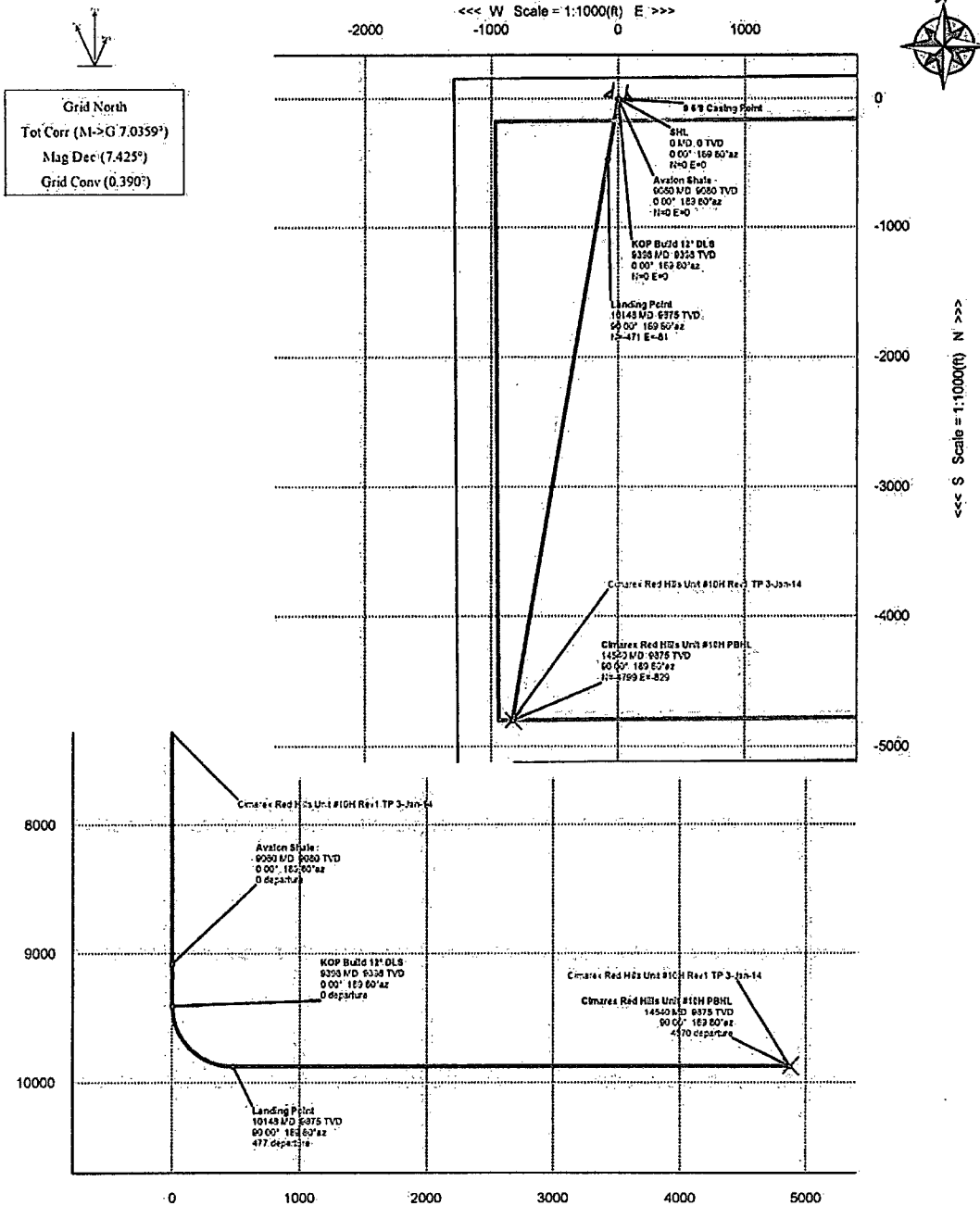




Cimarex

PATHFINDER
A Schlumberger Company

WELL	Field	Structure
Red Hills Unit #10H	NM Lea County (NAD 83)	Cimarex Red Hills Unit #10H
Magnetic Parameters Model: GSCM 2013 C/P: 12.800° Mag Dec: 7.425°	Well Location Lat: N 32 43' 54" Lon: W 103 22 22' 18" Elevation: 3384.52 ft UTM Zone: 18Q UTM Easting: 711141.12 UTM Northing: 8290782.8	Well Information Well Name: Red Hills Unit #10H Well Type: Oil Completion Date: 01/22/2014 Operator: Cimarex Red Hills Unit #10H



