



Cimarex White City 8 Federal #2H ST01 MWD 6597ft to 11726ft Survey Report (Def Survey)

Report Date: January 09, 2014 - 12:20 PM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex White City 8 Federal #2H / Cimarex White City 8 Federal #2H
Well: Cimarex White City 8 Federal #2H
Borehole: ST01
UWI / API#: Unknown / Unknown
Survey Name: Cimarex White City 8 Federal #2H ST01 MWD 6597ft to 11726ft
Survey Date: December 28, 2013
Tort / AHD / DDI / ERD Ratio: 211.483 ° / 4752.662 ft / 6.203 / 0.643
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 8' 17.65327", W 104° 13' 11.44612"
Location Grid N/E Y/X: N 414044.800 ftUS, E 576464.300 ftUS
CRS Grid Convergence Angle: 0.0604 °
Grid Scale Factor: 0.9999105

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 3.841 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3269.000 ft above
Seabed / Ground Elevation: 3251.000 ft above
Magnetic Declination: 7.681 °
Total Field Strength: 48215.057 nT
Magnetic Dip Angle: 59.914 °
Declination Date: December 28, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.0604 °
Total Corr Mag North->Grid North: 7.6208 °
Local Coord Referenced To: Structure Reference Point

HOBBS OCD

APR 24 2014

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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	-3269.00	0.00	0.00	0.00	N/A	414044.80	576464.30	N 32 8 17.65	W 104 13 11.45
	480.00	1.41	257.14	479.95	-2789.05	-1.70	-1.31	-5.76	0.29	414043.49	576458.54	N 32 8 17.64	W 104 13 11.51
	539.00	1.49	256.83	538.93	-2730.07	-2.13	-1.65	-7.21	0.14	414043.15	576457.09	N 32 8 17.64	W 104 13 11.53
	641.00	1.58	256.70	640.90	-2628.10	-2.93	-2.28	-9.87	0.09	414042.52	576454.43	N 32 8 17.63	W 104 13 11.56
	747.00	1.58	263.91	746.86	-2522.14	-3.62	-2.77	-12.75	0.19	414042.03	576451.55	N 32 8 17.63	W 104 13 11.59
	837.00	1.82	256.83	836.82	-2432.18	-4.25	-3.22	-15.37	0.35	414041.58	576448.93	N 32 8 17.62	W 104 13 11.62
	930.00	1.01	299.50	929.79	-2339.21	-4.32	-3.16	-17.52	1.37	414041.64	576446.78	N 32 8 17.62	W 104 13 11.65
	1022.00	1.19	316.82	1021.77	-2247.23	-3.32	-2.06	-18.88	0.41	414042.74	576445.42	N 32 8 17.63	W 104 13 11.67
	1113.00	1.19	313.61	1112.75	-2156.25	-2.07	-0.72	-20.21	0.07	414044.08	576444.09	N 32 8 17.65	W 104 13 11.68
	1205.00	1.41	288.21	1204.73	-2064.27	-1.18	0.29	-21.98	0.66	414045.09	576442.32	N 32 8 17.66	W 104 13 11.70
	1296.00	1.10	323.50	1295.71	-1973.29	-0.24	1.34	-23.56	0.90	414046.14	576440.74	N 32 8 17.67	W 104 13 11.72
	1390.00	0.88	353.12	1389.70	-1879.30	1.16	2.79	-24.19	0.58	414047.59	576440.11	N 32 8 17.68	W 104 13 11.73
	1485.00	0.79	1.12	1484.69	-1784.31	2.53	4.16	-24.26	0.15	414048.96	576440.04	N 32 8 17.69	W 104 13 11.73
	1576.00	0.88	8.94	1575.68	-1693.32	3.85	5.48	-24.14	0.16	414050.28	576440.16	N 32 8 17.71	W 104 13 11.73
	1671.00	1.01	34.43	1670.66	-1598.34	5.30	6.89	-23.55	0.46	414051.69	576440.75	N 32 8 17.72	W 104 13 11.72
	1765.00	1.19	43.30	1764.65	-1504.35	6.77	8.29	-22.42	0.26	414053.09	576441.89	N 32 8 17.74	W 104 13 11.71
	1864.00	1.41	51.52	1863.62	-1405.38	8.38	9.79	-20.76	0.29	414054.59	576443.54	N 32 8 17.75	W 104 13 11.69
	1959.00	1.41	49.50	1958.59	-1310.41	9.98	11.28	-18.95	0.05	414056.08	576445.35	N 32 8 17.77	W 104 13 11.67
	2053.00	1.19	37.81	2052.57	-1216.43	11.60	12.80	-17.48	0.37	414057.60	576446.82	N 32 8 17.78	W 104 13 11.65
	2146.00	1.19	43.30	2145.55	-1123.45	13.15	14.27	-16.22	0.12	414059.07	576448.08	N 32 8 17.79	W 104 13 11.63
	2241.00	1.10	39.44	2240.53	-1028.47	14.65	15.69	-14.97	0.12	414060.49	576449.33	N 32 8 17.81	W 104 13 11.62
	2334.00	1.01	32.80	2333.51	-935.49	16.10	17.07	-13.96	0.16	414061.87	576450.35	N 32 8 17.82	W 104 13 11.61
	2429.00	1.10	27.53	2428.50	-840.50	17.66	18.58	-13.08	0.14	414063.38	576451.22	N 32 8 17.84	W 104 13 11.60
	2523.00	1.19	33.42	2522.48	-746.52	19.34	20.20	-12.13	0.16	414064.99	576452.18	N 32 8 17.85	W 104 13 11.59
	2617.00	1.32	23.44	2616.46	-652.54	21.21	22.00	-11.16	0.27	414066.80	576453.14	N 32 8 17.87	W 104 13 11.58
	2712.00	1.01	27.00	2711.44	-557.56	23.01	23.75	-10.34	0.33	414068.55	576453.96	N 32 8 17.89	W 104 13 11.57
	2806.00	1.10	23.44	2805.42	-463.58	24.62	25.32	-9.61	0.12	414070.12	576454.69	N 32 8 17.90	W 104 13 11.56
	2906.00	1.10	21.42	2905.40	-363.60	26.44	27.09	-8.87	0.04	414071.89	576455.43	N 32 8 17.92	W 104 13 11.55
	3000.00	0.88	8.63	2999.39	-269.61	28.02	28.65	-8.44	0.33	414073.44	576455.86	N 32 8 17.94	W 104 13 11.54
	3092.00	1.01	15.31	3091.38	-177.62	29.52	30.13	-8.12	0.18	414074.93	576456.18	N 32 8 17.95	W 104 13 11.54
	3188.00	1.10	6.74	3187.36	-81.64	31.27	31.86	-7.79	0.19	414076.66	576456.52	N 32 8 17.97	W 104 13 11.54
	3282.00	0.88	5.60	3281.35	12.35	32.89	33.47	-7.61	0.23	414078.27	576456.69	N 32 8 17.98	W 104 13 11.53
	3375.00	0.88	4.32	3374.33	105.33	34.32	34.90	-7.49	0.02	414079.69	576456.82	N 32 8 18.00	W 104 13 11.53
	3470.00	0.88	0.11	3469.32	200.32	35.77	36.35	-7.43	0.07	414081.15	576456.87	N 32 8 18.01	W 104 13 11.53

