



Cimarex Diamondtail 23 Federal 7H XEM + MWD 0ft to 13983ft MD Survey
Geodetic Report
(Def Survey)



Report Date: December 01, 2014 - 12:11 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Diamondtail 23 Federal #7H / Cimarex Diamondtail 23 Federal #7H
Well: Cimarex Diamondtail 23 Federal #7H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Diamondtail 23 Federal 7H XEM + MWD 0ft to 13983ft MD
Survey Date: November 03, 2014
Tort / AHD / DDI / ERD Ratio: 215.899 ° / 4852.313 ft / 6.178 / 0.499
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 17' 47.73770", W 103° 38' 21.48562"
Location Grid N/E Y/X: N 472327.400 ftUS, E 755785.900 ftUS
CRS Grid Convergence Angle: 0.3708 °
Grid Scale Factor: 0.99996176
Version / Patch: 2.7.1043.0
Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 182.561 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3745.000 ft above MSL
Seabed / Ground Elevation: 3720.000 ft above MSL
Magnetic Declination: 7.162 °
Total Gravity Field Strength: 998.4370mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48439.132 nT
Magnetic Dip Angle: 60.148 °
Declination Date: November 12, 2014
Magnetic Declination Model: HDGM 2014
North Reference: Grid North
Grid Convergence Used: 0.3708 °
Total Corr Mag North->Grid North: 6.7913 °
Local Coord Referenced To: Structure Reference Point