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL	0.00	0.00	189.80	0.00	0.00	0.00	0.00	
9 5/8 Casing Point	4850.00	0.00	189.80	4850.00	0.00	0.00	0.00	0.00
Avalon Shale	9080.00	0.00	189.80	9080.00	0.00	0.00	0.00	0.00
KOP Build 12° DLS	9397.54	0.00	189.80	9397.54	0.00	0.00	0.00	0.00
Landing Point	10147.54	90.00	189.80	9875.00	477.46	-470.50	-81.24	12.00
Cimarex Red Hills Unit #10H PBHL	14540.05	90.00	189.80	9875.00	4869.97	-4798.96	-828.63	0.00

FEB 18 2014



Cimarex Red Hills Unit #10H Rev1 TP 3-Jan-14 Proposal Report
(Non-Def Plan)

Report Date: January 03, 2014 - 12:36 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills Unit #10H / Red Hills Unit #10H
Well: Red Hills Unit #10H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills Unit #10H Rev1 TP 3-Jan-14
Survey Date: August 22, 2013
Tort / AHD / DDI / ERD Ratio: 90.000° / 4869.975 ft / 5.810 / 0.493
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 37.96658", W 103° 35' 55.16145"
Location Grid N/E Y/X: N 398665.200 ftUS; E 768849.100 ftUS
CRS Grid Convergence Angle: 0.3904°
Grid Scale Factor: 0.99996838