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 ° ' ")
	3563.00	0.88	3.23	3562.31	293.31	37.20	37.78	-7.39	0.05	414082.58	576456.91	N 32 8 18.03	W 104 13 11.53
	3662.00	0.79	0.24	3661.30	392.30	38.64	39.22	-7.34	0.10	414084.02	576456.96	N 32 8 18.04	W 104 13 11.53
	3756.00	0.88	352.63	3755.29	486.29	40.00	40.59	-7.43	0.15	414085.38	576456.87	N 32 8 18.05	W 104 13 11.53
	3851.00	0.79	348.42	3850.28	581.28	41.34	41.95	-7.66	0.11	414086.75	576456.64	N 32 8 18.07	W 104 13 11.53
	3947.00	0.70	354.61	3946.27	677.27	42.56	43.18	-7.84	0.13	414087.98	576456.46	N 32 8 18.08	W 104 13 11.54
	4041.00	0.79	325.63	4040.27	771.27	43.64	44.29	-8.26	0.41	414089.09	576456.04	N 32 8 18.09	W 104 13 11.54
	4137.00	0.62	353.34	4136.26	867.26	44.67	45.35	-8.70	0.39	414090.15	576455.60	N 32 8 18.10	W 104 13 11.55
	4232.00	0.70	323.10	4231.25	962.25	45.61	46.33	-9.11	0.37	414091.12	576455.19	N 32 8 18.11	W 104 13 11.55
	4326.00	0.70	322.22	4325.25	1056.25	46.48	47.24	-9.80	0.01	414092.04	576454.50	N 32 8 18.12	W 104 13 11.56
	4422.00	0.79	310.62	4421.24	1152.24	47.31	48.13	-10.66	0.18	414092.93	576453.64	N 32 8 18.13	W 104 13 11.57
	4516.00	0.70	323.10	4515.23	1246.23	48.13	49.01	-11.50	0.20	414093.81	576452.80	N 32 8 18.14	W 104 13 11.58
	4611.00	0.62	313.92	4610.22	1341.22	48.90	49.84	-12.22	0.14	414094.63	576452.08	N 32 8 18.15	W 104 13 11.59
	4706.00	0.48	323.94	4705.22	1436.22	49.54	50.51	-12.82	0.18	414095.31	576451.48	N 32 8 18.15	W 104 13 11.59
	4800.00	0.48	291.33	4799.22	1530.22	49.96	50.98	-13.42	0.29	414095.77	576450.88	N 32 8 18.16	W 104 13 11.60
	4895.00	0.48	275.42	4894.21	1625.21	50.09	51.16	-14.19	0.14	414095.95	576450.11	N 32 8 18.16	W 104 13 11.61
	4991.00	0.70	296.03	4990.21	1721.21	50.32	51.45	-15.12	0.31	414096.25	576449.18	N 32 8 18.16	W 104 13 11.62
	5085.00	0.70	264.13	5084.20	1815.20	50.44	51.65	-16.20	0.41	414096.44	576448.10	N 32 8 18.16	W 104 13 11.63
	5179.00	0.88	230.20	5178.19	1909.19	49.85	51.13	-17.33	0.52	414095.92	576446.97	N 32 8 18.16	W 104 13 11.65
	5273.00	0.31	155.63	5272.19	2003.19	49.13	50.43	-17.78	0.91	414095.23	576446.52	N 32 8 18.15	W 104 13 11.65
	5366.00	0.70	208.71	5365.18	2096.18	48.39	49.70	-17.95	0.61	414094.50	576446.35	N 32 8 18.15	W 104 13 11.65
	5462.00	1.32	243.61	5461.17	2192.17	47.30	48.70	-19.22	0.88	414093.49	576445.08	N 32 8 18.14	W 104 13 11.67
	5556.00	1.32	249.71	5555.15	2286.15	46.31	47.84	-21.21	0.15	414092.64	576443.10	N 32 8 18.13	W 104 13 11.69
	5651.00	1.32	253.54	5650.12	2381.12	45.49	47.15	-23.28	0.09	414091.95	576441.02	N 32 8 18.12	W 104 13 11.72
	5745.00	1.49	250.42	5744.09	2475.09	44.63	46.44	-25.47	0.20	414091.23	576438.83	N 32 8 18.11	W 104 13 11.74
	5839.00	1.49	235.52	5838.06	2569.06	43.38	45.33	-27.63	0.41	414090.13	576436.67	N 32 8 18.10	W 104 13 11.77
	5933.00	1.49	236.71	5932.03	2663.03	41.89	43.97	-29.66	0.03	414088.77	576434.64	N 32 8 18.09	W 104 13 11.79
	6030.00	1.80	226.82	6028.99	2759.99	40.01	42.24	-31.82	0.43	414087.03	576432.48	N 32 8 18.07	W 104 13 11.82
	6125.00	0.62	258.24	6123.97	2854.97	38.78	41.11	-33.42	1.38	414085.91	576430.89	N 32 8 18.06	W 104 13 11.83
	6219.00	0.31	283.82	6217.96	2948.96	38.69	41.07	-34.16	0.39	414085.86	576430.14	N 32 8 18.06	W 104 13 11.84
	6313.00	0.40	273.23	6311.96	3042.96	38.73	41.15	-34.74	0.12	414085.94	576429.57	N 32 8 18.06	W 104 13 11.85
	6408.00	0.62	262.24	6406.96	3137.96	38.62	41.10	-35.58	0.25	414085.89	576428.73	N 32 8 18.06	W 104 13 11.86
	6503.00	0.70	222.34	6501.95	3232.95	38.06	40.60	-36.48	0.48	414085.39	576427.83	N 32 8 18.06	W 104 13 11.87
