

Results of Directional Survey

API number:	30-025-40780		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	DIAMONDTAIL 23 FEDERAL # 1H

surface	ULSTR:	D	23	T	23S	R	32E
				330	FNL	600	FWL

BH Loc	ULSTR:	M	23	T	23S	R	32E
14024	MD	9684.7	TVD	354	FSL	676	FWL
				4926	FNL		

Top Perf/OH	ULSTR:	D	23	T	23S	R	32E
9450	MD	9433.6	TVD	445	FNL	604	FWL

Bot Perf/OH	ULSTR:	M	23	T	23S	R	32E
13995	MD	9684.7	TVD	383	FSL	674	FWL
				4897	FNL		

	MD	N/S	E/W	VD
	9429	-104.16	3.37	9415.64
TOP PERFS/OH	9450	-115.05	3.64	9433.59
	9460	-120.23	3.77	9442.14
	13982	-4553.95	73.91	9684.70
BOT PERFS/OH	13995	-4566.94	74.43	9684.70
	14024	-4595.91	75.60	9684.70

NEXT TO LAST	13982	-4553.95	73.91	9684.70
LAST READING	14024	-4595.91	75.60	9684.70
TD	14024	-4595.91	75.60	9684.70

Surface Location	330	FN	600	FW
Projected BHL	4926	FN	676	FW
Location of				
Top Perfs/OH	445	FN	604	FW
Bottom Perfs/OH	4897	FN	674	FW

SUMMARY of Subsurface Locations

Surface Location	D-23-23S-32E	330	FN	600	FW	Vert. Depth
Top Perfs/OH	D-23-23S-32E	445	FN	604	FW	9433.59
Bottom Perfs/OH	M-23-23S-32E	4897	FN	674	FW	9684.70
Projected TD	M-23-23S-32E	4926	FN	676	FW	9684.70

MAY 12 2014

Cimarex Diamondtail 23 Federal 1 ST01 MWD Tie-in to 14024ft Survey Report (Non-Def Survey)

Report Date: December 21, 2013 - 12:46 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Diamondtail 23 Federal 1 / Cimarex Diamondtail 23 Federal 1
Well: Cimarex Diamondtail 23 Federal 1
Borehole: ST01 Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Diamondtail 23 Federal 1 ST01 MWD Tie-in to 14024ft
Survey Date: November 20, 2013
Tort / AHD / DDI / ERD Ratio: 138.784 ° / 4699.941 ft / 5.975 / 0.485
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 17' 47.55722", W 103° 39' 7.19713"
Location Grid N/E Y/X: N 472284.000 ftUS, E 751862.500 ftUS
CRS Grid Convergence Angle: 0.3641 °
Grid Scale Factor: 0.99995985

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.738 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3730.000 ft above MSL
Seabed / Ground Elevation: 3705.000 ft above MSL
Magnetic Declination: 7.438 °
Total Field Strength: 48390.529 nT
Magnetic Dip Angle: 60.167 °
Declination Date: November 20, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.3641 °
Total Corr Mag North->Grid North: 7.0744 °
Local Coord Referenced To: Structure Reference Point