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	TF (°)
SHL - 330°FNL & 750°FEL	0.00	0.00	224.65	0.00	-3745.00	0.00	0.00	0.00	N/A	0.00	0.00	472327.40	755785.90	N 32 17 47.74	W 103 38 21.49	80.79M
	150.00	0.48	80.79	150.00	-3595.00	-0.13	0.10	0.62	0.32	80.79	0.63	472327.50	755786.52	N 32 17 47.74	W 103 38 21.48	81.1M
	170.00	0.40	81.10	170.00	-3575.00	-0.16	0.12	0.77	0.40	80.82	0.78	472327.52	755786.67	N 32 17 47.74	W 103 38 21.48	83.39M
	444.00	0.40	83.39	443.99	-3301.01	-0.50	0.38	2.67	0.01	81.83	2.69	472327.78	755788.57	N 32 17 47.74	W 103 38 21.45	94.9M
	534.00	0.22	94.90	533.99	-3211.01	-0.54	0.40	3.15	0.21	82.69	3.18	472327.80	755789.05	N 32 17 47.74	W 103 38 21.45	5.79M
	624.00	0.22	5.79	623.99	-3121.01	-0.71	0.56	3.34	0.34	80.46	3.39	472327.96	755789.24	N 32 17 47.74	W 103 38 21.45	84.31M
	717.00	0.22	84.31	716.99	-3028.01	-0.91	0.76	3.54	0.30	77.92	3.62	472328.16	755789.44	N 32 17 47.74	W 103 38 21.44	88.88M
	809.00	0.22	88.88	808.99	-2936.01	-0.95	0.78	3.89	0.02	78.69	3.97	472328.18	755789.79	N 32 17 47.75	W 103 38 21.44	63.08M
	899.00	0.22	63.08	898.99	-2846.01	-1.05	0.86	4.22	0.11	78.48	4.30	472328.26	755790.12	N 32 17 47.75	W 103 38 21.44	62.07M
	994.00	0.09	62.07	993.99	-2751.01	-1.17	0.98	4.44	0.14	77.60	4.55	472328.38	755790.34	N 32 17 47.75	W 103 38 21.43	86.11M
	1089.00	0.31	86.11	1088.99	-2656.01	-1.24	1.03	4.77	0.24	77.82	4.88	472328.43	755790.67	N 32 17 47.75	W 103 38 21.43	87.69M
	1184.00	0.31	87.69	1183.98	-2561.02	-1.29	1.06	5.28	0.01	78.68	5.38	472328.46	755791.18	N 32 17 47.75	W 103 38 21.42	100.48M
	1262.00	0.31	100.48	1261.98	-2483.02	-1.28	1.03	5.70	0.09	79.78	5.79	472328.43	755791.60	N 32 17 47.75	W 103 38 21.42	77.1M
	1375.00	0.40	77.10	1374.98	-2370.02	-1.34	1.06	6.38	0.15	80.57	6.47	472328.46	755792.28	N 32 17 47.75	W 103 38 21.41	68.27M
	1469.00	0.31	68.27	1468.98	-2276.02	-1.54	1.23	6.94	0.11	79.97	7.05	472328.63	755792.84	N 32 17 47.75	W 103 38 21.40	71.08M
	1563.00	0.22	71.08	1562.98	-2182.02	-1.71	1.38	7.35	0.10	79.36	7.47	472328.78	755793.25	N 32 17 47.75	W 103 38 21.40	60.27M
	1658.00	0.22	60.27	1657.98	-2087.02	-1.87	1.53	7.68	0.04	78.73	7.83	472328.93	755793.58	N 32 17 47.75	W 103 38 21.40	49.68M
	1754.00	0.22	49.68	1753.98	-1991.02	-2.09	1.74	7.98	0.04	77.70	8.17	472329.14	755793.88	N 32 17 47.75	W 103 38 21.39	54.08M
	1848.00	0.09	54.08	1847.98	-1897.02	-2.26	1.90	8.17	0.14	76.92	8.39	472329.30	755794.07	N 32 17 47.76	W 103 38 21.39	44.28M
	1942.00	0.22	44.28	1941.98	-1803.02	-2.44	2.07	8.36	0.14	76.08	8.61	472329.47	755794.26	N 32 17 47.76	W 103 38 21.39	43.7M
	2037.00	0.22	43.70	2036.98	-1708.02	-2.72	2.33	8.61	0.00	74.83	8.92	472329.73	755794.51	N 32 17 47.76	W 103 38 21.39	32.5M
	2131.00	0.31	32.50	2130.98	-1614.02	-3.07	2.68	8.88	0.11	73.20	9.27	472330.08	755794.77	N 32 17 47.76	W 103 38 21.38	341.17M
	2227.00	0.22	341.17	2226.97	-1518.03	-3.47	3.07	8.96	0.25	71.06	9.47	472330.47	755794.86	N 32 17 47.77	W 103 38 21.38	27.88M
	2321.00	0.22	27.88	2320.97	-1424.03	-3.80	3.40	8.98	0.19	69.25	9.60	472330.80	755794.88	N 32 17 47.77	W 103 38 21.38	36.19M
