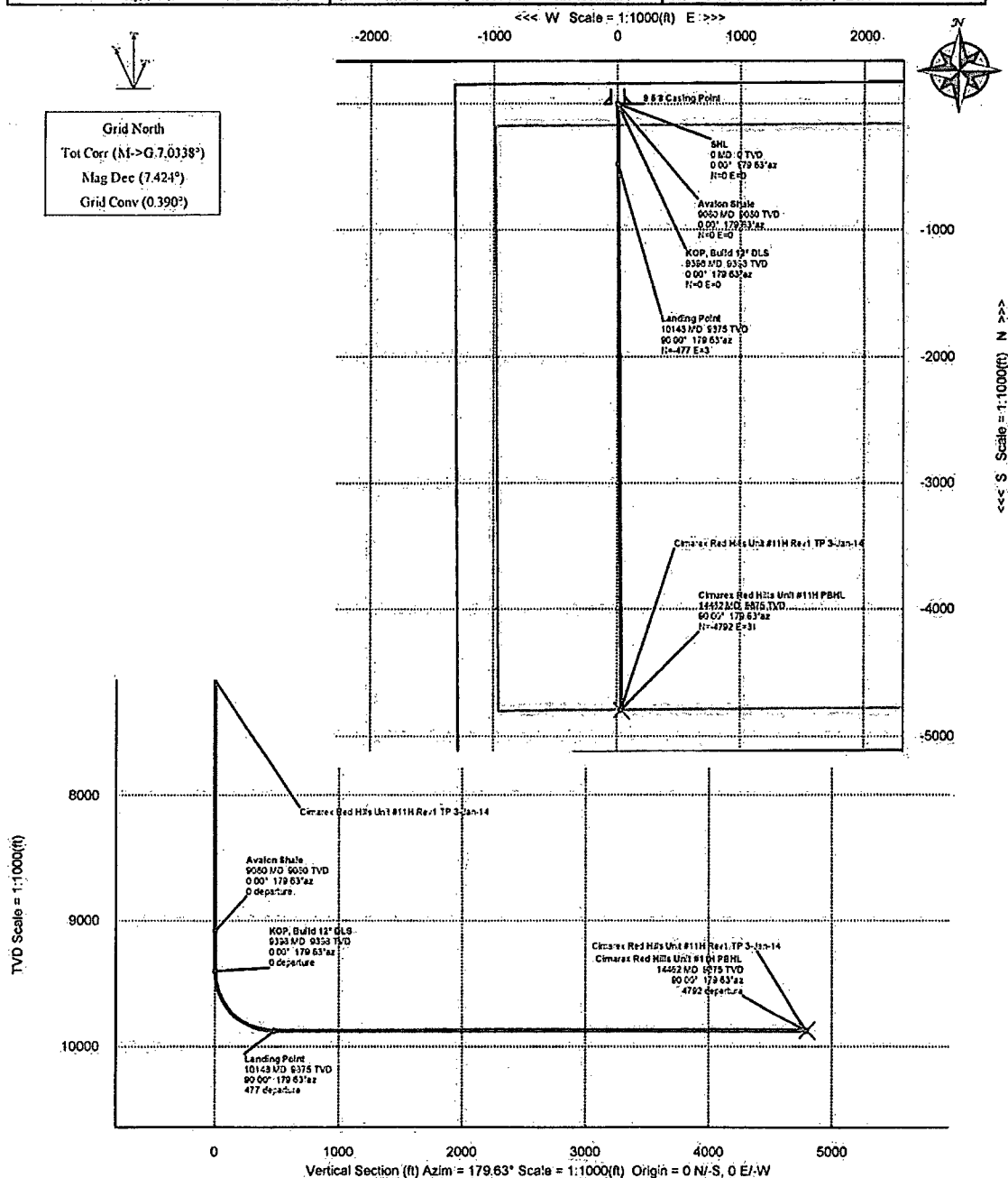




Cimarex

PATHFINDER
A Schlumberger Company

WELL	FIELD	STRUCTURE
Red Hills Unit #11H	NM Lea County (NAD 83)	Cimarex Red Hills Unit #11H
Well Name: 8304 2014 Date: 03/04/2014 Well Type: 3 1/2"	Well Name: 8304 2014 Date: 03/04/2014 Well Type: 3 1/2"	Well Name: 8304 2014 Date: 03/04/2014 Well Type: 3 1/2"