HOBBS OCD

MAY 02 2014

RECEIVED

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	-3730.00	0.00	0.00	0.00	N/A	472284.00	751862.50	N 32 17 47.56	W 103 39 7.20
	128.00	0.79	287.18	128.00	-3602.00	-0.26	0.26	-0.84	0.62	472284.26	751861.66	N 32 17 47.56	W 103 39 7.21
	160.00	0.79	352.69	159.99	-3570.01	-0.55	0.54	-1.08	2.67	472284.54	751861.42	N 32 17 47.56	W 103 39 7.21
	189.00	1.10	288.11	188.99	-3541.01	-0.84	0.83	-1.37	3.60	472284.83	751861.13	N 32 17 47.57	W 103 39 7.21
	217.00	1.01	264.68	216.99	-3513.01	-0.90	0.89	-1.87	1.56	472284.89	751860.63	N 32 17 47.57	W 103 39 7.22
	248.00	1.01	260.20	247.98	-3482.02	-0.83	0.82	-2.41	0.25	472284.82	751860.09	N 32 17 47.57	W 103 39 7.23
	280.00	1.19	268.81	279.97	-3450.03	-0.78	0.76	-3.02	0.76	472284.76	751859.48	N 32 17 47.56	W 103 39 7.23
	312.00	1.19	261.78	311.97	-3418.03	-0.73	0.71	-3.69	0.46	472284.71	751858.81	N 32 17 47.56	W 103 39 7.24
	324.00	1.01	260.29	323.97	-3406.03	-0.69	0.67	-3.91	1.52	472284.67	751858.59	N 32 17 47.56	W 103 39 7.24
	374.00	1.10	263.58	373.96	-3356.04	-0.57	0.55	-4.82	0.22	472284.55	751857.68	N 32 17 47.56	W 103 39 7.25
	464.00	1.32	263.72	463.94	-3266.06	-0.37	0.34	-6.71	0.24	472284.34	751855.79	N 32 17 47.56	W 103 39 7.28
	555.00	0.79	274.31	554.92	-3175.08	-0.31	0.27	-8.38	0.62	472284.27	751854.12	N 32 17 47.56	W 103 39 7.29
	616.00	0.70	262.71	615.92	-3114.08	-0.29	0.25	-9.17	0.29	472284.25	751853.33	N 32 17 47.56	W 103 39 7.30
	677.00	0.62	263.58	676.91	-3053.09	-0.21	0.17	-9.87	0.13	472284.17	751852.63	N 32 17 47.56	W 103 39 7.31
	740.00	0.48	262.62	739.91	-2990.09	-0.14	0.10	-10.47	0.22	472284.10	751852.03	N 32 17 47.56	W 103 39 7.32
	800.00	0.48	246.62	799.91	-2930.09	-0.01	-0.04	-10.95	0.22	472283.96	751851.55	N 32 17 47.56	W 103 39 7.32
	860.00	0.31	245.92	859.91	-2870.09	0.15	-0.20	-11.33	0.28	472283.80	751851.17	N 32 17 47.56	W 103 39 7.33
	891.00	0.40	233.92	890.91	-2839.09	0.25	-0.30	-11.49	0.38	472283.70	751851.01	N 32 17 47.55	W 103 39 7.33
	1034.00	0.09	216.59	1033.90	-2696.10	0.63	-0.68	-11.96	0.22	472283.32	751850.54	N 32 17 47.55	W 103 39 7.34
	1125.00	0.09	207.60	1124.90	-2605.10	0.75	-0.80	-12.04	0.02	472283.20	751850.46	N 32 17 47.55	W 103 39 7.34
	1252.00	0.09	198.50	1251.90	-2478.10	0.93	-0.99	-12.11	0.01	472283.01	751850.39	N 32 17 47.55	W 103 39 7.34
	1321.00	0.31	161.06	1320.90	-2409.10	1.16	-1.22	-12.07	0.35	472282.78	751850.43	N 32 17 47.55	W 103 39 7.34
	1417.00	0.40	288.19	1416.90	-2313.10	1.30	-1.36	-12.31	0.66	472282.64	751850.20	N 32 17 47.54	W 103 39 7.34
	1512.00	0.48	298.52	1511.90	-2218.10	1.00	-1.06	-12.97	0.12	472282.94	751849.53	N 32 17 47.55	W 103 39 7.35
	1608.00	0.44	296.90	1607.90	-2122.10	0.64	-0.70	-13.65	0.04	472283.30	751848.85	N 32 17 47.55	W 103 39 7.36
	1703.00	0.40	306.91	1702.89	-2027.11	0.28	-0.34	-14.24	0.09	472283.66	751848.26	N 32 17 47.55	W 103 39 7.36
	1799.00	0.40	305.68	1798.89	-1931.11	-0.12	0.06	-14.78	0.01	472284.06	751847.72	N 32 17 47.56	W 103 39 7.37
	1894.00	0.48	300.28	1893.89	-1836.11	-0.52	0.45	-15.40	0.09	472284.45	751847.11	N 32 17 47.56	W 103 39 7.38