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 189.797° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground Level
TVD Reference Elevation: 3403.000 ft above MSL
Seabed / Ground Elevation: 3403.000 ft above MSL
Magnetic Declination: 7.425°
Total Field Strength: 48304.323 nT
Magnetic Dip Angle: 59.993°
Declination Date: January 03, 2014
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.3887°
Total Corr Mag North→Grid North: 7.0359°
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	189.80	0.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	N/A
	100.00	0.00	189.80	100.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	200.00	0.00	189.80	200.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	300.00	0.00	189.80	300.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	400.00	0.00	189.80	400.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	500.00	0.00	189.80	500.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	600.00	0.00	189.80	600.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	700.00	0.00	189.80	700.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	800.00	0.00	189.80	800.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	900.00	0.00	189.80	900.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1000.00	0.00	189.80	1000.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1100.00	0.00	189.80	1100.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1200.00	0.00	189.80	1200.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1300.00	0.00	189.80	1300.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1400.00	0.00	189.80	1400.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1500.00	0.00	189.80	1500.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1600.00	0.00	189.80	1600.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1700.00	0.00	189.80	1700.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1800.00	0.00	189.80	1800.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	1900.00	0.00	189.80	1900.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2000.00	0.00	189.80	2000.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2100.00	0.00	189.80	2100.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2200.00	0.00	189.80	2200.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2300.00	0.00	189.80	2300.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2400.00	0.00	189.80	2400.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2500.00	0.00	189.80	2500.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2600.00	0.00	189.80	2600.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2700.00	0.00	189.80	2700.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2800.00	0.00	189.80	2800.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	2900.00	0.00	189.80	2900.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	3000.00	0.00	189.80	3000.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	3100.00	0.00	189.80	3100.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	3200.00	0.00	189.80	3200.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (NUS)	Easting (RUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	8700.00	0.00	189.80	8700.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	8800.00	0.00	189.80	8800.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	8900.00	0.00	189.80	8900.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	9000.00	0.00	189.80	9000.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
Avalon Shale	9080.00	0.00	189.80	9080.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	9100.00	0.00	189.80	9100.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	9200.00	0.00	189.80	9200.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	9300.00	0.00	189.80	9300.00	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
KOP Build 12" DLS	9397.54	0.00	189.80	9397.54	0.00	0.00	0.00	398665.20	768849.10	N 32 5 37.97	W 103 35 55.16	0.00	0.00	0.00
	9400.00	0.30	189.80	9400.00	0.01	-0.01	0.00	398665.19	768849.10	N 32 5 37.97	W 103 35 55.16	0.01	189.80	12.00
	9500.00	12.30	189.80	9498.22	10.95	-10.79	-1.86	398654.41	768847.20	N 32 5 37.86	W 103 35 55.18	10.95	189.80	12.00
	9600.00	24.30	189.80	9593.99	42.29	-41.67	-7.20	398623.53	768841.91	N 32 5 37.55	W 103 35 55.25	42.29	189.80	12.00
	9700.00	36.30	189.80	9680.17	92.64	-91.29	-15.76	398573.91	768833.34	N 32 5 37.06	W 103 35 55.35	92.64	189.80	12.00
	9800.00	48.30	189.80	9754.01	159.81	-157.48	-27.19	398507.72	768821.91	N 32 5 36.41	W 103 35 55.49	159.81	189.80	12.00
	9900.00	60.30	189.80	9812.26	240.87	-237.36	-40.98	398427.85	768808.12	N 32 5 35.62	W 103 35 55.66	240.87	189.80	12.00
	10000.00	72.30	189.80	9852.39	332.27	-327.42	-56.54	398357.79	768792.57	N 32 5 34.73	W 103 35 55.84	332.27	189.80	12.00
	10100.00	84.30	189.80	9872.64	430.01	-423.74	-73.17	398241.48	768775.94	N 32 5 33.78	W 103 35 56.05	430.01	189.80	12.00
Landing Point	10147.54	90.00	189.80	9875.00	477.46	-470.50	-81.24	398194.71	768767.86	N 32 5 33.32	W 103 35 56.14	477.46	189.80	12.00
	10200.00	90.00	189.80	9875.00	529.93	-522.20	-90.17	398143.02	768758.94	N 32 5 32.81	W 103 35 56.25	529.93	189.80	0.00
	10300.00	90.00	189.80	9875.00	629.93	-620.74	-107.18	398044.48	768741.92	N 32 5 31.83	W 103 35 56.46	629.93	189.80	0.00
	10400.00	90.00	189.80	9875.00	729.93	-719.29	-124.20	397945.94	768724.91	N 32 5 30.86	W 103 35 56.66	729.93	189.80	0.00