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	179.63	0.00	0.00	0.00	0.00	
9 5/8 Casing Point	4850.00	0.00	179.63	4850.00	0.00	0.00	0.00	0.00
Avalon Shale	9080.00	0.00	179.63	9080.00	0.00	0.00	0.00	0.00
KOP, Build 12° DLS	9397.54	0.00	179.63	9397.54	0.00	0.00	0.00	0.00
Landing Point	10147.54	90.00	179.63	9875.00	477.46	-477.45	3.11	12.00
Cimarex Red Hills Unit #11H PBHL	14462.33	90.00	179.63	9875.00	4792.26	-4792.16	31.20	0.00

FEB 24 2014



Cimarex Red Hills Unit #11H Rev1 TP 3-Jan-14 Proposal Report
(Non-Def Plan)

Report Date: January 03, 2014 - 12:47 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills Unit #11H / Red Hills Unit #11H
Well: Red Hills Unit #11H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills Unit #11H Rev1 TP 3-Jan-14
Survey Date: August 22, 2013
Tort / AHD / DDI / ERD Ratio: 90.000 * / 4792.263 ft / 5.800 / 0.485
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 37.9622", W 103° 35' 54.9289"
Location Grid N/E Y/X: N 398665.300 ftUS, E 768869.100 ftUS
CRS Grid Convergence Angle: 0.3904°
Grid Scale Factor: 0.99996839