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	1990.00	0.48	293.12	1989.89	-1740.11	-0.88	0.81	-16.11	0.06	472284.81	751846.39	N 32 17 47.57	W 103 39 7.38
	2086.00	0.48	308.80	2085.88	-1644.12	-1.30	1.22	-16.80	0.14	472285.22	751845.70	N 32 17 47.57	W 103 39 7.39
	2181.00	0.62	305.29	2180.88	-1549.12	-1.85	1.77	-17.53	0.15	472285.77	751844.98	N 32 17 47.58	W 103 39 7.40
	2277.00	0.62	305.29	2276.87	-1453.13	-2.45	2.37	-18.37	0.00	472286.37	751844.13	N 32 17 47.58	W 103 39 7.41
	2372.00	0.70	301.11	2371.87	-1358.13	-3.05	2.96	-19.29	0.10	472286.96	751843.21	N 32 17 47.59	W 103 39 7.42
	2468.00	0.79	300.98	2467.86	-1262.14	-3.70	3.61	-20.36	0.09	472287.61	751842.14	N 32 17 47.59	W 103 39 7.43
	2563.00	0.79	296.59	2562.85	-1167.15	-4.34	4.24	-21.51	0.06	472288.24	751840.99	N 32 17 47.60	W 103 39 7.45
	2659.00	0.79	293.60	2658.84	-1071.16	-4.90	4.80	-22.70	0.04	472288.80	751839.80	N 32 17 47.61	W 103 39 7.46
	2754.00	0.79	291.71	2753.83	-976.17	-5.41	5.30	-23.91	0.03	472289.30	751838.59	N 32 17 47.61	W 103 39 7.48
	2850.00	0.88	289.69	2849.82	-880.18	-5.91	5.80	-25.22	0.10	472289.80	751837.28	N 32 17 47.62	W 103 39 7.49
	2946.00	0.88	291.49	2945.81	-784.19	-6.44	6.32	-26.60	0.03	472290.32	751835.90	N 32 17 47.62	W 103 39 7.51
	3041.00	0.88	295.18	3040.80	-689.20	-7.02	6.89	-27.94	0.06	472290.89	751834.56	N 32 17 47.63	W 103 39 7.52
	3136.00	1.01	304.89	3135.78	-594.22	-7.82	7.68	-29.29	0.22	472291.68	751833.21	N 32 17 47.64	W 103 39 7.54
	3232.00	1.10	301.42	3231.77	-498.23	-8.79	8.65	-30.77	0.11	472292.65	751831.73	N 32 17 47.64	W 103 39 7.55
	3328.00	1.01	306.61	3327.75	-402.25	-9.78	9.63	-32.23	0.14	472293.63	751830.27	N 32 17 47.65	W 103 39 7.57
	3423.00	1.01	301.69	3422.74	-307.26	-10.72	10.57	-33.62	0.09	472294.57	751828.88	N 32 17 47.66	W 103 39 7.59
	3519.00	1.01	305.42	3518.72	-211.28	-11.67	11.51	-35.03	0.07	472295.51	751827.47	N 32 17 47.67	W 103 39 7.60
	3614.00	1.01	304.19	3613.71	-116.29	-12.63	12.46	-36.40	0.02	472296.46	751826.10	N 32 17 47.68	W 103 39 7.62
	3710.00	1.10	305.42	3709.69	-20.31	-13.64	13.47	-37.85	0.10	472297.47	751824.65	N 32 17 47.69	W 103 39 7.64
	3805.00	1.10	300.81	3804.67	74.67	-14.65	14.47	-39.38	0.09	472298.47	751823.12	N 32 17 47.70	W 103 39 7.65
	3901.00	1.10	301.51	3900.66	170.66	-15.61	15.42	-40.96	0.01	472299.42	751821.54	N 32 17 47.71	W 103 39 7.67
	3996.00	1.19	307.79	3995.64	265.64	-16.70	16.50	-42.51	0.16	472300.50	751819.99	N 32 17 47.72	W 103 39 7.69
	4092.00	1.01	305.29	4091.62	361.62	-17.80	17.60	-43.99	0.19	472301.60	751818.51	N 32 17 47.73	W 103 39 7.71
	4188.00	0.79	301.90	4187.61	457.61	-18.65	18.44	-45.24	0.24	472302.44	751817.26	N 32 17 47.74	W 103 39 7.72
	4283.00	0.40	300.98	4282.60	552.60	-19.17	18.96	-46.09	0.41	472302.96	751816.42	N 32 17 47.75	W 103 39 7.73
	4378.00	0.40	314.91	4377.60	647.60	-19.57	19.36	-46.60	0.10	472303.36	751815.90	N 32 17 47.75	W 103 39 7.74
	4473.00	0.40	314.91	4472.60	742.60	-20.04	19.83	-47.07	0.00	472303.83	751815.43	N 32 17 47.76	W 103 39 7.74
	4569.00	0.22	128.72	4568.60	838.60	-20.17	19.95	-47.17	0.64	472303.95	751815.33	N 32 17 47.76	W 103 39 7.75
	4664.00	0.40	130.39	4663.60	933.60	-19.84	19.62	-46.77	0.19	472303.62	751815.73	N 32 17 47.75	W 103 39 7.74
	4760.00	0.62	136.58	4759.59	1029.59	-19.24	19.03	-46.16	0.24	472303.03	751816.34	N 32 17 47.75	W 103 39 7.73
	4954.00	0.62	128.50	4953.58	1223.58	-17.82	17.61	-44.62	0.05	472301.61	751817.88	N 32 17 47.73	W 103 39 7.72
	5050.00	0.62	132.89	5049.58	1319.58	-17.13	16.93	-43.83	0.05	472300.93	751818.67	N 32 17 47.73	W 103 39 7.71
	5146.00	0.79	119.88	5145.57	1415.57	-16.45	16.25	-42.88	0.24	472300.25	751819.63	N 32 17 47.72	W 103 39 7.70
	5241.00	0.79	104.99	5240.56	1510.56	-15.95	15.76	-41.68	0.22	472299.75	751820.83	N 32 17 47.72	W 103 39 7.68
	5337.00	0.79	109.38	5336.55	1606.55	-15.55	15.36	-40.41	0.06	472299.36	751822.09	N 32 17 47.71	W 103 39 7.67
	5432.00	0.88	119.09	5431.54	1701.54	-14.97	14.79	-39.16	0.18	472298.79	751823.34	N 32 17 47.71	W 103 39 7.65
	5527.00	0.88	121.51	5526.53	1796.53	-14.23	14.06	-37.90	0.04	472298.06	751824.60	N 32 17 47.70	W 103 39 7.64
	5622.00	0.88	119.49	5621.52	1891.52	-13.48	13.32	-36.64	0.03	472297.32	751825.86	N 32 17 47.69	W 103 39 7.62
	5718.00	1.10	125.29	5717.50	1987.50	-12.58	12.42	-35.25	0.25	472296.42	751827.25	N 32 17 47.68	W 103 39 7.61
	5814.00	1.10	127.71	5813.49	2083.49	-11.48	11.33	-33.77	0.05	472295.32	751828.74	N 32 17 47.67	W 103 39 7.59
	5909.00	1.10	121.42	5908.47	2178.47	-10.44	10.29	-32.27	0.13	472294.29	751830.24	N 32 17 47.66	W 103 39 7.57
	6005.00	1.10	120.10	6004.45	2274.45	-9.49	9.35	-30.68	0.03	472293.35	751831.82	N 32 17 47.65	W 103 39 7.55
	6101.00	1.01	121.69	6100.43	2370.43	-8.58	8.44	-29.17	0.10	472292.44	751833.34	N 32 17 47.64	W 103 39 7.54
	6196.00	1.19	123.71	6195.42	2465.42	-7.58	7.46	-27.63	0.19	472291.46	751834.87	N 32 17 47.63	W 103 39 7.52
	6292.00	1.32	127.18	6291.39	2561.39	-6.35	6.23	-25.92	0.16	472290.23	751836.58	N 32 17 47.62	W 103 39 7.50
	6387.00	1.19	127.18	6386.37	2656.37	-5.09	4.98	-24.26	0.14	472288.98	751838.24	N 32 17 47.61	W 103 39 7.48
	6483.00	1.32	127.00	6482.35	2752.35	-3.81	3.71	-22.59	0.14	472287.71	751839.91	N 32 17 47.60	W 103 39 7.46
	6579.00	1.10	123.79	6578.33	2848.33	-2.63	2.53	-20.94	0.24	472286.53	751841.56	N 32 17 47.58	W 103 39 7.44
	6675.00	1.01	127.71	6674.31	2944.31	-1.59	1.50	-19.50	0.12	472285.50	751843.00	N 32 17 47.57	W 103 39 7.42
	6770.00	1.10	122.70	6769.29	3039.29	-0.58	0.50	-18.07	0.14	472284.50	751844.43	N 32 17 47.56	W 103 39 7.41
	6866.00	1.10	124.98	6865.28	3135.28	0.45	-0.53	-16.54	0.05	472283.47	751845.96	N 32 17 47.55	W 103 39 7.39
	6961.00	1.01	128.01	6960.26	3230.26	1.50	-1.57	-15.14	0.11	472282.43	751847.37	N 32 17 47.54	W 103 39 7.37