	6597.00	0.62	187.14	6595.95	3326.95	37.11	39.67	-36.93	N/A	414084.47	576427.38	N 32 8 18.05	W 104 13 11.88
	6600.00	0.48	181.85	6598.95	3329.95	37.08	39.64	-36.93	5.00	414084.44	576427.38	N 32 8 18.05	W 104 13 11.88
	6637.00	1.42	31.59	6635.94	3366.94	37.33	39.88	-36.69	5.00	414084.67	576427.61	N 32 8 18.05	W 104 13 11.87
	6664.00	5.80	48.29	6662.88	3393.88	38.60	41.07	-35.50	16.51	414085.87	576428.80	N 32 8 18.06	W 104 13 11.86
	6698.00	9.74	51.90	6696.56	3427.56	41.75	43.99	-31.95	11.67	414088.79	576432.35	N 32 8 18.09	W 104 13 11.82
	6700.00	9.77	51.79	6698.54	3429.54	41.98	44.20	-31.68	1.83	414088.99	576432.62	N 32 8 18.09	W 104 13 11.81
	6730.00	10.25	50.25	6728.08	3459.08	45.52	47.48	-27.63	1.83	414092.28	576436.67	N 32 8 18.12	W 104 13 11.77
	6759.00	9.04	45.53	6756.67	3487.67	49.00	50.73	-24.02	4.98	414095.52	576440.28	N 32 8 18.16	W 104 13 11.72
	6800.00	11.42	37.43	6797.02	3528.02	54.79	56.21	-19.26	6.77	414101.00	576445.05	N 32 8 18.21	W 104 13 11.67
	6824.00	12.89	34.10	6820.48	3551.48	59.08	60.31	-16.31	6.77	414105.11	576447.99	N 32 8 18.25	W 104 13 11.64
	6853.00	15.32	27.49	6848.60	3579.60	65.39	66.39	-12.73	10.04	414111.18	576451.57	N 32 8 18.31	W 104 13 11.59
	6900.00	17.21	17.96	6893.73	3624.73	77.82	78.52	-7.72	6.95	414123.31	576456.58	N 32 8 18.43	W 104 13 11.53
	6920.00	18.13	14.53	6912.78	3643.78	83.75	84.34	-6.02	6.95	414129.13	576458.28	N 32 8 18.49	W 104 13 11.52
	6953.00	20.21	16.14	6943.95	3674.95	94.37	94.79	-3.15	6.50	414139.58	576461.15	N 32 8 18.59	W 104 13 11.48
	7000.00	22.11	25.35	6987.79	3718.79	110.53	110.59	2.90	8.14	414155.38	576467.20	N 32 8 18.75	W 104 13 11.41
	7047.00	24.45	33.03	7030.97	3761.97	127.26	126.74	11.99	8.14	414171.53	576476.29	N 32 8 18.91	W 104 13 11.31
	7100.00	29.73	42.42	7078.16	3809.16	147.13	145.66	26.85	12.80	414190.45	576491.15	N 32 8 19.09	W 104 13 11.13
	7110.00	30.79	43.85	7086.80	3817.80	151.03	149.34	30.30	12.80	414194.13	576494.59	N 32 8 19.13	W 104 13 11.09
	7142.00	33.25	42.96	7113.93	3844.93	164.11	161.67	41.95	7.83	414206.45	576506.25	N 32 8 19.25	W 104 13 10.96
	7174.00	36.08	37.20	7140.26	3871.26	178.80	175.60	53.63	13.52	414220.38	576517.93	N 32 8 19.39	W 104 13 10.82
	7200.00	38.59	32.17	7160.93	3891.93	192.33	188.57	62.58	15.17	414233.35	576526.88	N 32 8 19.52	W 104 13 10.72
	7205.00	39.09	31.27	7164.83	3895.83	195.11	191.23	64.23	15.17	414236.02	576528.52	N 32 8 19.54	W 104 13 10.70
	7237.00	41.86	25.97	7189.17	3920.17	213.96	209.46	74.15	13.80	414254.24	576538.44	N 32 8 19.73	W 104 13 10.58
	7300.00	47.88	15.55	7233.86	3964.86	256.41	250.96	89.65	15.06	414295.74	576553.94	N 32 8 20.14	W 104 13 10.40
	7331.00	51.14	11.16	7254.00	3985.00	279.65	273.89	95.07	15.06	414318.67	576559.36	N 32 8 20.36	W 104 13 10.34
	7400.00	58.46	3.26	7293.79	4024.79	335.83	329.74	101.96	14.13	414374.51	576566.25	N 32 8 20.92	W 104 13 10.26
	7425.00	61.22	0.72	7306.35	4037.35	357.43	351.34	102.71	14.13	414396.11	576567.00	N 32 8 21.13	W 104 13 10.25
	7500.00	72.11	358.32	7336.01	4067.01	425.99	420.09	102.07	14.82	414464.85	576566.36	N 32 8 21.81	W 104 13 10.25
	7514.00	74.15	357.91	7340.08	4071.08	439.32	433.48	101.63	14.82	414478.24	576565.92	N 32 8 21.94	W 104 13 10.26
	7600.00	82.86	358.31	7357.20	4088.20	523.09	517.63	98.86	10.14	414562.38	576563.15	N 32 8 22.77	W 104 13 10.29
	7610.00	83.87	358.36	7358.35	4089.35	532.98	527.56	98.57	10.14	414572.31	576562.87	N 32 8 22.87	W 104 13 10.29
	7700.00	85.16	2.18	7366.96	4097.96	622.37	617.13	99.00	4.46	414661.87	576563.29	N 32 8 23.76	W 104 13 10.29