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.627 * (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: 7.424 *
Total Field Strength: 48304.528 nT
Magnetic Dip Angle: 59.994 *
Declination Date: January 03, 2014
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.3898 *
Total Corr Mag North->Grid North: 7.0338 *
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	179.63	0.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	N/A
	100.00	0.00	179.63	100.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	200.00	0.00	179.63	200.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	300.00	0.00	179.63	300.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	400.00	0.00	179.63	400.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	500.00	0.00	179.63	500.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	600.00	0.00	179.63	600.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	700.00	0.00	179.63	700.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	800.00	0.00	179.63	800.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	900.00	0.00	179.63	900.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1000.00	0.00	179.63	1000.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1100.00	0.00	179.63	1100.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1200.00	0.00	179.63	1200.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1300.00	0.00	179.63	1300.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1400.00	0.00	179.63	1400.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1500.00	0.00	179.63	1500.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1600.00	0.00	179.63	1600.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1700.00	0.00	179.63	1700.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1800.00	0.00	179.63	1800.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	1900.00	0.00	179.63	1900.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2000.00	0.00	179.63	2000.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2100.00	0.00	179.63	2100.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2200.00	0.00	179.63	2200.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2300.00	0.00	179.63	2300.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2400.00	0.00	179.63	2400.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2500.00	0.00	179.63	2500.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2600.00	0.00	179.63	2600.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2700.00	0.00	179.63	2700.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2800.00	0.00	179.63	2800.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	2900.00	0.00	179.63	2900.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	3000.00	0.00	179.63	3000.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	3100.00	0.00	179.63	3100.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00
	3200.00	0.00	179.63	3200.00	0.00	0.00	0.00	398665.30	768869.10	N 32° 5' 37.97"	W 103° 35' 54.93"	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Adm Grd (°)	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)
Aviation Shale	8700.00	0.00	179.63	8700.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	8800.00	0.00	179.63	8800.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	8900.00	0.00	179.63	8900.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	9000.00	0.00	179.63	9000.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	9100.00	0.00	179.63	9100.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
KCP- Build 12" DLS	9200.00	0.00	179.63	9200.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	9300.00	0.00	179.63	9300.00	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	9397.54	0.00	179.63	9397.54	0.00	0.00	0.00	398665.30	768869.10	N 32 5 37.97	W 103 35 54.93	0.00	0.00	0.00
	9400.00	0.30	179.63	9400.00	0.01	-0.01	0.00	398665.29	768869.10	N 32 5 37.97	W 103 35 54.93	0.01	179.63	12.00
	9500.00	12.30	179.63	9489.22	10.95	-10.95	0.07	398654.35	768869.17	N 32 5 37.95	W 103 35 54.93	10.95	179.63	12.00
Landing Point	9600.00	24.30	179.63	9593.99	42.29	-42.29	0.28	398623.01	768869.38	N 32 5 37.95	W 103 35 54.93	42.29	179.63	12.00
	9700.00	36.30	179.63	9680.17	92.64	-92.64	0.60	398572.66	768869.70	N 32 5 37.05	W 103 35 54.93	92.64	179.63	12.00
	9800.00	48.30	179.63	9754.01	159.81	-159.81	1.04	398505.49	768870.14	N 32 5 36.38	W 103 35 54.93	159.81	179.63	12.00
	9900.00	60.30	179.63	9812.26	240.87	-240.87	1.57	398424.44	768870.67	N 32 5 35.58	W 103 35 54.93	240.87	179.63	12.00
	10000.00	72.30	179.63	9862.39	332.27	-332.26	2.16	398333.05	768871.26	N 32 5 34.69	W 103 35 54.93	332.27	179.63	12.00
KCP- Build 12" DLS	10100.00	84.30	179.63	9972.64	430.01	-430.00	2.80	398235.32	768871.90	N 32 5 33.71	W 103 35 54.93	430.01	179.63	12.00
	10147.54	90.00	179.63	9975.00	477.46	-477.45	3.11	398187.86	768872.21	N 32 5 33.24	W 103 35 54.93	477.46	179.63	12.00
	10200.00	90.00	179.63	9975.00	529.93	-529.92	3.45	398135.40	768872.55	N 32 5 32.72	W 103 35 54.93	529.93	179.63	12.00
	10300.00	90.00	179.63	9975.00	629.93	-629.92	4.10	398095.41	768873.20	N 32 5 31.73	W 103 35 54.93	629.93	179.63	12.00
	10400.00	90.00	179.63	9975.00	729.93	-729.91	4.75	397935.41	768873.85	N 32 5 30.74	W 103 35 54.93	729.93	179.63	12.00
KCP- Build 12" DLS	10500.00	90.00	179.63	9975.00	829.93	-829.91	5.40	397835.42	768874.50	N 32 5 29.75	W 103 35 54.93	829.93	179.63	12.00
	10550.00	90.00	179.63	9975.00	929.93	-929.91	6.05	397735.42	768875.15	N 32 5 28.76	W 103 35 54.93	929.93	179.63	12.00
	10600.00	90.00	179.63	9975.00	1029.93	-1029.91	6.71	397635.43	768875.81	N 32 5 27.77	W 103 35 54.93	1029.93	179.63	12.00
	10700.00	90.00	179.63	9975.00	1129.93	-1129.91	7.36	397535.43	768876.46	N 32 5 26.79	W 103 35 54.93	1129.93	179.63	12.00
	10800.00	90.00	179.63	9975.00	1229.93	-1229.90	8.01	397435.44	768877.11	N 32 5 25.80	W 103 35 54.93	1229.93	179.63	12.00
KCP- Build 12" DLS	10900.00	90.00	179.63	9975.00	1329.93	-1329.90	8.66	397335.44	768877.76	N 32 5 24.81	W 103 35 54.93	1329.93	179.63	12.00
	11000.00	90.00	179.63	9975.00	1429.93	-1429.90	9.31	397235.45	768878.41	N 32 5 23.82	W 103 35 54.93	1429.93	179.63	12.00
	11100.00	90.00	179.63	9975.00	1529.93	-1529.90	9.96	397135.45	768879.06	N 32 5 22.83	W 103 35 54.93	1529.93	179.63	12.00
	11200.00	90.00	179.63	9975.00	1629.93	-1629.89	10.61	397035.46	768879.71	N 32 5 21.84	W 103 35 54.93	1629.93	179.63	12.00
	11300.00	90.00	179.63	9975.00	1729.93	-1729.89	11.26	396935.47	768880.36	N 32 5 20.85	W 103 35 54.94	1729.93	179.63	12.00
KCP- Build 12" DLS	11400.00	90.00	179.63	9975.00	1829.93	-1829.89	11.91	396835.47	768881.01	N 32 5 19.86	W 103 35 54.94	1829.93	179.63	12.00
	11500.00	90.00	179.63	9975.00	1929.93	-1929.89	12.57	396735.48	768881.66	N 32 5 18.87	W 103 35 54.94	1929.93	179.63	12.00
	11600.00	90.00	179.63	9975.00	2029.93	-2029.88	13.22	396635.48	768882.32	N 32 5 17.88	W 103 35 54.94	2029.93	179.63	12.00
	11700.00	90.00	179.63	9975.00	2129.93	-2129.88	13.87	396535.49	768882.97	N 32 5 16.89	W 103 35 54.94	2129.93	179.63	12.00
	11800.00	90.00	179.63	9975.00	2229.93	-2229.88	14.52	396435.49	768883.62	N 32 5 15.91	W 103 35 54.94	2229.93	179.63	12.00
KCP- Build 12" DLS	11900.00	90.00	179.63	9975.00	2329.93	-2329.88	15.17	396335.50	768884.27	N 32 5 14.91	W 103 35 54.94	2329.93	179.63	12.00
	12000.00	90.00	179.63	9975.00	2429.93	-2429.88	15.82	396235.50	768884.92	N 32 5 13.92	W 103 35 54.94	2429.93	179.63	12.00
	12100.00	90.00	179.63	9975.00	2529.93	-2529.88	16.47	396135.51	768885.57	N 32 5 12.93	W 103 35 54.94	2529.93	179.63	12.00
	12200.00	90.00	179.63	9975.00	2629.93	-2629.87	17.12	396035.51	768886.22	N 32 5 11.94	W 103 35 54.94	2629.93	179.63	12.00
	12300.00	90.00	179.63	9975.00	2729.93	-2729.87	17.77	395935.52	768886.87	N 32 5 10.95	W 103 35 54.94	2729.93	179.63	12.00
KCP- Build 12" DLS	12400.00	90.00	179.63	9975.00	2829.93	-2829.87	18.42	395835.53	768887.52	N 32 5 9.96	W 103 35 54.94	2829.93	179.63	12.00
	12500.00	90.00	179.63	9975.00	2929.93	-2929.87	19.08	395735.53	768888.18	N 32 5 8.97	W 103 35 54.94	2929.93	179.63	12.00
	12600.00	90.00	179.63	9975.00	3029.93	-3029.87	19.73	395635.54	768888.83	N 32 5 7.98	W 103 35 54.94	3029.93	179.63	12.00
	12700.00	90.00	179.63	9975.00	3129.93	-3129.86	20.38	395535.54	768889.48	N 32 5 6.99	W 103 35 54.94	3129.93	179.63	12.00
	12800.00	90.00	179.63	9975.00	3229.93	-3229.86	21.03	395435.55	768890.13	N 32 5 6.00	W 103 35 54.94	3229.93	179.63	12.00
KCP- Build 12" DLS	12900.00	90.00	179.63	9975.00	3329.93	-3329.86	21.68	395335.55	768890.78	N 32 5 5.02	W 103 35 54.94	3329.93	179.63	12.00
	13000.00	90.00	179.63	9975.00	3429.93	-3429.86	22.33	395235.56	768891.43	N 32 5 4.03	W 103 35 54.94	3429.93	179.63	12.00
	13100.00	90.00	179.63	9975.00	3529.93	-3529.85	22.98	395135.56	768892.08	N 32 5 3.04	W 103 35 54.94	3529.93	179.63	12.00
	13200.00	90.00	179.63	9975.00	3629.93	-3629.85	23.63	395035.57	768892.73	N 32 5 2.05	W 103 35 54.94	3629.93	179.63	12.00
	13300.00	90.00	179.63	9975.00	3729.93	-3729.85	24.28	394935.57	768893.38	N 32 5 1.06	W 103 35 54.94	3729.93	179.63	12.00
KCP- Build 12" DLS	13400.00	90.00	179.63	9975.00	3829.93	-3829.85	24.94	394835.58	768894.03	N 32 5 0.07	W 103 35 54.94	3829.93	179.63	12.00
	13500.00	90.00	179.63	9975.00	3929.93	-3929.85	25.59	394735.59	768894.68	N 32 4 59.08	W 103 35 54.94	3929.93	179.63	12.00
	13600.00	90.00	179.63	9975.00	4029.93	-4029.84	26.24	394635.59	768895.34	N 32 4 58.09	W 103 35 54.94	4029.93	179.63	12.00
	13700.00	90.00	179.63	9975.00										
	13800.00	90.00	179.63	9975.00										