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7057.00	1.01	123.71	7056.24	3326.24	2.50	-2.56	-13.77	0.08	472281.44	751848.74	N 32 17 47.53	W 103 39 7.36
	7152.00	1.19	124.98	7151.23	3421.23	3.53	-3.59	-12.26	0.19	472280.41	751850.24	N 32 17 47.52	W 103 39 7.34
	7248.00	1.19	127.40	7247.21	3517.21	4.72	-4.77	-10.65	0.05	472279.23	751851.85	N 32 17 47.51	W 103 39 7.32
	7343.00	1.01	133.81	7342.19	3612.19	5.90	-5.94	-9.26	0.23	472278.06	751853.24	N 32 17 47.50	W 103 39 7.31
	7439.00	1.10	136.89	7438.17	3708.17	7.17	-7.20	-8.02	0.11	472276.80	751854.48	N 32 17 47.49	W 103 39 7.29
	7535.00	1.01	145.81	7534.16	3804.16	8.54	-8.58	-6.92	0.19	472275.42	751855.58	N 32 17 47.47	W 103 39 7.28
	7630.00	0.88	145.50	7629.14	3899.14	9.84	-9.87	-6.03	0.14	472274.13	751856.47	N 32 17 47.46	W 103 39 7.27
	7724.00	1.10	153.41	7723.13	3993.13	11.25	-11.27	-5.22	0.27	472272.73	751857.28	N 32 17 47.45	W 103 39 7.26
	7819.00	1.10	146.38	7818.11	4088.11	12.83	-12.85	-4.31	0.14	472271.15	751858.19	N 32 17 47.43	W 103 39 7.25
	7914.00	1.32	146.69	7913.09	4183.09	14.51	-14.52	-3.20	0.23	472269.48	751859.30	N 32 17 47.41	W 103 39 7.24
	8008.00	1.10	148.80	8007.07	4277.07	16.19	-16.20	-2.14	0.24	472267.80	751860.36	N 32 17 47.40	W 103 39 7.22
	8103.00	1.19	162.29	8102.05	4372.05	17.91	-17.92	-1.37	0.30	472266.08	751861.13	N 32 17 47.38	W 103 39 7.21
	8197.00	1.10	164.62	8196.03	4466.03	19.71	-19.72	-0.83	0.11	472264.28	751861.67	N 32 17 47.36	W 103 39 7.21
	8292.00	1.32	160.80	8291.01	4561.01	21.63	-21.63	-0.23	0.25	472262.37	751862.27	N 32 17 47.34	W 103 39 7.20
	8387.00	1.32	166.90	8385.99	4655.99	23.73	-23.73	0.38	0.15	472260.27	751862.88	N 32 17 47.32	W 103 39 7.19
	8481.00	1.41	165.89	8479.96	4749.96	25.91	-25.90	0.90	0.10	472258.10	751863.40	N 32 17 47.30	W 103 39 7.19
	8576.00	1.32	166.11	8574.93	4844.93	28.11	-28.10	1.45	0.09	472255.90	751863.95	N 32 17 47.28	W 103 39 7.18
	8671.00	1.19	173.89	8669.91	4939.91	30.15	-30.14	1.82	0.23	472253.86	751864.32	N 32 17 47.26	W 103 39 7.18
	8766.00	1.10	182.42	8764.89	5034.89	32.04	-32.03	1.89	0.20	472251.97	751864.39	N 32 17 47.24	W 103 39 7.18
	8860.00	0.79	194.68	8858.88	5128.88	33.57	-33.56	1.68	0.39	472250.44	751864.18	N 32 17 47.23	W 103 39 7.18
	8955.00	0.88	213.79	8953.87	5223.87	34.81	-34.80	1.11	0.31	472249.20	751863.61	N 32 17 47.21	W 103 39 7.19
	9050.00	0.79	220.61	9048.86	5318.86	35.91	-35.91	0.28	0.14	472248.09	751862.78	N 32 17 47.20	W 103 39 7.20
	9144.00	0.70	205.01	9142.85	5412.85	36.92	-36.92	-0.38	0.24	472247.08	751862.12	N 32 17 47.19	W 103 39 7.20
	9176.00	0.76	204.26	9174.85	5444.85	37.29	-37.29	-0.55	0.19	472246.71	751861.95	N 32 17 47.19	W 103 39 7.21
	9239.00	8.25	175.62	9237.61	5507.61	42.18	-42.18	-0.38	12.05	472241.82	751862.12	N 32 17 47.14	W 103 39 7.20
	9271.00	10.42	173.28	9269.18	5539.18	47.35	-47.35	0.13	6.88	472236.65	751862.63	N 32 17 47.09	W 103 39 7.20
	9302.00	14.70	170.81	9299.44	5569.44	54.02	-54.02	1.09	13.91	472229.98	751863.59	N 32 17 47.02	W 103 39 7.19