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 ° ' '')
	7706.00	85.25	2.43	7367.46	4098.46	628.35	623.10	99.24	4.46	414667.84	576563.53	N 32 8 23.82	W 104 13 10.28
	7800.00	84.71	3.07	7375.69	4106.69	721.97	716.63	103.73	0.89	414761.36	576568.02	N 32 8 24.74	W 104 13 10.23
	7801.00	84.70	3.08	7375.78	4106.78	722.97	717.62	103.79	0.89	414762.36	576568.08	N 32 8 24.75	W 104 13 10.23
	7894.00	85.59	2.91	7383.65	4114.65	815.62	810.16	108.63	0.97	414854.89	576572.92	N 32 8 25.67	W 104 13 10.17
	7900.00	85.86	3.17	7384.10	4115.10	821.60	816.14	108.94	6.14	414860.86	576573.23	N 32 8 25.73	W 104 13 10.17
	7988.00	89.76	6.91	7387.47	4118.47	909.49	903.70	116.67	6.14	414948.42	576580.96	N 32 8 26.59	W 104 13 10.08
	8000.00	89.48	6.72	7387.54	4118.54	921.47	915.62	118.09	2.78	414960.33	576582.38	N 32 8 26.71	W 104 13 10.06
	8082.00	87.59	5.45	7389.64	4120.64	1003.38	997.12	126.78	2.78	415041.83	576591.07	N 32 8 27.52	W 104 13 9.96
	8100.00	88.27	4.95	7390.29	4121.29	1021.36	1015.04	128.41	4.67	415059.74	576592.70	N 32 8 27.70	W 104 13 9.94
	8177.00	91.17	2.83	7390.67	4121.67	1098.34	1091.84	133.64	4.67	415136.55	576597.93	N 32 8 28.46	W 104 13 9.88
	8200.00	90.93	3.52	7390.25	4121.25	1121.34	1114.81	134.91	3.17	415159.50	576599.20	N 32 8 28.68	W 104 13 9.86
	8272.00	90.17	5.67	7389.56	4120.56	1193.32	1186.57	140.68	3.17	415231.26	576604.97	N 32 8 29.39	W 104 13 9.80
	8300.00	89.65	5.61	7389.60	4120.60	1221.31	1214.43	143.43	1.88	415259.12	576607.72	N 32 8 29.67	W 104 13 9.76
	8371.00	88.32	5.45	7390.86	4121.86	1292.27	1285.09	150.27	1.88	415329.77	576614.56	N 32 8 30.37	W 104 13 9.68
	8400.00	89.62	4.17	7391.38	4122.38	1321.26	1313.98	152.70	6.29	415358.66	576616.99	N 32 8 30.65	W 104 13 9.65
	8464.00	92.48	1.34	7390.21	4121.21	1385.22	1377.88	155.77	6.29	415422.56	576620.06	N 32 8 31.29	W 104 13 9.62
	8500.00	92.72	1.68	7388.58	4119.58	1421.16	1413.83	156.72	1.15	415458.50	576621.01	N 32 8 31.64	W 104 13 9.61
	8559.00	93.10	2.24	7385.59	4116.59	1480.05	1472.72	158.74	1.15	415517.39	576623.02	N 32 8 32.22	W 104 13 9.58
	8600.00	93.38	2.31	7383.27	4114.27	1520.97	1513.62	160.36	0.70	415558.29	576624.65	N 32 8 32.63	W 104 13 9.56
	8654.00	93.75	2.40	7379.91	4110.91	1574.84	1567.47	162.58	0.70	415612.13	576626.86	N 32 8 33.16	W 104 13 9.54
	8700.00	92.93	2.60	7377.23	4108.23	1620.75	1613.35	164.58	1.83	415658.00	576628.87	N 32 8 33.62	W 104 13 9.51
	8749.00	92.06	2.82	7375.10	4106.10	1669.70	1662.25	166.90	1.83	415706.90	576631.18	N 32 8 34.10	W 104 13 9.48
	8800.00	90.90	3.72	7373.78	4104.78	1720.67	1713.15	169.80	2.87	415757.79	576634.09	N 32 8 34.60	W 104 13 9.45
	8844.00	89.90	4.49	7373.47	4104.47	1764.67	1757.03	172.95	2.87	415801.67	576637.24	N 32 8 35.04	W 104 13 9.41
	8900.00	90.14	4.03	7373.45	4104.45	1820.67	1812.88	177.11	0.93	415857.51	576641.40	N 32 8 35.59	W 104 13 9.36
	8939.00	90.31	3.71	7373.30	4104.30	1859.67	1851.79	179.75	0.93	415896.42	576644.03	N 32 8 35.98	W 104 13 9.33
	9000.00	89.91	2.01	7373.18	4104.18	1920.66	1912.71	182.79	2.86	415957.34	576647.07	N 32 8 36.58	W 104 13 9.30
	9033.00	89.69	1.09	7373.30	4104.30	1953.63	1945.70	183.68	2.86	415990.32	576647.96	N 32 8 36.90	W 104 13 9.29
	9100.00	89.93	3.43	7373.52	4104.52	2020.60	2012.64	186.32	3.51	416057.26	576650.60	N 32 8 37.57	W 104 13 9.25
	9127.00	90.03	4.37	7373.53	4104.53	2047.60	2039.58	188.16	3.51	416084.19	576652.44	N 32 8 37.83	W 104 13 9.23
	9200.00	89.95	3.14	7373.54	4104.54	2120.60	2112.42	192.94	1.68	416157.03	576657.22	N 32 8 38.55	W 104 13 9.18
	9214.00	89.93	2.91	7373.56	4104.56	2134.60	2126.40	193.68	1.68	416171.01	576657.96	N 32 8 38.69	W 104 13 9.17
