.56	0.00
	10900.00	90.00	174.56	9875.00	1225.12	-1224.38	116.70	397459.36	772089.80	N 32 5 25.81	W 103 35 17.59	1229.93	174.56	0.00
	11000.00	90.00	174.56	9875.00	1324.73	-1323.93	126.19	397359.81	772099.29	N 32 5 24.83	W 103 35 17.49	1329.93	174.56	0.00
	11100.00	90.00	174.56	9875.00	1424.34	-1423.48	135.68	397260.27	772108.78	N 32 5 23.84	W 103 35 17.38	1429.93	174.56	0.00
	11200.00	90.00	174.56	9875.00	1523.95	-1523.03	145.17	397160.72	772118.26	N 32 5 22.86	W 103 35 17.28	1529.93	174.56	0.00
	11300.00	90.00	174.56	9875.00	1623.56	-1622.58	154.66	397061.18	772127.75	N 32 5 21.87	W 103 35 17.18	1629.93	174.56	0.00
	11400.00	90.00	174.56	9875.00	1723.17	-1722.12	164.15	396961.63	772137.24	N 32 5 20.89	W 103 35 17.08	1729.93	174.56	0.00
	11500.00	90.00	174.56	9875.00	1822.78	-1821.67	173.63	396862.08	772146.73	N 32 5 19.90	W 103 35 16.97	1829.93	174.56	0.00
	11600.00	90.00	174.56	9875.00	1922.39	-1921.22	183.12	396762.54	772156.22	N 32 5 18.91	W 103 35 16.87	1929.93	174.56	0.00
	11700.00	90.00	174.56	9875.00	2022.00	-2020.77	192.61	396662.99	772165.70	N 32 5 17.93	W 103 35 16.77	2029.93	174.56	0.00
	11800.00	90.00	174.56	9875.00	2121.61	-2120.32	202.10	396563.45	772175.19	N 32 5 16.94	W 103 35 16.67	2129.93	174.56	0.00
	11900.00	90.00	174.56	9875.00	2221.21	-2219.87	211.59	396463.90	772184.68	N 32 5 15.96	W 103 35 16.56	2229.93	174.56	0.00
	12000.00	90.00	174.56	9875.00	2320.82	-2319.42	221.08	396364.36	772194.17	N 32 5 14.97	W 103 35 16.46	2329.93	174.56	0.00
	12100.00	90.00	174.56	9875.00	2420.43	-2418.97	230.57	396264.81	772203.66	N 32 5 13.99	W 103 35 16.36	2429.93	174.56	0.00
	12200.00	90.00	174.56	9875.00	2520.04	-2518.52	240.05	396165.27	772213.15	N 32 5 13.00	W 103 35 16.26	2529.93	174.56	0.00
	12300.00	90.00	174.56	9875.00	2619.65	-2618.06	249.54	396065.72	772222.63	N 32 5 12.01	W 103 35 16.16	2629.93	174.56	0.00
	12400.00	90.00	174.56	9875.00	2719.26	-2717.61	259.03	395966.17	772232.12	N 32 5 11.03	W 103 35 16.05	2729.93	174.56	0.00
	12500.00	90.00	174.56	9875.00	2818.87	-2817.16	268.52	395866.63	772241.61	N 32 5 10.04	W 103 35 15.95	2829.93	174.56	0.00
	12600.00	90.00	174.56	9875.00	2918.48	-2916.71	278.01	395767.08	772251.10	N 32 5 9.06	W 103 35 15.85	2929.93	174.56	0.00
	12700.00	90.00	174.56	9875.00	3018.09	-3016.28	287.50	395667.54	772260.59	N 32 5 8.07	W 103 35 15.75	3029.93	174.56	0.00
	12800.00	90.00	174.56	9875.00	3117.70	-3115.81	296.99	395567.99	772270.08	N 32 5 7.09	W 103 35 15.64	3129.93	174.56	0.00
	12900.00	90.00	174.56	9875.00	3217.31	-3215.36	306.47	395468.45	772279.56	N 32 5 6.10	W 103 35 15.54	3229.93	174.56	0.00
	13000.00	90.00	174.56	9875.00	3316.92	-3314.91	315.96	395368.90	772289.05	N 32 5 5.11	W 103 35 15.44	3329.93	174.56	0.00
	13100.00	90.00	174.56	9875.00	3416.53	-3414.45	325.45	395269.35	772298.54	N 32 5 4.13	W 103 35 15.34	3429.93	174.56	0.00
	13200.00	90.00	174.56	9875.00	3516.13	-3514.00	334.94	395169.81	772308.03	N 32 5 3.14	W 103 35 15.24	3529.93	174.56	0.00
	13300.00	90.00	174.56	9875.00	3615.74	-3613.55	344.43	395070.26	772317.52	N 32 5 2.16	W 103 35 15.13	3629.93	174.56	0.00
	13400.00	90.00	174.56	9875.00	3715.35	-3713.10	353.92	394970.72	772327.01	N 32 5 1.17	W 103 35 15.03	3729.93	174.56	0.00
	13500.00	90.00	174.56	9875.00	3814.96	-3812.65	363.41	394871.17	772336.49	N 32 5 0.19	W 103 35 14.93	3829.93	174.56	0.00
	13600.00	90.00	174.56	9875.00	3914.57	-3912.20	372.89	394771.63	772345.98	N 32 4 59.20	W 103 35 14.83	3929.93	174.56	0.00
	13700.00	90.00	174.56	9875.00	4014.18	-4011.75	382.38	394672.08	772355.47	N 32 4 58.21	W 103 35 14.72	4029.93	174.56	0.00
	13800.00	90.00	174.56	9875.00	4113.79	-4111.30	391.87	394572.54	772364.96	N 32 4 57.23	W 103 35 14.62	4129.93	174.56	0.00

Comments	MD (ft)	Incl (°)	Azlm Grd (°)	TVD (ft)	VSEC (R)	NS (ft)	EW (R)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	13900.00	90.00	174.56	9875.00	4213.40	-4210.84	401.36	394472.99	772374.45	N 32 4 56.24	W 103 35 14.52	4229.93	174.56	0.00
	14000.00	90.00	174.56	9875.00	4313.01	-4310.39	410.85	394373.44	772383.93	N 32 4 55.26	W 103 35 14.42	4329.93	174.56	0.00
	14100.00	90.00	174.56	9875.00	4412.62	-4409.94	420.34	394273.90	772393.42	N 32 4 54.27	W 103 35 14.31	4429.93	174.56	0.00
	14200.00	90.00	174.56	9875.00	4512.23	-4509.49	429.83	394174.35	772402.91	N 32 4 53.29	W 103 35 14.21	4529.93	174.56	0.00
	14300.00	90.00	174.56	9875.00	4611.84	-4609.04	439.31	394074.81	772412.40	N 32 4 52.30	W 103 35 14.11	4629.93	174.56	0.00
	14400.00	90.00	174.56	9875.00	4711.44	-4708.59	448.80	393975.26	772421.89	N 32 4 51.31	W 103 35 14.01	4729.93	174.56	0.00
Cimarex Red Hills Unit #15H PBHL	14480.23	90.00	174.56	9875.00	4791.36	-4788.45	456.41	393895.40	772429.50	N 32 4 50.52	W 103 35 13.93	4810.16	174.56	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 (R)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	14480.226	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Red Hills Unit #15H Rev1 TP 3-Jan-14