	9334.00	19.59	173.25	9330.01	5600.01	63.37	-63.36	2.37	15.44	472220.64	751864.87	N 32 17 46.93	W 103 39 7.17
	9366.00	24.25	178.02	9359.69	5629.69	75.28	-75.26	3.23	15.58	472208.74	751865.73	N 32 17 46.81	W 103 39 7.17
	9397.00	27.77	180.59	9387.54	5657.54	88.86	-88.85	3.37	11.92	472195.15	751865.87	N 32 17 46.68	W 103 39 7.16
	9429.00	29.42	179.50	9415.64	5685.64	104.18	-104.16	3.37	5.41	472179.84	751865.87	N 32 17 46.53	W 103 39 7.17
	9460.00	33.05	177.72	9442.14	5712.14	120.25	-120.23	3.77	12.08	472163.77	751866.27	N 32 17 46.37	W 103 39 7.16
	9492.00	37.47	176.22	9468.26	5738.26	138.69	-138.67	4.76	14.07	472145.33	751867.26	N 32 17 46.18	W 103 39 7.15
	9523.00	38.69	174.70	9492.67	5762.67	157.76	-157.73	6.27	4.96	472126.28	751868.77	N 32 17 46.00	W 103 39 7.14
	9555.00	41.79	173.30	9517.09	5787.09	178.32	-178.28	8.44	10.09	472105.72	751870.94	N 32 17 45.79	W 103 39 7.11
	9586.00	46.35	173.57	9539.36	5809.36	199.75	-199.70	10.91	14.72	472084.31	751873.41	N 32 17 45.58	W 103 39 7.08
	9618.00	51.27	175.11	9560.43	5830.43	223.71	-223.65	13.27	15.79	472060.36	751875.77	N 32 17 45.34	W 103 39 7.06
	9649.00	55.08	176.71	9579.00	5849.00	248.47	-248.40	15.03	12.97	472035.61	751877.53	N 32 17 45.10	W 103 39 7.04
	9681.00	56.01	177.62	9597.11	5867.11	274.83	-274.75	16.33	3.73	472009.26	751878.83	N 32 17 44.84	W 103 39 7.03
	9713.00	58.24	178.83	9614.48	5884.48	301.69	-301.61	17.16	7.66	471982.40	751879.66	N 32 17 44.57	W 103 39 7.02
	9744.00	61.95	179.55	9629.93	5899.93	328.56	-328.48	17.54	12.14	471955.54	751880.04	N 32 17 44.31	W 103 39 7.02
	9776.00	66.94	179.99	9643.73	5913.73	357.42	-357.34	17.65	15.64	471926.68	751880.15	N 32 17 44.02	W 103 39 7.02
	9807.00	72.50	178.91	9654.47	5924.47	386.48	-386.40	17.94	18.23	471897.61	751880.43	N 32 17 43.73	W 103 39 7.02
	9839.00	75.92	178.85	9663.18	5933.18	417.27	-417.19	18.54	10.69	471866.83	751881.04	N 32 17 43.43	W 103 39 7.01
	9871.00	77.90	179.87	9670.43	5940.43	448.43	-448.35	18.88	6.92	471835.67	751881.38	N 32 17 43.12	W 103 39 7.01
	9902.00	82.44	181.64	9675.72	5945.72	478.96	-478.88	18.48	15.69	471805.14	751880.98	N 32 17 42.82	W 103 39 7.02
	9934.00	87.73	182.76	9678.46	5948.46	510.80	-510.73	17.25	16.89	471773.29	751879.75	N 32 17 42.50	W 103 39 7.03
	9965.00	89.79	183.26	9679.13	5949.13	541.74	-541.68	15.63	6.84	471742.34	751878.13	N 32 17 42.20	W 103 39 7.06
	9997.00	89.97	183.10	9679.20	5949.20	573.69	-573.63	13.85	0.75	471710.40	751876.35	N 32 17 41.88	W 103 39 7.08
	10056.00	90.65	182.35	9678.88	5948.88	632.60	-632.56	11.05	1.72	471651.47	751873.55	N 32 17 41.30	W 103 39 7.12
	10151.00	89.90	182.05	9678.42	5948.42	727.51	-727.49	7.40	0.85	471556.54	751869.90	N 32 17 40.36	W 103 39 7.16
	10246.00	90.24	182.51	9678.30	5948.30	822.42	-822.41	3.62	0.60	471461.62	751866.12	N 32 17 39.42	W 103 39 7.22
	10341.00	90.00	182.55	9678.11	5948.11	917.31	-917.32	-0.57	0.26	471366.72	751861.93	N 32 17 38.48	W 103 39 7.27