	9300.00	89.84	4.16	7373.73	4104.73	2220.59	2212.23	198.98	1.46	416256.83	576663.27	N 32 8 39.54	W 104 13 9.10
	9313.00	89.83	4.35	7373.77	4104.77	2233.59	2225.20	199.95	1.46	416269.80	576664.23	N 32 8 39.67	W 104 13 9.09
	9400.00	89.08	2.28	7374.59	4105.59	2320.58	2312.04	204.98	2.53	416356.63	576669.26	N 32 8 40.53	W 104 13 9.03
	9409.00	89.00	2.07	7374.75	4105.75	2329.58	2321.04	205.32	2.53	416365.62	576669.60	N 32 8 40.62	W 104 13 9.03
	9500.00	89.46	3.58	7375.97	4106.97	2420.55	2411.91	209.81	1.74	416456.49	576674.09	N 32 8 41.52	W 104 13 8.98
	9504.00	89.48	3.65	7376.01	4107.01	2424.55	2415.91	210.06	1.74	416460.48	576674.34	N 32 8 41.56	W 104 13 8.97
	9598.00	89.90	5.34	7376.51	4107.51	2518.54	2509.61	217.43	1.85	416554.18	576681.71	N 32 8 42.48	W 104 13 8.89
	9600.00	89.90	5.32	7376.52	4107.52	2520.54	2511.60	217.62	1.02	416556.17	576681.90	N 32 8 42.50	W 104 13 8.88
	9692.00	89.83	4.38	7376.74	4107.74	2612.52	2603.27	225.39	1.02	416647.83	576689.67	N 32 8 43.41	W 104 13 8.79
	9700.00	89.83	4.44	7376.76	4107.76	2620.52	2611.25	226.01	0.78	416655.81	576690.29	N 32 8 43.49	W 104 13 8.79
	9789.00	89.79	5.14	7377.06	4108.06	2709.51	2699.94	233.44	0.78	416744.49	576697.72	N 32 8 44.37	W 104 13 8.70
	9800.00	89.81	5.06	7377.10	4108.10	2720.51	2710.89	234.42	0.77	416755.45	576698.70	N 32 8 44.48	W 104 13 8.69
	9882.00	89.93	4.44	7377.29	4108.29	2802.50	2792.61	241.21	0.77	416837.16	576705.49	N 32 8 45.28	W 104 13 8.61
	9900.00	89.75	3.70	7377.34	4108.34	2820.50	2810.57	242.49	4.24	416855.11	576706.76	N 32 8 45.46	W 104 13 8.59
	9980.00	88.93	0.41	7378.26	4109.26	2900.44	2890.50	245.35	4.24	416935.03	576709.63	N 32 8 46.25	W 104 13 8.56
	10000.00	89.16	0.33	7378.59	4109.59	2920.40	2910.49	245.48	1.19	416955.03	576709.76	N 32 8 46.45	W 104 13 8.56
	10075.00	90.00	0.05	7379.15	4110.15	2995.25	2985.49	245.74	1.19	417030.02	576710.01	N 32 8 47.19	W 104 13 8.55
	10100.00	90.32	0.04	7379.08	4110.08	3020.19	3010.49	245.76	1.26	417055.01	576710.03	N 32 8 47.44	W 104 13 8.55
	10170.00	91.20	0.01	7378.15	4109.15	3090.03	3080.48	245.79	1.26	417125.00	576710.06	N 32 8 48.13	W 104 13 8.55
	10200.00	91.26	0.54	7377.51	4108.51	3119.96	3110.48	245.93	1.79	417154.99	576710.21	N 32 8 48.43	W 104 13 8.55
	10265.00	91.38	1.70	7376.01	4107.01	3184.87	3175.45	247.20	1.79	417219.95	576711.48	N 32 8 49.07	W 104 13 8.53
	10300.00	91.37	0.99	7375.18	4106.18	3219.83	3210.43	248.02	2.02	417254.93	576712.30	N 32 8 49.42	W 104 13 8.52
	10360.00	91.34	359.78	7373.76	4104.76	3279.70	3270.41	248.43	2.02	417314.91	576712.71	N 32 8 50.01	W 104 13 8.52
	10400.00	91.50	1.03	7372.77	4103.77	3319.62	3310.39	248.71	3.15	417354.89	576712.99	N 32 8 50.41	W 104 13 8.51
	10454.00	91.72	2.72	7371.25	4102.25	3373.56	3364.34	250.48	3.15	417408.83	576714.76	N 32 8 50.94	W 104 13 8.49
	10500.00	92.00	2.30	7369.75	4100.75	3419.53	3410.27	252.49	1.10	417454.76	576716.77	N 32 8 51.40	W 104 13 8.47
	10549.00	92.30	1.85	7367.92	4098.92	3468.47	3459.20	254.26	1.10	417503.69	576718.54	N 32 8 51.88	W 104 13 8.45
	10600.00	92.46	2.97	7365.80	4096.80	3519.41	3510.11	256.41	2.21	417554.59	576720.68	N 32 8 52.38	W 104 13 8.42
	10637.00	92.58	3.78	7364.17	4095.17	3556.37	3547.01	258.58	2.21	417591.49	576722.86	N 32 8 52.75	W 104 13 8.40
	10700.00	92.29	3.24	7361.49	4092.49	3619.31	3609.84	262.43	0.97	417654.31	576726.71	N 32 8 53.37	W 104 13 8.35
	10735.00	92.13	2.94	7360.14	4091.14	3654.28	3644.76	264.32	0.97	417689.23	576728.60	N 32 8 53.72	W 104 13 8.33
	10800.00	91.96	4.02	7357.82	4088.82	3719.24	3709.60	268.26	1.68	417754.06	576732.54	N 32 8 54.36	W 104 13 8.28