	2415.00	0.22	36.19	2414.97	-1330.03	-4.11	3.71	9.17	0.03	67.98	9.89	472331.11	755795.07	N 32 17 47.77	W 103 38 21.38	23.88M
	2509.00	0.22	23.88	2508.97	-1236.03	-4.43	4.02	9.35	0.05	66.74	10.18	472331.42	755795.25	N 32 17 47.78	W 103 38 21.38	27.21M
	2603.00	0.31	27.21	2602.97	-1142.03	-4.83	4.41	9.54	0.10	65.19	10.51	472331.81	755795.44	N 32 17 47.78	W 103 38 21.37	36.8M
	2698.00	0.31	36.80	2697.97	-1047.03	-5.28	4.85	9.81	0.05	63.72	10.94	472332.24	755795.71	N 32 17 47.79	W 103 38 21.37	34.39M
	2791.00	0.40	34.39	2790.97	-954.03	-5.76	5.31	10.15	0.10	62.36	11.45	472332.71	755796.05	N 32 17 47.79	W 103 38 21.37	39.71M
	2886.00	0.40	39.71	2885.97	-859.03	-6.31	5.84	10.55	0.04	61.01	12.06	472333.24	755796.45	N 32 17 47.79	W 103 38 21.36	33.9M
	2981.00	0.40	33.90	2980.96	-764.04	-6.86	6.37	10.94	0.04	59.78	12.66	472333.77	755796.84	N 32 17 47.80	W 103 38 21.36	36.98M
	3076.00	0.48	36.98	3075.96	-669.04	-7.47	6.97	11.37	0.09	58.50	13.33	472334.37	755797.27	N 32 17 47.81	W 103 38 21.35	36.58M
	3169.00	0.48	36.58	3168.96	-576.04	-8.11	7.59	11.83	0.00	57.32	14.06	472334.99	755797.73	N 32 17 47.81	W 103 38 21.35	40.89M
	3264.00	0.48	40.89	3263.95	-481.05	-8.75	8.21	12.33	0.04	56.34	14.81	472335.61	755798.23	N 32 17 47.82	W 103 38 21.34	41.29M
	3362.00	0.62	41.29	3361.95	-383.05	-9.49	8.92	12.95	0.14	55.44	15.72	472336.32	755798.85	N 32 17 47.83	W 103 38 21.33	42.39M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (*100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	TF (°)
	3457.00	0.62	42.39	3456.94	-288.06	-10.28	9.69	13.64	0.01	54.61	16.73	472337.09	755799.54	N 32 17 47.83	W 103 38 21.33	39.71M
	3551.00	0.62	39.71	3550.94	-194.06	-11.08	10.45	14.30	0.03	53.84	17.72	472337.85	755800.20	N 32 17 47.84	W 103 38 21.32	34.08M
	3644.00	0.62	34.08	3643.93	-101.07	-11.91	11.26	14.91	0.07	52.94	18.68	472338.66	755800.81	N 32 17 47.85	W 103 38 21.31	36.19M
	3738.00	0.62	36.19	3737.93	-7.07	-12.77	12.09	15.49	0.02	52.04	19.65	472339.49	755801.39	N 32 17 47.86	W 103 38 21.30	41.9M
	3832.00	0.62	41.90	3831.92	86.92	-13.58	12.88	16.13	0.07	51.40	20.64	472340.28	755802.03	N 32 17 47.86	W 103 38 21.30	39M
	3927.00	0.70	39.00	3926.92	181.92	-14.45	13.71	16.84	0.09	50.85	21.72	472341.11	755802.74	N 32 17 47.87	W 103 38 21.29	39.88M
	4021.00	0.70	39.88	4020.91	275.91	-15.37	14.60	17.57	0.01	50.28	22.84	472342.00	755803.47	N 32 17 47.88	W 103 38 21.28	51.79M
	4115.00	0.88	51.79	4114.90	369.90	-16.30	15.48	18.51	0.26	50.08	24.13	472342.88	755804.40	N 32 17 47.89	W 103 38 21.27	73.1M
	4210.00	1.10	73.10	4209.89	464.89	-17.08	16.20	19.95	0.45	50.92	25.70	472343.60	755805.85	N 32 17 47.90	W 103 38 21.25	84.71M
	4303.00	1.58	84.71	4302.86	557.86	-17.55	16.58	22.08	0.59	53.10	27.61	472343.98	755807.98	N 32 17 47.90	W 103 38 21.23	86.51M
	4399.00	1.58	86.51	4398.82	653.82	-17.87	16.78	24.72	0.05	55.83	29.88	472344.18	755810.62	N 32 17 47.90	W 103 38 21.20	92.09M
	4492.00	1.89	92.09	4491.78	746.78	-18.02	16.80	27.53	0.38	58.80	32.26	472344.20	755813.43	N 32 17 47.90	W 103 38 21.16	96.39M
	4586.00	2.20	96.39	4585.72	840.72	-17.91	16.55	30.88	0.37	61.81	35.03	472343.95	755816.77	N 32 17 47.90	W 103 38 21.12	100.17M