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	10436.00	90.24	184.03	9677.91	5947.91	1012.12	-1012.16	-6.03	1.58	471271.88	751856.48	N 32 17 37.54	W 103 39 7.34
	10530.00	90.28	183.76	9677.48	5947.48	1105.87	-1105.94	-12.41	0.29	471178.10	751850.09	N 32 17 36.61	W 103 39 7.42
	10625.00	90.28	184.42	9677.02	5947.02	1200.60	-1200.70	-19.19	0.69	471083.35	751843.31	N 32 17 35.68	W 103 39 7.51
	10720.00	90.10	184.29	9676.70	5946.70	1295.29	-1295.42	-26.40	0.23	470988.63	751836.10	N 32 17 34.74	W 103 39 7.60
	10814.00	89.90	183.06	9676.70	5946.70	1389.07	-1389.23	-32.42	1.33	470894.83	751830.08	N 32 17 33.81	W 103 39 7.68
	10909.00	90.03	182.64	9676.76	5946.76	1483.93	-1484.11	-37.15	0.46	470799.95	751825.35	N 32 17 32.87	W 103 39 7.74
	11004.00	90.10	181.40	9676.65	5946.65	1578.85	-1579.05	-40.50	1.31	470705.02	751822.00	N 32 17 31.94	W 103 39 7.79
	11098.00	89.38	179.58	9677.08	5947.08	1672.83	-1673.04	-41.30	2.08	470611.03	751821.20	N 32 17 31.01	W 103 39 7.80
	11193.00	89.97	178.39	9677.62	5947.62	1767.82	-1768.02	-39.62	1.40	470516.05	751822.88	N 32 17 30.07	W 103 39 7.79
	11288.00	90.45	179.13	9677.27	5947.27	1862.81	-1863.00	-37.56	0.93	470421.08	751824.94	N 32 17 29.13	W 103 39 7.77
	11382.00	90.07	179.15	9676.84	5946.84	1956.80	-1956.99	-36.15	0.40	470327.10	751826.35	N 32 17 28.20	W 103 39 7.76
	11477.00	90.07	178.98	9676.73	5946.73	2051.79	-2051.97	-34.60	0.18	470232.11	751827.90	N 32 17 27.26	W 103 39 7.75
	11571.00	90.41	180.45	9676.33	5946.33	2145.79	-2145.97	-34.13	1.61	470138.12	751828.37	N 32 17 26.33	W 103 39 7.75
	11666.00	90.17	180.56	9675.85	5945.85	2240.78	-2240.96	-34.97	0.28	470043.13	751827.53	N 32 17 25.39	W 103 39 7.77
	11761.00	90.34	180.22	9675.43	5945.43	2335.77	-2335.96	-35.62	0.40	469948.14	751826.88	N 32 17 24.45	W 103 39 7.78
	11856.00	89.76	179.49	9675.34	5945.34	2430.77	-2430.96	-35.38	0.98	469853.14	751827.12	N 32 17 23.51	W 103 39 7.79
	11951.00	89.72	178.14	9675.78	5945.78	2525.76	-2525.94	-33.41	1.42	469758.17	751829.09	N 32 17 22.57	W 103 39 7.77
	12046.00	89.93	177.88	9676.07	5946.07	2620.71	-2620.88	-30.11	0.35	469663.23	751832.39	N 32 17 21.63	W 103 39 7.74
	12140.00	89.76	177.27	9676.32	5946.32	2714.65	-2714.79	-26.14	0.67	469569.32	751836.36	N 32 17 20.70	W 103 39 7.70
	12235.00	89.28	177.15	9677.12	5947.12	2809.55	-2809.68	-21.51	0.52	469474.44	751840.99	N 32 17 19.76	W 103 39 7.66
	12330.00	89.59	176.73	9678.05	5948.05	2904.43	-2904.54	-16.44	0.55	469379.59	751846.06	N 32 17 18.82	W 103 39 7.60
	12424.00	89.69	176.54	9678.64	5948.64	2998.29	-2998.37	-10.92	0.23	469285.75	751851.58	N 32 17 17.89	W 103 39 7.55
	12519.00	89.97	176.96	9678.93	5948.93	3093.16	-3093.22	-5.54	0.53	469190.91	751856.96	N 32 17 16.95	W 103 39 7.49
	12614.00	89.59	177.60	9679.29	5949.29	3188.07	-3188.11	-1.03	0.78	469096.02	751861.47	N 32 17 16.01	W 103 39 7.45
	12708.00	89.97	177.98	9679.65	5949.65	3282.02	-3282.04	2.59	0.57	469002.10	751865.09	N 32 17 15.08	W 103 39 7.41
	12803.00	90.03	177.78	9679.65	5949.65	3376.97	-3376.97	6.11	0.22	468907.17	751868.61	N 32 17 14.14	W 103 39 7.38
	12898.00	89.90	177.71	9679.71	5949.71	3471.91	-3471.90	9.85	0.16	468812.25	751872.35	N 32 17 13.20	W 103 39 7.34
	12992.00	89.59	176.82	9680.13	5950.13	3565.82	-3565.79	14.33	1.00	468718.36	751876.83	N 32 17 12.27	W 103 39 7.29
	13087.00	90.10	176.02	9680.38	5950.38	3660.66	-3660.61	20.26	1.00	468623.55	751882.76	N 32 17 11.33	W 103 39 7.23
	13182.00	89.83	176.25	9680.44	5950.44	3755.47	-3755.39	26.67	0.37	468528.77	751889.17	N 32 17 10.40	W 103 39 7.16
	13276.00	89.66	175.75	9680.86	5950.86	3849.27	-3849.16	33.22	0.56	468435.00	751895.72	N 32 17 9.47	W 103 39 7.09
	13371.00	89.90	175.92	9681.23	5951.23	3944.05	-3943.91	40.12	0.31	468340.26	751902.62	N 32 17 8.53	W 103 39 7.02
	13466.00	89.76	176.39	9681.51	5951.51	4038.86	-4038.69	46.50	0.52	468245.48	751908.99	N 32 17 7.59	W 103 39 6.95
	13560.00	89.83	176.85	9681.84	5951.84	4132.72	-4132.53	52.04	0.49	468151.65	751914.53	N 32 17 6.66	W 103 39 6.90
	13654.00	89.35	176.74	9682.52	5952.52	4226.60	-4226.38	57.29	0.52	468057.80	751919.79	N 32 17 5.73	W 103 39 6.84
	13749.00	89.97	177.04	9683.08	5953.08	4321.48	-4321.24	62.45	0.73	467962.95	751924.94	N 32 17 4.80	W 103 39 6.79
	13844.00	89.21	177.07	9683.76	5953.76	4416.37	-4416.11	67.33	0.80	467868.08	751929.82	N 32 17 3.86	W 103 39 6.74
	13939.00	89.76	177.27	9684.61	5954.61	4511.27	-4510.99	72.02	0.62	467773.20	751934.51	N 32 17 2.92	W 103 39 6.69
Final Survey	13982.00	90.00	177.69	9684.70	5954.70	4554.24	-4553.95	73.91	1.12	467730.25	751936.40	N 32 17 2.49	W 103 39 6.67
Proj to Bit	14024.00	90.00	177.69	9684.70	5954.70	4596.21	-4595.91	75.60	0.00	467688.28	751938.10	N 32 17 2.08	W 103 39 6.66