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 ° ' '')
	10829.00	91.89	4.50	7356.85	4087.85	3748.22	3738.50	270.41	1.68	417782.96	576734.69	N 32 8 54.64	W 104 13 8.26
	10900.00	91.31	3.90	7354.87	4085.87	3819.19	3809.28	275.61	1.18	417853.74	576739.89	N 32 8 55.34	W 104 13 8.19
	10925.00	91.10	3.69	7354.34	4085.34	3844.19	3834.22	277.27	1.18	417878.67	576741.54	N 32 8 55.59	W 104 13 8.17
	11000.00	90.19	3.17	7353.50	4084.50	3919.18	3909.08	281.75	1.40	417953.53	576746.03	N 32 8 56.33	W 104 13 8.12
	11018.00	89.97	3.04	7353.47	4084.47	3937.18	3927.06	282.73	1.40	417971.50	576747.00	N 32 8 56.51	W 104 13 8.11
	11100.00	90.06	3.77	7353.45	4084.45	4019.17	4008.91	287.59	0.89	418053.35	576751.87	N 32 8 57.32	W 104 13 8.05
	11114.00	90.07	3.89	7353.44	4084.44	4033.17	4022.88	288.53	0.89	418067.31	576752.80	N 32 8 57.46	W 104 13 8.04
	11200.00	89.67	2.45	7353.63	4084.63	4119.16	4108.75	293.29	1.73	418153.17	576757.56	N 32 8 58.31	W 104 13 7.98
	11211.00	89.62	2.27	7353.70	4084.70	4130.16	4119.74	293.74	1.73	418164.16	576758.01	N 32 8 58.42	W 104 13 7.98
	11300.00	90.22	3.05	7353.83	4084.83	4219.14	4208.64	297.87	1.11	418253.06	576762.15	N 32 8 59.30	W 104 13 7.93
	11303.00	90.24	3.08	7353.81	4084.81	4222.14	4211.64	298.03	1.11	418256.05	576762.31	N 32 8 59.33	W 104 13 7.93
	11397.00	89.76	3.30	7353.81	4084.81	4316.13	4305.49	303.26	0.56	418349.90	576767.54	N 32 9 0.25	W 104 13 7.87
	11400.00	89.77	3.25	7353.83	4084.83	4319.13	4308.49	303.44	1.60	418352.89	576767.71	N 32 9 0.28	W 104 13 7.86
	11493.00	90.00	1.78	7354.01	4085.01	4412.11	4401.39	307.52	1.60	418445.79	576771.79	N 32 9 1.20	W 104 13 7.82
	11500.00	89.97	1.90	7354.02	4085.02	4419.10	4408.39	307.74	1.81	418452.79	576772.02	N 32 9 1.27	W 104 13 7.81
	11587.00	89.63	3.44	7354.32	4085.32	4506.08	4495.29	311.80	1.81	418539.68	576776.07	N 32 9 2.13	W 104 13 7.76
	11600.00	89.66	3.36	7354.40	4085.40	4519.08	4508.27	312.57	0.63	418552.66	576776.84	N 32 9 2.26	W 104 13 7.76
Final Survey	11683.00	89.83	2.87	7354.77	4085.77	4602.07	4591.14	317.08	0.63	418635.52	576781.35	N 32 9 3.08	W 104 13 7.70
	11700.00	89.83	2.87	7354.82	4085.82	4619.07	4608.12	317.93	0.00	418652.50	576782.20	N 32 9 3.25	W 104 13 7.69
Projection to TD	11726.00	89.83	2.87	7354.90	4085.90	4645.07	4634.09	319.24	0.00	418678.47	576783.51	N 32 9 3.51	W 104 13 7.68