	10500.00	90.00	189.80	9875.00	829.93	-817.83	-141.21	397847.40	768707.89	N 32 5 29.88	W 103 35 56.87	829.93	189.80	0.00
	10600.00	90.00	189.80	9875.00	929.93	-916.37	-158.23	397748.86	768690.88	N 32 5 28.91	W 103 35 57.07	929.93	189.80	0.00
	10700.00	90.00	189.80	9875.00	1029.93	-1014.91	-175.24	397650.32	768673.86	N 32 5 27.94	W 103 35 57.28	1029.93	189.80	0.00
	10800.00	90.00	189.80	9875.00	1129.93	-1113.45	-192.26	397551.78	768656.85	N 32 5 26.96	W 103 35 57.48	1129.93	189.80	0.00
	10900.00	90.00	189.80	9875.00	1229.93	-1211.99	-209.27	397453.25	768639.83	N 32 5 25.99	W 103 35 57.69	1229.93	189.80	0.00
	11000.00	90.00	189.80	9875.00	1329.93	-1310.54	-226.29	397354.71	768622.82	N 32 5 25.01	W 103 35 57.90	1329.93	189.80	0.00
	11100.00	90.00	189.80	9875.00	1429.93	-1409.08	-243.30	397256.17	768605.81	N 32 5 24.04	W 103 35 58.10	1429.93	189.80	0.00
	11200.00	90.00	189.80	9875.00	1529.93	-1507.62	-260.32	397157.63	768588.79	N 32 5 23.07	W 103 35 58.31	1529.93	189.80	0.00
	11300.00	90.00	189.80	9875.00	1629.93	-1606.16	-277.33	397059.09	768571.78	N 32 5 22.09	W 103 35 58.51	1629.93	189.80	0.00
	11400.00	90.00	189.80	9875.00	1729.93	-1704.70	-294.35	396960.55	768554.76	N 32 5 21.12	W 103 35 58.72	1729.93	189.80	0.00
	11500.00	90.00	189.80	9875.00	1829.93	-1803.25	-311.36	396862.01	768537.75	N 32 5 20.14	W 103 35 58.92	1829.93	189.80	0.00
	11600.00	90.00	189.80	9875.00	1929.93	-1901.79	-328.38	396763.48	768520.73	N 32 5 19.17	W 103 35 59.13	1929.93	189.80	0.00
	11700.00	90.00	189.80	9875.00	2029.93	-2000.33	-345.39	396664.94	768503.72	N 32 5 18.20	W 103 35 59.33	2029.93	189.80	0.00
	11800.00	90.00	189.80	9875.00	2129.93	-2098.87	-362.41	396566.40	768486.70	N 32 5 17.22	W 103 35 59.54	2129.93	189.80	0.00
	11900.00	90.00	189.80	9875.00	2229.93	-2197.41	-379.42	396467.86	768469.69	N 32 5 16.25	W 103 35 59.75	2229.93	189.80	0.00
	12000.00	90.00	189.80	9875.00	2329.93	-2295.95	-396.44	396369.32	768452.68	N 32 5 15.27	W 103 35 59.95	2329.93	189.80	0.00
	12100.00	90.00	189.80	9875.00	2429.93	-2394.50	-413.45	396270.78	768435.66	N 32 5 14.30	W 103 36 0.16	2429.93	189.80	0.00
	12200.00	90.00	189.80	9875.00	2529.93	-2493.04	-430.47	396172.25	768418.65	N 32 5 13.33	W 103 36 0.36	2529.93	189.80	0.00
	12300.00	90.00	189.80	9875.00	2629.93	-2591.58	-447.48	396073.71	768401.63	N 32 5 12.35	W 103 36 0.57	2629.93	189.80	0.00
	12400.00	90.00	189.80	9875.00	2729.93	-2690.12	-464.50	395975.17	768384.62	N 32 5 11.38	W 103 36 0.77	2729.93	189.80	0.00
	12500.00	90.00	189.80	9875.00	2829.93	-2788.66	-481.51	395876.63	768367.60	N 32 5 10.40	W 103 36 0.98	2829.93	189.80	0.00
	12600.00	90.00	189.80	9875.00	2929.93	-2887.21	-498.53	395778.09	768350.59	N 32 5 9.43	W 103 36 1.18	2929.93	189.80	0.00
	12700.00	90.00	189.80	9875.00	3029.93	-2985.75	-515.54	395679.55	768333.57	N 32 5 8.46	W 103 36 1.39	3029.93	189.80	0.00
	12800.00	90.00	189.80	9875.00	3129.93	-3084.29	-532.56	395581.01	768316.56	N 32 5 7.48	W 103 36 1.60	3129.93	189.80	0.00
	12900.00	90.00	189.80	9875.00	3229.93	-3182.83	-549.57	395482.48	768299.54	N 32 5 6.51	W 103 36 1.80	3229.93	189.80	0.00
	13000.00	90.00	189.80	9875.00	3329.93	-3281.37	-566.59	395383.94	768282.53	N 32 5 5.54	W 103 36 2.01	3329.93	189.80	0.00
	13100.00	90.00	189.80	9875.00	3429.93	-3379.91	-583.60	395285.40	768265.52	N 32 5 4.56	W 103 36 2.21	3429.93	189.80	0.00
	13200.00	90.00	189.80	9875.00	3529.93	-3478.46	-600.62	395186.86	768248.50	N 32 5 3.59	W 103 36 2.42	3529.93	189.80	0.00
	13300.00	90.00	189.80	9875.00	3629.93	-3577.00	-617.63	395088.32	768231.49	N 32 5 2.61	W 103 36 2.62	3629.93	189.80	0.00
	13400.00	90.00	189.80	9875.00	3729.93	-3675.54	-634.65	394989.78	768214.47	N 32 5 1.64	W 103 36 2.83	3729.93	189.80	0.00
	13500.00	90.00	189.80	9875.00	3829.93	-3774.08	-651.66	394891.24	768197.46	N 32 5 0.67	W 103 36 3.03	3829.93	189.80	0.00
	13600.00	90.00	189.80	9875.00	3929.93	-3872.62	-668.68	394792.71	768180.44	N 32 4 59.69	W 103 36 3.24	3929.93	189.80	0.00
	13700.00	90.00	189.80	9875.00	4029.93	-3971.17	-685.69	394694.17	768163.43	N 32 4 58.72	W 103 36 3.45	4029.93	189.80	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)
	13800.00	90.00	189.80	9875.00	4129.93	-4089.71	-702.71	394595.63	768146.41	N 32	4 57.74	W 103 36	3.65	4129.93	189.80	0.00
	13900.00	90.00	189.80	9875.00	4229.93	-4168.25	-719.72	394497.09	768129.40	N 32	4 56.77	W 103 36	3.86	4229.93	189.80	0.00
	14000.00	90.00	189.80	9875.00	4329.93	-4266.79	-736.74	394398.55	768112.39	N 32	4 55.80	W 103 36	4.06	4329.93	189.80	0.00
	14100.00	90.00	189.80	9875.00	4429.93	-4365.33	-753.75	394300.01	768095.37	N 32	4 54.82	W 103 36	4.27	4429.93	189.80	0.00
	14200.00	90.00	189.80	9875.00	4529.93	-4463.87	-770.77	394201.48	768078.36	N 32	4 53.85	W 103 36	4.47	4529.93	189.80	0.00
	14300.00	90.00	189.80	9875.00	4629.93	-4562.42	-787.78	394102.94	768061.34	N 32	4 52.87	W 103 36	4.68	4629.93	189.80	0.00
	14400.00	90.00	189.80	9875.00	4729.93	-4660.96	-804.80	394004.40	768044.33	N 32	4 51.90	W 103 36	4.88	4729.93	189.80	0.00
	14500.00	90.00	189.80	9875.00	4829.93	-4759.50	-821.81	393905.86	768027.31	N 32	4 50.93	W 103 36	5.09	4829.93	189.80	0.00
Cimarex Red Hills Unit #10H PBHL	14540.05	90.00	189.80	9875.00	4869.97	-4798.96	-828.63	393866.40	768020.50	N 32	4 50.54	W 103 36	5.17	4869.97	189.80	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	14540.045	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Red Hills Unit #10H Rev1 TP 3-Jan-14