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	179.63	9875.00	4129.93	-4129.84	26.89	394535.60	768895.99	N 32 4 57.10	W 103 35 54.94	4129.93	179.63	0.00
	13900.00	90.00	179.63	9875.00	4229.93	-4229.84	27.54	394435.60	768896.64	N 32 4 56.11	W 103 35 54.94	4229.93	179.63	0.00
	14000.00	90.00	179.63	9875.00	4329.93	-4329.84	28.19	394335.61	768897.29	N 32 4 55.12	W 103 35 54.94	4329.93	179.63	0.00
	14100.00	90.00	179.63	9875.00	4429.93	-4429.84	28.84	394235.61	768897.94	N 32 4 54.13	W 103 35 54.94	4429.93	179.63	0.00
	14200.00	90.00	179.63	9875.00	4529.93	-4529.83	29.49	394135.62	768898.59	N 32 4 53.14	W 103 35 54.94	4529.93	179.63	0.00
	14300.00	90.00	179.63	9875.00	4629.93	-4629.83	30.14	394035.62	768899.24	N 32 4 52.15	W 103 35 54.95	4629.93	179.63	0.00
	14400.00	90.00	179.63	9875.00	4729.93	-4729.83	30.80	393935.63	768899.89	N 32 4 51.16	W 103 35 54.95	4729.93	179.63	0.00
Cimarex Red Hills Unit #11H PBHL	14462.33	90.00	179.63	9875.00	4792.26	-4792.16	31.20	393873.30	768900.30	N 32 4 50.55	W 103 35 54.95	4792.26	179.63	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	14462.333	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Red Hills Unit #11H Rev1 TP 3-Jan-14