Survey Type: Non-Def Survey

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	25.000		30.000	30.000	SLB_MWD-POOR-Depth Only	Pilot Borehole / Cimarex Diamondtail 23 Federal 1 Pilot

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
		25.000	9144.000		Act Stns	30.000	30.000	SLB_MWD-POOR		Pilot Borehole / Cimarex Diamondtail 23 Federal 1 Pilot			
		9144.000	13982.000		Act Stns	30.000	30.000	SLB_MWD-STD		ST01 Borehole / Cimarex Diamondtail 23 Federal 1 ST01			
		13982.000	14024.000		Act Stns	30.000	30.000	SLB_BLIND+TREND		ST01 Borehole / Cimarex Diamondtail 23 Federal 1 ST01			

WELL				FIELD				STRUCTURE			
Cimarex Diamondtail 23 Federal 1				NM Lea County (NAD 83)				Cimarex Diamondtail 23 Federal 1			

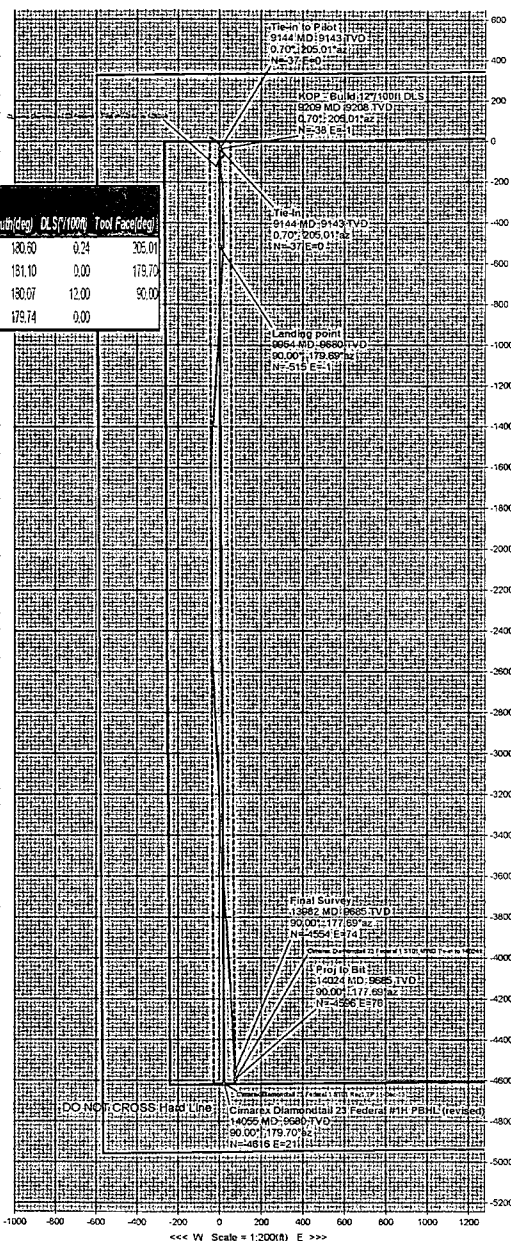
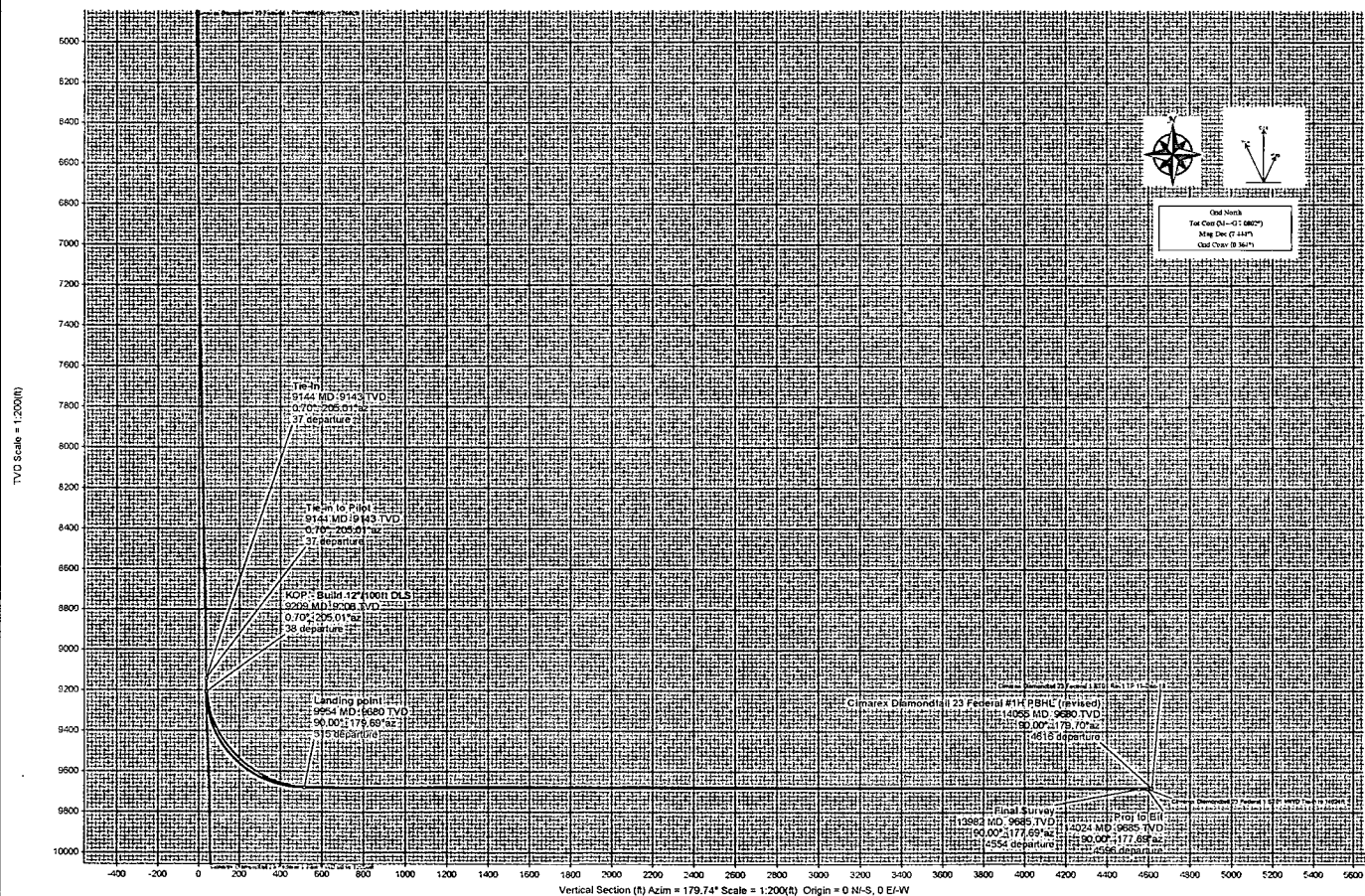
Magnetometer Parameters				Surface Location				Miscellaneous			
SModel	BGG01.2013	Dip	68.18°	Date	December 11, 2013	Lat	N 32 17 47.55"	Northing	47254.00 MSL	Offset East	0.364'
		Mag Dec	-2.244°	FS	48366.6m	Lon	W 103 39 7.197"	Easting	751862.50 MSL	Scale Fact.	0.99995985
										Sheet	Cimarex Diamondtail 23 Federal FVD Ref. KKKR-5760 above NMSL
										Plan	Cimarex Diamondtail 23 Federal SWS/D&P 1 T8B14-06-01, 2013

Legend

Citizen Diamond 25 Federal 2TH 230 HI
Citizen Diamond 25 Federal 1 PSH