	4680.00	2.50	100.17	4679.64	934.64	-17.52	15.98	34.69	0.36	65.26	38.19	472343.38	755820.58	N 32 17 47.89	W 103 38 21.08	100.79M
	4773.00	2.50	100.79	4772.55	1027.55	-16.96	15.25	38.68	0.03	68.49	41.57	472342.64	755824.57	N 32 17 47.89	W 103 38 21.03	342.97M
	4823.00	2.68	342.97	4822.53	1077.53	-17.90	16.16	39.40	8.87	67.70	42.59	472343.56	755825.30	N 32 17 47.90	W 103 38 21.03	97.98M
	4980.00	2.42	97.98	4979.45	1234.45	-21.05	19.21	41.61	2.74	65.22	45.83	472346.61	755827.51	N 32 17 47.93	W 103 38 21.00	101.58M
	5074.00	2.20	101.58	5073.37	1328.37	-20.58	18.57	45.35	67.73	49.00	472345.97	755831.24	N 32 17 47.92	W 103 38 20.96	100.7M	
	5167.00	2.59	100.70	5166.29	1421.29	-20.00	17.82	49.16	0.42	70.07	52.29	472345.22	755835.06	N 32 17 47.91	W 103 38 20.91	101.71M
	5261.00	2.59	101.71	5260.19	1515.19	-19.36	17.00	53.33	0.05	72.32	55.97	472344.40	755839.22	N 32 17 47.90	W 103 38 20.86	122.98M
	5355.00	2.50	122.98	5354.10	1609.10	-17.99	15.45	57.13	1.00	74.86	59.18	472342.85	755843.02	N 32 17 47.89	W 103 38 20.82	128.87M
	5449.00	2.20	128.87	5448.02	1703.02	-15.88	13.20	60.25	0.41	77.64	61.68	472340.60	755846.15	N 32 17 47.86	W 103 38 20.78	124.78M
	5544.00	2.59	124.78	5542.94	1797.94	-13.66	10.83	63.43	0.45	80.31	64.35	472338.23	755849.33	N 32 17 47.84	W 103 38 20.75	127.77M
	5637.00	2.59	127.77	5635.84	1890.84	-11.33	8.35	66.82	0.15	82.88	67.34	472335.75	755852.72	N 32 17 47.82	W 103 38 20.71	143.59M
	5733.00	2.29	143.59	5731.76	1986.76	-8.58	5.48	69.67	0.76	85.51	69.89	472332.88	755855.57	N 32 17 47.79	W 103 38 20.67	167.5M
	5827.00	1.80	167.50	5825.70	2080.70	-5.70	2.52	71.11	1.04	87.97	71.15	472329.92	755857.00	N 32 17 47.76	W 103 38 20.66	199.97M
	5920.00	1.89	199.97	5918.65	2173.65	-2.82	-0.34	70.90	1.11	90.28	70.90	472327.06	755856.80	N 32 17 47.73	W 103 38 20.66	195.01M
	6016.00	1.80	195.01	6014.60	2269.60	0.16	-3.29	69.97	0.19	92.69	70.05	472324.11	755855.87	N 32 17 47.70	W 103 38 20.67	196.19M
	6110.00	1.89	196.19	6108.56	2363.56	3.11	-6.20	69.15	0.10	95.13	69.43	472321.20	755855.05	N 32 17 47.67	W 103 38 20.68	200.11M
	6203.00	1.71	200.11	6201.51	2456.51	5.92	-8.98	68.25	0.23	97.49	68.84	472318.42	755854.15	N 32 17 47.64	W 103 38 20.69	204.68M
	6297.00	1.80	204.68	6295.47	2550.47	8.62	-11.64	67.15	0.18	99.83	68.15	472315.76	755853.05	N 32 17 47.62	W 103 38 20.70	201.2M
	6395.00	2.02	201.20	6393.41	2648.41	11.69	-14.65	65.88	0.25	102.53	67.49	472312.76	755851.78	N 32 17 47.59	W 103 38 20.72	200.28M
	6490.00	1.89	200.28	6488.36	2743.36	14.77	-17.68	64.73	0.14	105.27	67.10	472309.72	755850.63	N 32 17 47.56	W 103 38 20.73	196.9M
	6585.00	2.11	196.90	6583.30	2838.30	17.95	-20.82	63.68	0.26	108.10	67.00	472306.58	755849.58	N 32 17 47.53	W 103 38 20.75	199.49M
	6677.00	2.11	199.49	6675.24	2930.24	21.21	-24.04	62.63	0.10	111.00	67.08	472303.37	755848.52	N 32 17 47.50	W 103 38 20.76	198.7M
	6770.00	2.42	198.70	6768.16	3023.16	24.74	-27.51	61.42	0.34	114.13	67.30	472299.89	755847.32	N 32 17 47.46	W 103 38 20.77	209.38M
	6865.00	2.11	209.38	6863.09	3118.09	28.23	-30.93	59.92	0.55	117.30	67.44	472296.47	755845.82	N 32 17 47.43	W 103 38 20.79	210.48M
	6955.00	2.29	210.48	6953.02	3208.02	31.29	-33.93	58.20	0.21	120.24	67.37	472293.47	755844.10	N 32 17 47.40	W 103 38 20.81	208.19M
	7049.00	2.42	208.19	7046.94	3301.94	34.74	-37.29	56.31	0.17	123.52	67.54	472290.11	755842.21	N 32 17 47.37	W 103 38 20.83	205.91M
	7143.00	2.20	205.91	7140.87	3395.87	38.19	-40.67	54.58	0.25	126.69	68.07	472286.74	755840.48	N 32 17 47.33	W 103 38 20.85	211.18M
	7243.00	2.02	211.18	7240.80	3495.80	41.50	-43.90	52.83	0.26	129.72	68.69	472283.50	755838.73	N 32 17 47.30	W 103 38 20.87	211.88M
	7337.00	2.02	211.88	7334.74	3589.74	44.40	-46.72	51.10	0.03	132.44	69.24	472280.68	755837.00	N 32 17 47.27	W 103 38 20.89	212.19M
	7432.00	1.89	212.19	7429.68	3684.68	47.22	-49.47	49.38	0.14	135.05	69.90	472277.93	755835.28	N 32 17 47.25	W 103 38 20.91	210.87M
	7526.00	1.89	210.87	7523.63	3778.63	49.93	-52.11	47.76	0.05	137.50	70.69	472275.29	755833.66	N 32 17 47.22	W 103 38 20.93	207.8M
	7620.00	1.80	207.80	7617.58	3872.58	52.63	-54.75	46.28	0.14	139.80	71.69	472272.65	755832.17	N 32 17 47.19	W 103 38 20.95	201.38M
	7714.00	2.11	201.38	7711.53	3966.53	55.60	-57.67	44.96	0.40	142.06	73.12	472269.73	755830.85	N 32 17 47.16	W 103 38 20.97	200.28M
	7808.00	1.89	200.28	7805.47	4060.47	58.72	-60.73	43.79	0.24	144.21	74.87	472266.67	755829.69	N 32 17 47.13	W 103 38 20.98	194.3M
	7903.00	2.02	194.30	7900.42	4155.42	61.85	-63.83	42.83	0.25	146.14	76.86	472263.58	755828.73	N 32 17 47.10	W 103 38 20.99	197.47M
	7997.00	1.80	197.47	7994.37	4249.37	64.90	-66.84	41.98	0.26	147.87	78.93	472260.56	755827.88	N 32 17 47.07	W 103 38 21.00	200.19M
	8091.00	1.89	200.19	8088.32	4343.32	67.80	-69.70	41.00	0.13	149.53	80.87	472257.70	755826.90	N 32 17 47.05	W 103 38 21.01	192.99M
	8185.00	1.80	192.99	8182.27	4437.27	70.73	-72.60	40.13	0.26	151.06	82.95	472254.81	755826.03	N 32 17 47.02	W 103 38 21.02	201.78M
	8279.00	1.80	201.78	8276.22	4531.22	73.58	-75.40	39.25	0.29	152.50	85.01	472252.00	755825.15	N 32 17 46.99	W 103 38 21.03	204.37M
	8375.00	2.02	204.37	8372.17	4627.17	76.57	-78.35	38.00	0.25	154.13	87.07	472249.06	755823.90	N 32 17 46.96	W 103 38 21.05	206.48M
	8469.00	2.11	206.48	8466.11	4721.11	79.69	-81.40	36.54	0.13	155.83	89.23	472246.00	755822.44	N 32 17 46.93	W 103 38 21.07	221.51M
	8564.00	1.80	221.51	8561.05	4816.05	82.45	-84.09	34.77	0.63	157.53	90.99	472243.32	755820.67	N 32 17 46.90	W 103 38 21.09	224.5M
	8659.00	2.42	224.50	8655.99	4910.99	85.10	-86.63	32.38	0.66	159.51	92.49	472240.77	755818.28	N 32 17 46.88	W 103 38 21.11	225.99M
	8752.00	2.50	225.99	8748.90	5003.90	88.04	-89.44	29.54	0.11	161.72	94.20	472237.96	755815.44	N 32 17 46.85	W 103 38 21.15	228.27M
	8846.00	2.59	228.27	8842.81	5097.81	91.01	-92.28	26.48	0.14	163.99	96.01	472235.12	755812.38	N 32 17 46.82	W 103 38 21.18	225.77M
	8941.00	2.81	225.77	8937.70	5192.70	94.20	-95.34	23.21	0.26	166.32	98.12	472232.07	755809.11	N 32 17 46.79	W 103 38 21.22	224.98M
	8961.00	2.90	224.98	8957.68	5212.68	94.93	-96.04	22.50	0.49	166.81	98.64	472231.37	755808.40	N 32 17 46.79	W 103 38 21.23	224.96M
	8994.00	3.09	224.96	8990.63	5245.63	96.21	-97.26	21.29	0.58	167.65	99.56	472230.15	755807.18	N 32 17 46.77	W 103 38 21.24	262.19M
	9060.00															

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	TF (°)
	9120.00	15.33	267.30	9115.15	5370.15	99.68	-99.96	4.16	13.46	177.62	100.05	472227.44	755790.06	N 32 17 46.75	W 103 38 21.44	1.75R
	9155.00	19.63	267.69	9148.53	5403.53	100.60	-100.42	-6.34	12.29	183.61	100.62	472226.99	755779.56	N 32 17 46.74	W 103 38 21.57	0.12R
	9186.00	23.36	267.71	9177.37	5432.37	101.56	-100.87	-17.69	12.03	189.95	102.41	472226.53	755768.21	N 32 17 46.74	W 103 38 21.70	37.36L
	9248.00	28.68	259.63	9233.08	5488.08	105.94	-104.04	-44.63	10.29	203.22	113.21	472223.36	755741.27	N 32 17 46.71	W 103 38 22.01	79.78L
	9280.00	29.80	250.57	9261.02	5516.02	110.63	-108.07	-59.69	14.25	208.91	123.46	472219.33	755726.21	N 32 17 46.67	W 103 38 22.19	69.75L
	9311.00	31.85	241.64	9287.65	5542.65	117.73	-114.53	-74.17	16.16	212.93	136.44	472212.88	755711.74	N 32 17 46.61	W 103 38 22.36	69.31L
	9343.00	33.70	233.95	9314.57	5569.57	127.61	-123.77	-88.78	14.23	215.65	152.32	472203.64	755697.12	N 32 17 46.52	W 103 38 22.53	59.56L
	9374.00	36.04	227.66	9340.01	5595.01	139.42	-134.97	-102.48	13.83	217.21	169.47	472192.43	755683.42	N 32 17 46.41	W 103 38 22.69	56.76L
	9406.00	38.52	221.93	9365.47	5620.47	153.77	-148.73	-116.10	13.32	217.98	188.69	472178.67	755669.80	N 32 17 46.27	W 103 38 22.85	57.45L
	9437.00	40.74	216.87	9389.35	5644.35	169.60	-164.01	-128.63	12.63	218.11	208.44	472163.39	755657.28	N 32 17 46.12	W 103 38 23.00	56.08L
	9469.00	43.04	212.08	9413.18	5668.18	187.73	-181.63	-140.70	12.31	217.76	229.75	472145.78	755645.21	N 32 17 45.95	W 103 38 23.14	46.87L
	9563.00	48.73	204.39	9478.64	5733.64	248.54	-241.08	-172.37	8.43	215.57	296.36	472086.33	755613.53	N 32 17 45.36	W 103 38 23.51	25.58L
	9659.00	60.89	197.88	9533.90	5788.90	322.80	-314.17	-200.27	13.82	212.52	372.58	472013.24	755585.64	N 32 17 44.64	W 103 38 23.84	21.67L
	9753.00	74.43	192.39	9569.57	5824.57	407.47	-397.92	-222.71	15.38	209.24	456.00	471929.50	755563.20	N 32 17 43.81	W 103 38 24.11	21.85L
	9784.00	79.42	190.36	9576.58	5831.58	437.30	-427.51	-228.66	17.31	208.14	484.82	471899.91	755557.25	N 32 17 43.52	W 103 38 24.18	42.63L
	9848.00	86.83	183.60	9584.24	5839.24	500.57	-490.50	-236.34	15.62	205.73	544.47	471836.92	755549.57	N 32 17 42.90	W 103 38 24.28	55.4L
	9942.00	89.52	179.71	9587.24	5842.24	594.48	-584.39	-239.05	5.03	202.25	631.39	471743.04	755546.86	N 32 17 41.97	W 103 38 24.31	90R
	9970.00	89.52	180.08	9587.47	5842.47	622.45	-612.39	-239.00	1.32	201.32	657.37	471715.04	755546.91	N 32 17 41.69	W 103 38 24.32	169.03L
	10064.00	87.87	179.76	9589.61	5844.61	716.32	-706.36	-238.87	1.79	198.68	745.66	471621.07	755547.04	N 32 17 40.76	W 103 38 24.32	174.73L
	10159.00	86.14	179.60	9594.58	5849.58	811.07	-801.22	-238.34	1.83	196.57	835.92	471526.21	755547.77	N 32 17 39.82	W 103 38 24.32	112.01L
	10253.00	85.83	178.83	9601.16	5856.16	904.68	-894.98	-237.06	0.88	194.84	925.85	471432.45	755548.85	N 32 17 38.90	W 103 38 24.31	69.12R
	10348.00	86.07	179.46	9607.87	5862.87	999.27	-989.73	-235.64	0.71	193.39	1017.40	471337.71	755550.27	N 32 17 37.96	W 103 38 24.31	26.54L
	10442.00	87.07	178.96	9613.49	5868.49	1092.94	-1083.56	-234.35	1.19	192.20	1108.61	471243.89	755551.56	N 32 17 37.03	W 103 38 24.30	154.48R
	10537.00	85.90	179.52	9619.32	5874.32	1187.60	-1178.37	-233.09	1.36	191.19	1201.20	471149.08	755552.82	N 32 17 36.09	W 103 38 24.29	20.93L
	10632.00	87.18	179.03	9625.05	5880.05	1282.27	-1273.18	-231.89	1.44	190.32	1294.13	471054.27	755554.02	N 32 17 35.15	W 103 38 24.28	65.68L
	10726.00	87.32	178.72	9629.56	5884.56	1375.97	-1367.06	-230.05	0.36	189.55	1386.28	470960.40	755555.86	N 32 17 34.23	W 103 38 24.27	66.7L
	10821.00	87.63	178.00	9633.74	5888.74	1470.62	-1461.93	-227.33	0.82	188.84	1479.50	470865.53	755558.88	N 32 17 33.29	W 103 38 24.24	143.17R
	10915.00	87.11	178.39	9638.06	5893.06	1564.25	-1555.78	-224.37	0.69	188.21	1571.88	470771.68	755561.54	N 32 17 32.36	W 103 38 24.22	30.2R
	11010.00	88.45	179.17	9641.74	5896.74	1658.97	-1650.68	-222.35	1.63	187.67	1665.59	470676.78	755563.56	N 32 17 31.42	W 103 38 24.20	134.02L
	11104.00	87.35	178.03	9645.18	5900.18	1752.68	-1744.59	-220.06	1.68	187.19	1758.41	470582.88	755565.85	N 32 17 30.49	W 103 38 24.18	77.92L
	11198.00	87.56	177.05	9649.36	5904.36	1846.22	-1838.41	-216.03	1.07	186.70	1851.06	470489.06	755569.88	N 32 17 29.56	W 103 38 24.14	104.05R
	11293.00	87.55	177.09	9653.41	5908.41	1940.70	-1933.20	-211.18	0.04	186.23	1944.70	470394.28	755574.73	N 32 17 28.62	W 103 38 24.09	131.75R
	11387.00	87.14	177.55	9657.76	5912.76	2034.21	-2026.99	-206.79	0.66	185.82	2037.51	470300.49	755579.12	N 32 17 27.69	W 103 38 24.05	7.8L
	11481.00	87.87	177.45	9661.85	5916.85	2127.75	-2120.82	-202.69	0.78	185.46	2130.48	470206.67	755583.22	N 32 17 26.77	W 103 38 24.01	164.95R
	11575.00	87.35	177.59	9665.77	5920.77	2221.31	-2214.65	-198.63	0.57	185.12	2223.53	470112.84	755587.28	N 32 17 25.84	W 103 38 23.97	16.66R
	11670.00	89.69	178.29	9668.23	5923.23	2315.96	-2309.55	-195.21	2.57	184.83	2317.78	470017.95	755590.70	N 32 17 24.90	W 103 38 23.93	142.31L
	11764.00	88.28	177.20	9669.89	5924.89	2409.61	-2403.45	-191.51	1.90	184.56	2411.07	469924.04	755594.39	N 32 17 23.97	W 103 38 23.90	126.7L
	11858.00	87.93	176.73	9673.00	5928.00	2503.11	-2497.27	-186.54	0.62	184.27	2504.23	469830.23	755599.37	N 32 17 23.04	W 103 38 23.85	82.34L
	11954.00	88.00	176.21	9676.41	5931.41	2598.51	-2593.03	-180.63	0.55	183.98	2599.31	469734.48	755605.27	N 32 17 22.09	W 103 38 23.79	80.23R
	12049.00	88.66	180.02	9679.18	5934.18	2693.16	-2687.92	-177.51	4.07	183.78	2693.77	469639.59	755608.40	N 32 17 21.15	W 103 38 23.76	90.83L
	12144.00	88.62	177.15	9681.44	5936.44	2787.90	-2782.85	-175.17	3.02	183.60	2788.36	469544.66	755610.74	N 32 17 20.21	W 103 38 23.74	144.75R
	12237.00	87.08	178.24	9684.92	5939.92	2880.49	-2875.71	-171.43	2.03	183.41	2880.81	469451.81	755614.48	N 32 17 19.29	W 103 38 23.70	113.53R
	12332.00	85.73	181.36	9690.88	5945.88	2975.18	-2970.51	-171.09	3.57	183.30	2975.43	469357.01	755614.81	N 32 17 18.36	W 103 38 23.70	77.53R
	12426.00	86.04	182.76	9697.63	5952.63	3068.93	-3064.20	-174.47	1.52	183.26	3069.16	469263.32	755611.44	N 32 17 17.43	W 103 38 23.75	85.67R
	12521.00	86.15	184.20	9704.10	5959.10	3163.70	-3158.80	-180.22	1.52	183.27	3163.94	469168.72	755605.69	N 32 17 16.49	W 103 38 23.82	20.28R
	12615.00	87.80	184.81	9709.06	5964.06	3257.51	-3252.38	-187.59	1.87	183.30	3257.78	469075.15	755598.32	N 32 17 15.57	W 103 38 23.92	85.72L
	12710.00	87.83	184.41	9712.68	5967.68	3352.38	-3347.00	-195.22	0.42	183.34	3352.69	468980.53	755590.69	N 32 17 14.63	W 103 38 24.01	41.77L
	12804.00	88.86	183.49	9715.40	5970.40	3446.31	-3440.74	-201.69	1.47	183.35	3446.64	468886.80	755584.21	N 32 17 13.71	W 103 38 24.09	44.24L
	12899.00	90.00	182.38	9716.34	5971.34	3541.30	-3535.60	-206.56	1.67	183.34	3541.63	468791.94	755579.35	N 32 17 12.77	W 103 38 24.16	84.56L
	12994.00	90.10	181.33	9716.26	5971.26	3636.29	-3630.55	-209.63	1.11	183.30	3636.60	468696.99	755576.28	N 32 17 11.83	W 103 38 24.20	111.27L
	13091.00	89.45	179.66	9716.64	5971.64	3733.23	-3727.54	-210.47	1.85	183.23	3733.48	468600.01	755575.44	N 32 17 10.87	W 103 38 24.22	17.56R
	13185.00	90.24	179.91	9716.89	5971.89	3827.11	-3821.54	-210.12	0.88	183.15	3827.31	468506.01	755575.79	N 32 17 9.94	W 103 38 24.22	105.29L
	13280.00	89.48	177.13	9717.13	5972.13	3921.87	-3916.50	-207.66	3.03	183.04	3922.00	468411.06	755578.24	N 32 17 9.00	W 103 38 24.20	87.76L
	13375.00	89.52	176.11	9717.95	5972.95	4016.35	-4011.33	-202.06	1.07	182.88	4016.42	468316.23	755583.84	N 32 17 8.06	W 103 38 24.14	95.34R
	13470.00	89.21	179.44	9719.01	5974.01	4111.00	-4106.24	-198.38	3.52	182.77	4111.03	468221.33	755587.53	N 32 17 7.12	W 103 38 24.11	100.42L
	13565.00	88.66	182.44	9720.77	5975.77	4205.94	-4201.20	-199.93	3.21	182.72	4205.95	468126.37	755585.97	N 32 17 6.18	W 103 38 24.13	95.81R
	13659.00	88.18	187.21	9723.37	5978.37	4299.80	-4294.80	-207.83	5.10	182.77	4299.83	468032.77	755578.07	N 32 17 5.25	W 103 38 24.23	39.63R
	13754.00	91.20	189.71	9723.88	5978.88	4394.28	-4388.75	-221.81	4.13	182.89	4394.35	467938.83	755564.10	N 32 17 4.33	W 103 38 24.40	30.59L
	13849.00	95.06	187.42	9718.69	5973.69	4488.59	-4482.53	-235.94	4.72	183.01						

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	TF (°)
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Survey Type: Def Survey

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	Act Stns	30.000	30.000	SLB_MWD-POOR-Depth Only	Original Borehole / Cimarex Diamondtail 23 Federal 7H XEM +
	1	25.000	4773.000	Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Diamondtail 23 Federal 7H XEM +
	1	4773.000	13943.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Diamondtail 23 Federal 7H XEM +
	1	13943.000	13983.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Diamondtail 23 Federal 7H XEM +



Noram 26

Cimarex

Rev1

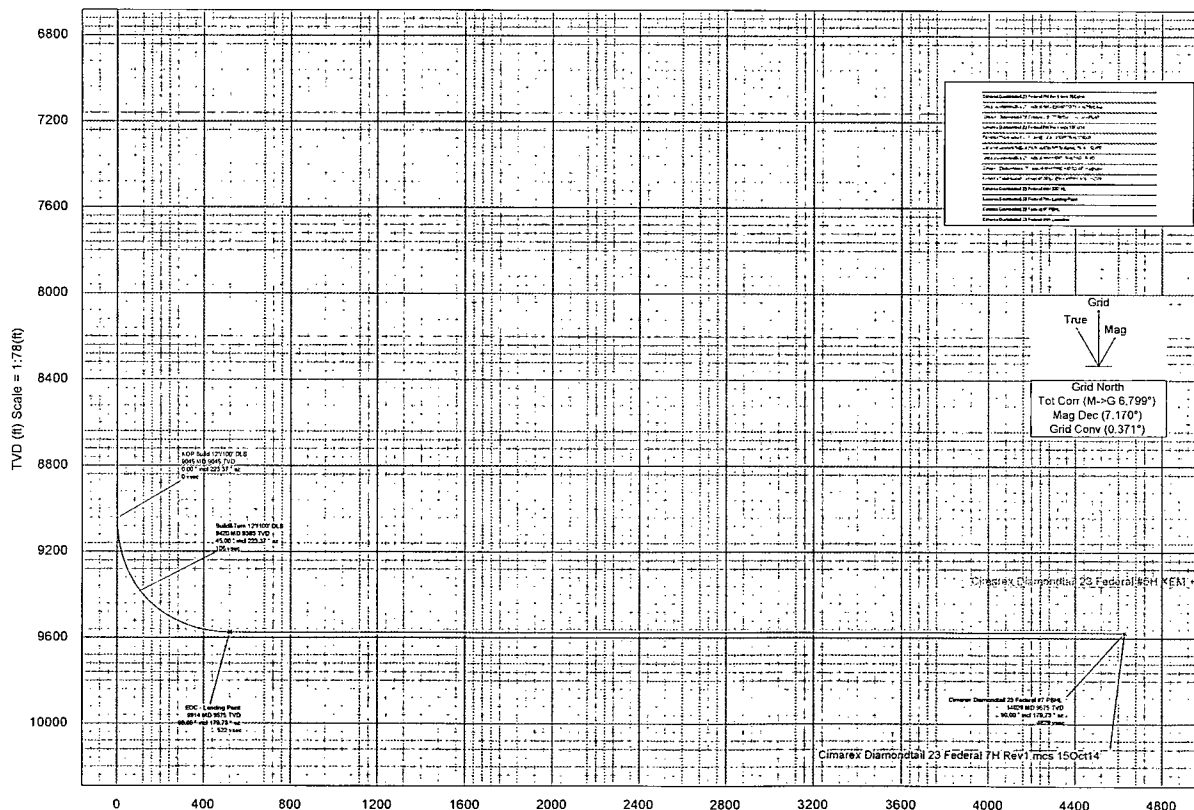


Borehole:	Well:	Field:	Structure:
Original Borehole	Diamondtail 23 Federal 7H	Lea County, NM	Noram 26

Gravity & Magnetic Parameters	Surface Location	HAZUS New Mexico State Plane, Eastern Zone, US Feet	Well/Structure
Model: H026 7614 MagDec: 7.17°	Dip: 16.18° FE: 0.00000000	Date: 15-Oct-2014 Gravity FE: 980.477mag (0.00000000)	Lat: N 32 17 47.24 Long: W 103 38 24.63 Easting: 755785.90 Scale Factor: 0.99999176
			Site: Diamondtail 23 Federal 7H Plan: Rev1 mcs 15Oct14

Critical Points

Comments	Survey	MD	Inc	Azim	TVD	SSTVD	VS	NS	EW	Longitude	Latitude	Easting	Northing	DL-S	Tool Face
SHL		0.00	0.00	223.37	0.00	3745.00	0.00	0.00	0.00	W 103 38 21.486	N 32 17 47.738	755785.90	472327.40		223.37
KOP Build 12°/100' DLS		9045.49	0.00	223.37	9045.49	5300.49	0.00	0.00	0.00	W 103 38 21.486	N 32 17 47.738	755785.90	472327.40	0.00	223.37
Build&Turn 12°/100' DLS		9420.49	45.00	223.37	9383.11	5638.11	105.85	-101.66	-96.04	W 103 38 22.612	N 32 17 46.738	755689.87	472225.75	12.00	-53.45
EOC - Landing Point		9914.03	90.00	179.73	9575.00	5830.00	522.12	-512.51	-226.51	W 103 38 24.163	N 32 17 42.681	755559.40	471814.91	12.00	0.00
PBHL		14026.13	90.00	179.73	9575.00	5830.00	4629.20	-4624.58	-206.81	W 103 38 24.243	N 32 17 1.992	755579.10	467703.01	0.00	



Vertical Section (ft) Azim = 182.56° Scale = 1:78(ft) Origin = 0N-S, 0E-W