Survey Type: 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	18.000	Act Stns	30.000	30.000	SLB_MWD-POOR-Depth Only	Pilot Borehole / Cimarex White City 8 Federal #2H Pilot Survey
	18.000	480.000	1/98.425	30.000	30.000	SLB_MWD-POOR	Pilot Borehole / Cimarex White City 8 Federal #2H Pilot Survey
	480.000	6597.000	Act Stns	30.000	30.000	SLB_MWD-POOR	Pilot Borehole / Cimarex White City 8 Federal #2H Pilot Survey
	6597.000	11683.000	Act Stns	30.000	30.000	SLB_MWD-STD	ST01 / Cimarex White City 8 Federal #2H ST01 MWD 6597ft
	11683.000	11726.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	ST01 / Cimarex White City 8 Federal #2H ST01 MWD 6597ft



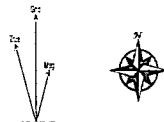
Cactus 116

Cimarex

ST01 Rev4

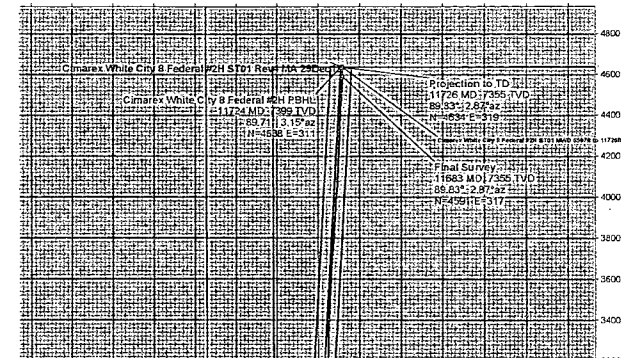
PATHFINDER
A Schlumberger Company

WELL				FIELD				STRUCTURE			
White City 8 Federal #2H				NM Eddy County (NAD 83)				Cactus 116			
Magnetic Parameters Model: BOGIM 2013	Dip Mag Dec: 7.748°	SR 932°	Date: December 11, 2013	Surface Location Let: N 32 8.17 653 Lon: W 104 13 11 446	Northings Easting: 484544.10 NUS 576462.30 EUS	HADES New Mexico State Plane, Custom Zone, US Feet Grid Cont: 0.000° Scale Fact: 0.99991650	Miscellaneous Str: White City 8 Federal #2H Plan: ST01 Rev4 MA 29Dec13	TVD Ref Ry Date: RUS(1568 above) May 30, 2013			

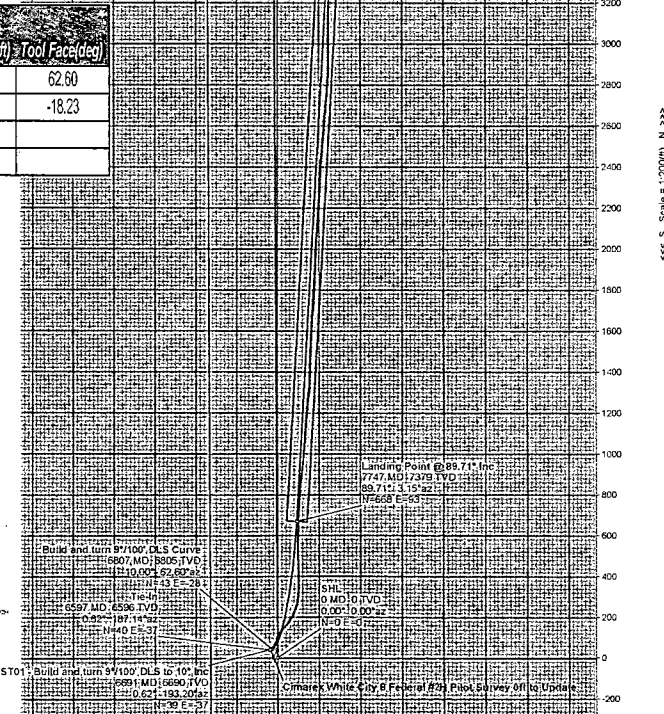
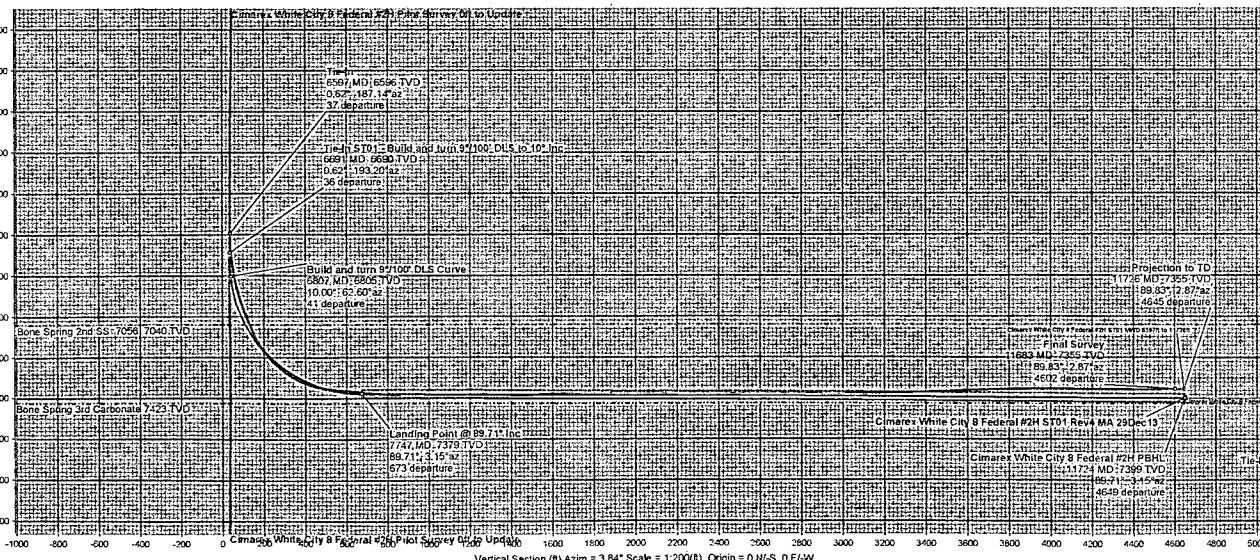


Grid North
Tot Corr (M->G 7.6878°)
Mag Dec (7.748°)
Grid Conv (0.060°)

W Scale = 1:200(N) E >>>



Critical Points													
Comments	Survey MD(N)	Inclination(deg)	Azimuth(deg)	TVD(N)	Sub-Sea TVD	VS(N)	NS(N)	EW(N)	Latitude(deg)	Longitude(deg)	Easting(NUS)	Northings(NUS)	DLS(f/100m)
Tie-In ST01 - Build and turn 9°/100' DLS to 10° Inc	6691.00	0.62	193.20	6689.94	3420.94	36.10	38.67	-37.10	N 32 8 18.036	W 104 13 11.877	576427.20	414083.47	0.07
Build and turn 9°/100' DLS Curve	6806.71	10.00	62.60	6805.09	3536.09	40.70	42.69	-28.30	N 32 8 18.076	W 104 13 11.775	576436.00	414087.49	9.00
Landing Point @ 89.71° Inc	7747.28	89.71	3.15	7379.00	4110.00	672.67	667.95	92.94	N 32 8 24.262	W 104 13 10.357	576557.23	414712.68	9.00
Cimarex White City 8 Federal #2H PBHL	11723.72	89.71	3.15	7399.00	4130.00	4648.77	4638.32	311.43	N 32 9 3.547	W 104 13 7.767	576775.70	418682.70	0.00



Drawn By: Mural Akbar
Date Created: December 20, 2013 12:30:22 PM
Checked By: _____
Checked Date: _____
Approved By: _____
Approved Date: _____