Citizen Diamond 25 Federal 2TH 1st Floor Box
Citizen Diamond 25 Federal 2TH 1st Floor
Citizen Diamond 25 Federal 2TH PSH (Forward)
Citizen Diamond 25 Federal 1 2nd Flr 1F 1-100-13
Citizen Diamond 25 Federal 1 PSH 1ST FLOOR 12800
Citizen Diamond 25 Federal 1 PSH 2ND FLOOR 01-100-15
Citizen Diamond 25 Federal 1 PSH 2ND FLOOR 01-100-15

Critical Points

Comments	Control Points																
	Survey M/D/R	Inclination(deg)	Azimuth(deg)	TVD(ft)	Sub-Sea TVD	YS(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Easting(US)	Northing(US)	Closure(ft)	Closure Azimuth(deg)	DLSP/1000	Tool Face(deg)	
Tie-in to Pilot	9144.00	0.70	205.01 9142.85	5412.85	36.92	-36.92	-0.38	32 17 47.192	W 103 39	7.204	751862.12	472427.08	36.92	180.60	0.24	205.01	
KOP - Build 12012004 DLS	9209.15	0.70	205.01 9206.00	5478.00	-31.84	-31.84	-0.72	32 17 47.185	W 103 39	7.208	751861.78	472426.36	37.65	181.10	0.00	179.99	
Landing point	9553.59	90.00	179.70 9580.00	5850.00	514.04	-514.08	-0.65	32 17 42.452	W 103 39	7.243	751661.85	471769.13	514.00	180.07	12.00	90.00	
Comarex Diamondback 23 Federal FH F&H (revised)	14554.74	90.00	179.70 9680.00	5850.00	516.04	-515.99	-21.10	32 17 1.881	W 103 39	7.293	751663.90	457668.20	516.04	175.74	0.00		



Drawn By: Current User
Date Created: December 11, 2013 05:38:20 PM
Checked By:
Checked Date:
Approved By:
Approved Date: