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30-015-42173

Schlumberger

CIMAREX

Cimarex Medwick 32 Federal Com #8H MWD final Survey Geodetic Report

(Def Survey)

Report Date:	June 14, 2017 - 09:01 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	359.330 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Medwick 32 Federal Com #8H / Cimarex Medwick 32 Federal Com #8H	**TVD Reference Datum:**	RKB
Well:	Cimarex Medwick 32 Federal Com #8H	**TVD Reference Elevation:**	3215.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3192.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.396 °
Survey Name:	Cimarex Medwick 32 Federal Com #8H MWD final	**Total Gravity Field Strength:**	998.4332mgn (9.80665 Based)
Survey Date:	April 25, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	222.229 ° / 7263.832 ft / 6.485 / 0.974	**Total Magnetic Field Strength:**	47967.560 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.691 °
Location Lat / Long:	N 32° 0' 2.97427", W 104° 12' 35.46894"	**Declination Date:**	May 22, 2017
Location Grid N/E Y/X:	N 364061.930 ftUS, E 579614.760 ftUS	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	0.0654 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99991077	**Grid Convergence Used:**	0.0654 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	7.3311 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [290' FSL, 2030' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	364061.93	579614.76	N 32 0 2.97	W 104 12 35.47
	172.00	0.22	216.63	172.00	-0.26	-0.26	-0.20	0.13	364061.67	579614.56	N 32 0 2.97	W 104 12 35.47
	200.00	0.09	224.03	200.00	-0.32	-0.32	-0.24	0.47	364061.61	579614.52	N 32 0 2.97	W 104 12 35.47
	271.00	0.22	177.03	271.00	-0.50	-0.50	-0.28	0.24	364061.43	579614.48	N 32 0 2.97	W 104 12 35.47
	324.00	0.31	194.73	324.00	-0.74	-0.74	-0.31	0.23	364061.19	579614.45	N 32 0 2.97	W 104 12 35.47
	486.00	0.22	155.73	486.00	-1.44	-1.45	-0.29	0.12	364060.48	579614.47	N 32 0 2.96	W 104 12 35.47
	578.00	0.09	114.53	578.00	-1.64	-1.64	-0.15	0.18	364060.29	579614.61	N 32 0 2.96	W 104 12 35.47
	670.00	0.62	77.23	669.99	-1.56	-1.56	0.40	0.60	364060.37	579615.16	N 32 0 2.96	W 104 12 35.46
	762.00	0.88	65.73	761.99	-1.18	-1.16	1.53	0.33	364060.77	579616.29	N 32 0 2.96	W 104 12 35.45
	853.00	0.80	55.63	852.98	-0.54	-0.51	2.69	0.18	364061.42	579617.45	N 32 0 2.97	W 104 12 35.44
	944.00	0.71	51.23	943.97	0.16	0.20	3.65	0.12	364062.13	579618.41	N 32 0 2.98	W 104 12 35.43
	1035.00	0.40	26.23	1034.96	0.79	0.84	4.23	0.42	364062.77	579618.99	N 32 0 2.98	W 104 12 35.42
	1127.00	0.71	131.73	1126.96	0.69	0.75	4.80	0.98	364062.68	579619.56	N 32 0 2.98	W 104 12 35.41
	1221.00	1.19	137.83	1220.95	-0.43	-0.37	5.89	0.52	364061.56	579620.65	N 32 0 2.97	W 104 12 35.40
	1316.00	1.59	124.53	1315.92	-1.93	-1.84	7.64	0.54	364060.09	579622.40	N 32 0 2.96	W 104 12 35.38
	1410.00	0.80	114.93	1409.90	-2.97	-2.86	9.31	0.86	364059.07	579624.07	N 32 0 2.95	W 104 12 35.36
	1505.00	1.02	84.63	1504.89	-3.19	-3.06	10.75	0.55	364058.87	579625.51	N 32 0 2.94	W 104 12 35.34
	1599.00	1.81	81.73	1598.86	-2.92	-2.77	13.05	0.84	364059.16	579627.81	N 32 0 2.95	W 104 12 35.32
	1694.00	1.50	90.83	1693.82	-2.75	-2.57	15.78	0.43	364059.36	579630.54	N 32 0 2.95	W 104 12 35.29
	1788.00	1.10	121.53	1787.80	-3.27	-3.06	17.78	0.84	364058.87	579632.54	N 32 0 2.94	W 104 12 35.26
	1850.00	1.10	119.53	1849.78	-3.88	-3.66	18.81	0.06	364058.27	579633.56	N 32 0 2.94	W 104 12 35.25
	1971.00	1.02	121.74	1970.76	-5.05	-4.80	20.73	0.07	364057.13	579635.49	N 32 0 2.93	W 104 12 35.23
	2066.00	1.10	117.55	2065.75	-5.93	-5.67	22.26	0.12	364056.26	579637.02	N 32 0 2.92	W 104 12 35.21
	2160.00	1.10	121.96	2159.73	-6.84	-6.56	23.83	0.09	364055.37	579638.58	N 32 0 2.91	W 104 12 35.19
	2255.00	1.02	131.92	2254.71	-7.91	-7.61	25.23	0.21	364054.32	579639.99	N 32 0 2.90	W 104 12 35.18
	2349.00	1.02	132.45	2348.70	-9.05	-8.74	26.47	0.01	364053.19	579641.23	N 32 0 2.89	W 104 12 35.16
	2442.00	1.02	135.75	2441.68	-10.21	-9.89	27.66	0.06	364052.04	579642.41	N 32 0 2.88	W 104 12 35.15
	2537.00	0.80	132.36	2536.67	-11.28	-10.94	28.74	0.24	364050.99	579643.49	N 32 0 2.87	W 104 12 35.14
	2630.00	1.02	137.03	2629.66	-12.33	-11.98	29.78	0.25	364049.95	579644.54	N 32 0 2.86	W 104 12 35.12
	2726.00	1.02	138.04	2725.65	-13.60	-13.24	30.93	0.02	364048.69	579645.69	N 32 0 2.84	W 104 12 35.11
	2819.00	1.10	135.93	2818.63	-14.88	-14.50	32.11	0.10	364047.43	579646.87	N 32 0 2.83	W 104 12 35.10
	2914.00	1.68	145.76	2913.60	-16.70	-16.31	33.53	0.66	364045.62	579648.28	N 32 0 2.81	W 104 12 35.08
	3009.00	2.30	133.33	3008.54	-19.18	-18.77	35.70	0.79	364043.16	579650.45	N 32 0 2.79	W 104 12 35.05
	3104.00	3.49	125.84	3103.42	-22.23	-21.77	39.43	1.31	364040.16	579654.18	N 32 0 2.76	W 104 12 35.01
	3198.00	3.89	122.44	3197.23	-25.67	-25.15	44.44	0.48	364036.78	579659.19	N 32 0 2.72	W 104 12 34.95
	3293.00	4.68	117.86	3291.96	-29.28	-28.69	50.58	0.91	364033.24	579665.34	N 32 0 2.69	W 104 12 34.88
	3388.00	4.42	115.83	3386.66	-32.77	-32.10	57.31	0.32	364029.83	579672.06	N 32 0 2.66	W 104 12 34.80
	3483.00	4.29	115.66	3481.39	-35.98	-35.23	63.80	0.14	364026.70	579678.56	N 32 0 2.62	W 104 12 34.73
	3577.00	4.02	118.26	3575.14	-39.13	-38.32	69.87	0.35	364023.62	579684.63	N 32 0 2.59	W 104 12 34.66
	3671.00	4.82	116.32	3668.86	-42.52	-41.63	76.32	0.87	364020.31	579691.07	N 32 0 2.56	W 104 12 34.58
	3765.00	5.21	112.35	3762.50	-45.98	-45.00	83.80	0.56	364016.93	579698.56	N 32 0 2.53	W 104 12 34.50
	3859.00	5.21	113.94	3856.11	-49.42	-48.36	91.65	0.15	364013.58	579706.40	N 32 0 2.49	W 104 12 34.41
	3954.00	4.82	115.13	3950.75	-52.96	-51.80	99.21	0.42	364010.13	579713.96	N 32 0 2.46	W 104 12 34.32
	4048.00	4.51	116.54	4044.44	-56.37	-55.13	106.09	0.35	364006.81	579720.84	N 32 0 2.43	W 104 12 34.24
	4142.00	5.61	110.72	4138.07	-59.73	-58.41	113.69	1.29	364003.53	579728.44	N 32 0 2.40	W 104 12 34.15
	4237.00	5.30	108.34	4232.64	-62.85	-61.43	122.20	0.40	364000.51	579736.95	N 32 0 2.37	W 104 12 34.05
	4332.00	4.99	108.03	4327.26	-65.61	-64.09	130.29	0.33	363997.85	579745.04	N 32 0 2.34	W 104 12 33.96
	4426.00	4.99	108.25	4420.90	-68.24	-66.63	138.06	0.02	363995.30	579752.81	N 32 0 2.31	W 104 12 33.87
	4520.00	4.68	104.33	4514.57	-70.56	-68.86	145.66	0.48	363993.07	579760.41	N 32 0 2.29	W 104 12 33.78
	4615.00	5.70	110.06	4609.18	-73.24	-71.44	153.85	1.20	363990.49	579768.60	N 32 0 2.27	W 104 12 33.68
	4709.00	5.79	111.65	4702.70	-76.69	-74.79	162.64	0.19	363987.14	579777.39	N 32 0 2.23	W 104 12 33.58
	4804.00	5.48	111.82	4797.24	-80.24	-78.25	171.31	0.33	363983.69	579786.05	N 32 0 2.20	W 104 12 33.48
	4897.00	5.70	111.74	4889.80	-83.70	-81.61	179.72	0.24	363980.33	579794.46	N 32 0 2.16	W 104 12 33.38
	4992.00	5.48	112.53	4984.35	-87.29	-85.09	188.29	0.25	363976.85	579803.03	N 32 0 2.13	W 104 12 33.28
	5086.00	5.21	114.25	5077.94	-90.86	-88.57	196.33	0.33	363973.37	579811.07	N 32 0 2.10	W 104 12 33.19
	5180.00	5.21	120.15	5171.55	-94.84	-92.46	203.91	0.57	363969.48	579818.65	N 32 0 2.06	W 104 12 33.10
	5274.00	4.42	113.45	5265.22	-98.51	-96.05	210.92	1.03	363965.89	579825.66	N 32 0 2.02	W 104 12 33.02
	5368.00	3.58	113.72	5358.99	-101.20	-98.67	216.93	0.89	363963.27	579831.67	N 32 0 2.00	W 104 12 32.95
	5463.00	4.20	117.02	5453.77	-104.04	-101.44	222.75	0.69	363960.50	579837.49	N 32 0 1.97	W 104 12 32.88
	5557.00	3.71	117.95	5547.55	-107.10	-104.43	228.50	0.53	363957.51	579843.24	N 32 0 1.94	W 104 12 32.82
	5651.00	4.68	109.93	5641.30	-109.90	-107.16	234.79	1.20	363954.78	579849.53	N 32 0 1.91	W 104 12 32.74
	5745.00	5.70	112.04	5734.91	-113.05	-110.22	242.72	1.10	363951.72	579857.46	N 32 0 1.88	W 104 12 32.65
	5840.00	4.51	114.42	5829.53	-116.46	-113.54	250.50	1.27	363948.40	579865.24	N 32 0 1.85	W 104 12 32.56
	5934.00	4.20	113.54	5923.26	-119.44	-116.44	257.02	0.34	363945.50	579871.76	N 32 0 1.82	W 104 12 32.49
	6029.00	4.29	108.65	6018.00	-122.04	-118.97	263.58	0.39	363942.97	579878.31	N 32 0 1.79	W 104 12 32.41
	6124.00	4.20	106.23	6112.74	-124.23	-121.08	270.28	0.21	363940.87	579885.02	N 32 0 1.77	W 104 12 32.33
	6218.00	2.52	110.85	6206.57	-125.99	-122.77	275.52	1.81	363939.17	579890.25	N 32 0 1.76	W 104 12 32.27
	6312.00	1.50	97.24	6300.52	-126.91	-123.66	278.67	1.19	363938.28	579893.41	N 32 0 1.75	W 104 12 32.23
	6406.00	0.40	69.52	6394.50	-126.97	-123.70	280.20	1.24	363938.24	579894.93	N 32 0 1.75	W 104 12 32.22
	6500.00	0.71	19.33	6488.50	-126.31	-123.04	280.70	0.58	363938.90	579895.43	N 32 0 1.75	W 104 12 32.21
	6595.00	0.71	321.63	6583.49	-125.29	-122.02	280.53	0.72	363939.92	579895.26	N 32 0 1.76	W 104 12 32.21
	6688.00	1.50	318.85	6676.47	-123.91	-120.65	279.37	0.85	363941.29	579894.10	N 32 0 1.78	W 104 12 32.23
	6777.00	1.81	331.24	6765.44	-121.79	-118.54	277.93	0.53	363943.40	579892.66	N 32 0 1.80	W 104 12 32.24
	6904.00	2.20	329.25	6892.36	-117.91	-114.69	275.72	0.31	363947.25	579890.45	N 32 0 1.84	W 104 12 32.27
	6935.00	5.00	5.71	6923.30	-116.05	-112.84	275.55	11.24	363949.10	579890.28	N 32 0 1.85	W 104 12 32.27
	6967.00	8.54	13.86	6955.07	-112.36	-109.14	276.25	11.44	363952.80	579890.99	N 32 0 1.89	W 104 12 32.26

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6998.00	12.72	13.99	6985.53	-106.83	-103.59	277.63	13.48	363958.35	579892.37	N 32 0 1.95	W 104 12 32.25
	7030.00	17.03	14.60	7016.45	-98.90	-95.63	279.66	13.48	363966.30	579894.40	N 32 0 2.02	W 104 12 32.22
	7061.00	21.51	15.16	7045.71	-89.05	-85.75	282.30	14.46	363976.19	579897.03	N 32 0 2.12	W 104 12 32.19
	7092.00	24.98	16.61	7074.19	-77.32	-73.99	285.66	11.34	363987.95	579900.39	N 32 0 2.24	W 104 12 32.15
	7124.00	27.28	19.02	7102.92	-63.97	-60.58	289.98	7.91	364001.36	579904.71	N 32 0 2.37	W 104 12 32.10
	7156.00	29.73	20.14	7131.03	-49.64	-46.19	295.10	7.84	364015.74	579909.83	N 32 0 2.51	W 104 12 32.04
	7187.00	32.72	18.66	7157.54	-34.55	-31.04	300.43	9.96	364030.90	579915.16	N 32 0 2.66	W 104 12 31.98
	7218.00	37.04	16.04	7182.97	-17.69	-14.12	305.69	14.75	364047.82	579920.42	N 32 0 2.83	W 104 12 31.92
	7249.00	40.73	13.44	7207.10	1.07	4.70	310.62	13.01	364066.63	579925.36	N 32 0 3.02	W 104 12 31.86
	7281.00	44.04	10.92	7230.73	22.10	25.78	315.16	11.62	364087.71	579929.89	N 32 0 3.23	W 104 12 31.81
First taken point	*7302.00*	*46.33*	*10.13*	*7245.53*	*36.71*	*40.43*	*317.88*	*11.22*	*364102.36*	*579932.61*	*N 32 0 3.37*	*W 104 12 31.78*
	7313.00	47.53	9.74	7253.04	44.61	48.35	319.26	11.22	364110.27	579934.00	N 32 0 3.45	W 104 12 31.76
	7344.00	51.55	8.27	7273.16	67.86	71.64	322.95	13.46	364133.56	579937.68	N 32 0 3.68	W 104 12 31.72
	7376.00	55.36	6.30	7292.21	93.31	97.13	326.19	12.89	364159.05	579940.93	N 32 0 3.93	W 104 12 31.68
	7407.00	60.04	5.28	7308.77	119.34	123.19	328.83	15.35	364185.11	579943.56	N 32 0 4.19	W 104 12 31.65
	7439.00	63.26	4.60	7323.96	147.36	151.25	331.25	10.23	364213.16	579945.98	N 32 0 4.47	W 104 12 31.62
	7470.00	65.56	4.00	7337.35	175.22	179.13	333.35	7.62	364241.04	579948.08	N 32 0 4.74	W 104 12 31.60
	7502.00	67.96	3.53	7349.98	204.53	208.46	335.28	7.62	364270.38	579950.01	N 32 0 5.03	W 104 12 31.57
	7533.00	72.27	2.86	7360.52	233.61	237.56	336.90	14.05	364299.47	579951.63	N 32 0 5.32	W 104 12 31.55
	7565.00	77.13	2.14	7368.96	264.42	268.39	338.24	15.34	364330.30	579952.97	N 32 0 5.63	W 104 12 31.54
	7596.00	81.02	1.79	7374.83	294.82	298.81	339.29	12.60	364360.71	579954.02	N 32 0 5.93	W 104 12 31.53
	7628.00	84.83	0.70	7378.77	326.55	330.55	339.98	12.38	364392.45	579954.70	N 32 0 6.24	W 104 12 31.52
	7659.00	86.49	0.34	7381.12	357.45	361.46	340.26	5.48	364423.35	579954.98	N 32 0 6.55	W 104 12 31.51
	7691.00	87.21	0.39	7382.88	389.40	393.41	340.46	2.26	364455.30	579955.19	N 32 0 6.86	W 104 12 31.51
Slot line crossing	*7784.00*	*88.02*	*0.82*	*7386.75*	*482.29*	*486.32*	*341.44*	*0.98*	*364548.21*	*579956.17*	*N 32 0 7.78*	*W 104 12 31.50*
	7790.00	88.07	0.85	7386.96	488.29	492.32	341.53	0.98	364554.20	579956.26	N 32 0 7.84	W 104 12 31.50
	7884.00	87.97	1.49	7390.20	582.18	586.24	343.45	0.69	364648.12	579958.18	N 32 0 8.77	W 104 12 31.47
	7978.00	88.14	359.64	7393.39	676.10	680.18	344.37	1.98	364742.05	579959.10	N 32 0 9.70	W 104 12 31.46
	8073.00	89.41	359.75	7395.42	771.08	775.15	343.87	1.34	364837.01	579958.60	N 32 0 10.64	W 104 12 31.47
	8166.00	89.48	0.06	7396.33	864.07	868.15	343.71	0.34	364930.00	579958.44	N 32 0 11.56	W 104 12 31.47
	8261.00	89.59	359.07	7397.10	959.06	963.14	342.99	1.05	365024.98	579957.72	N 32 0 12.50	W 104 12 31.47
	8355.00	89.28	359.50	7398.02	1053.06	1057.13	341.82	0.56	365118.96	579956.55	N 32 0 13.43	W 104 12 31.49
	8450.00	89.97	1.63	7398.65	1148.03	1152.12	342.76	2.36	365213.94	579957.49	N 32 0 14.37	W 104 12 31.47
	8544.00	90.03	1.80	7398.65	1241.95	1246.07	345.57	0.19	365307.89	579960.30	N 32 0 15.30	W 104 12 31.44
	8639.00	89.93	0.96	7398.68	1336.89	1341.05	347.86	0.89	365402.85	579962.59	N 32 0 16.24	W 104 12 31.41
	8735.00	90.24	356.68	7398.54	1432.86	1437.00	345.88	4.47	365498.80	579960.61	N 32 0 17.19	W 104 12 31.43
	8830.00	90.00	357.87	7398.34	1527.80	1531.89	341.37	1.28	365593.68	579956.09	N 32 0 18.13	W 104 12 31.48
	8924.00	90.07	359.63	7398.28	1621.79	1625.87	339.31	1.87	365687.65	579954.04	N 32 0 19.06	W 104 12 31.51
	9019.00	89.83	359.51	7398.36	1716.79	1720.86	338.60	0.28	365782.64	579953.33	N 32 0 20.00	W 104 12 31.51
	9113.00	90.62	356.52	7397.99	1810.75	1814.80	335.35	3.29	365876.56	579950.08	N 32 0 20.93	W 104 12 31.55
	9207.00	90.48	355.67	7397.09	1904.60	1908.57	328.95	0.92	365970.33	579943.68	N 32 0 21.86	W 104 12 31.62
	9302.00	90.34	357.07	7396.41	1999.46	2003.38	322.93	1.48	366065.12	579937.66	N 32 0 22.79	W 104 12 31.69
	9396.00	90.14	358.45	7396.02	2093.43	2097.30	319.26	1.48	366159.04	579933.99	N 32 0 23.72	W 104 12 31.73
	9491.00	89.97	358.26	7395.93	2188.41	2192.26	316.53	0.27	366253.99	579931.26	N 32 0 24.66	W 104 12 31.76
	9586.00	90.14	358.74	7395.83	2283.40	2287.23	314.04	0.54	366348.95	579928.77	N 32 0 25.60	W 104 12 31.79
	9682.00	89.59	358.63	7396.06	2379.39	2383.20	311.84	0.58	366444.92	579926.57	N 32 0 26.55	W 104 12 31.82
	9776.00	89.38	358.30	7396.91	2473.38	2477.17	309.32	0.42	366538.87	579924.05	N 32 0 27.48	W 104 12 31.84
	9871.00	89.66	358.50	7397.70	2568.36	2572.13	306.67	0.36	366633.82	579921.40	N 32 0 28.42	W 104 12 31.87
	9965.00	89.28	359.79	7398.57	2662.36	2666.11	305.27	1.43	366727.80	579920.00	N 32 0 29.35	W 104 12 31.89
	10060.00	88.62	0.02	7400.31	2757.34	2761.09	305.11	0.74	366822.77	579919.84	N 32 0 30.29	W 104 12 31.89
	10154.00	89.62	359.62	7401.76	2851.32	2855.08	304.81	1.15	366916.75	579919.55	N 32 0 31.22	W 104 12 31.89
	10249.00	88.76	357.80	7403.10	2946.30	2950.04	302.68	2.12	367011.70	579917.41	N 32 0 32.16	W 104 12 31.91
	10343.00	87.66	357.46	7406.04	3040.21	3043.91	298.79	1.22	367105.57	579913.52	N 32 0 33.09	W 104 12 31.96
	10437.00	87.35	356.95	7410.13	3134.06	3137.71	294.21	0.63	367199.36	579908.94	N 32 0 34.02	W 104 12 32.01
	10532.00	86.04	359.35	7415.60	3228.87	3232.50	291.15	2.87	367294.13	579905.88	N 32 0 34.96	W 104 12 32.04
	10627.00	87.01	357.90	7421.36	3323.68	3327.29	288.87	1.83	367388.92	579903.61	N 32 0 35.90	W 104 12 32.07
	10722.00	86.97	358.91	7426.35	3418.54	3422.12	286.23	1.06	367483.74	579900.97	N 32 0 36.83	W 104 12 32.10
	10816.00	86.35	0.34	7431.83	3512.38	3515.96	285.62	1.66	367577.56	579900.35	N 32 0 37.76	W 104 12 32.11
	10910.00	85.80	1.37	7438.26	3606.12	3609.72	287.02	1.24	367671.32	579901.75	N 32 0 38.69	W 104 12 32.09
	11004.00	86.42	3.48	7444.64	3699.76	3703.42	290.99	2.33	367765.01	579905.72	N 32 0 39.62	W 104 12 32.04
	11099.00	86.97	6.20	7450.12	3794.16	3797.91	298.99	2.92	367859.49	579913.72	N 32 0 40.55	W 104 12 31.95
	11188.00	88.83	7.29	7453.38	3882.35	3886.23	309.43	2.42	367947.81	579924.16	N 32 0 41.43	W 104 12 31.82
	11219.00	88.35	6.39	7454.14	3913.07	3917.00	313.12	3.29	367978.57	579927.86	N 32 0 41.73	W 104 12 31.78
	11250.00	87.52	4.78	7455.26	3943.87	3947.83	316.14	5.84	368009.40	579930.87	N 32 0 42.04	W 104 12 31.75
	11282.00	87.59	3.95	7456.63	3975.71	3979.71	318.57	2.60	368041.28	579933.30	N 32 0 42.35	W 104 12 31.72
	11313.00	88.35	2.56	7457.72	4006.62	4010.64	320.33	5.11	368072.20	579935.06	N 32 0 42.66	W 104 12 31.70
	11345.00	88.76	1.33	7458.53	4038.58	4042.61	321.42	4.05	368104.17	579936.15	N 32 0 42.97	W 104 12 31.68
	11377.00	89.48	359.81	7459.02	4070.56	4074.60	321.74	5.26	368136.16	579936.47	N 32 0 43.29	W 104 12 31.68
	11408.00	90.34	358.44	7459.07	4101.56	4105.60	321.26	5.22	368167.15	579935.99	N 32 0 43.60	W 104 12 31.68
	11440.00	91.07	358.16	7458.68	4133.55	4137.58	320.31	2.44	368199.13	579935.04	N 32 0 43.91	W 104 12 31.69
	11472.00	91.55	358.06	7457.95	4165.54	4169.56	319.26	1.53	368231.11	579933.99	N 32 0 44.23	W 104 12 31.71
	11535.00	90.24	355.52	7456.96	4228.46	4232.44	315.73	4.54	368293.99	579930.46	N 32 0 44.85	W 104 12 31.75
	11567.00	90.79	355.58	7456.67	4260.39	4264.35	313.25	1.73	368325.89	579927.98	N 32 0 45.17	W 104 12 31.77
	11661.00	90.41	355.60	7455.69	4354.19	4358.06	306.02	0.40	368419.59	579920.75	N 32 0 46.10	W 104 12 31.86
	11755.00	90.89	355.50	7454.62	4447.97	4451.77	298.73	0.52	368513.30	579913.46	N 32 0 47.02	W 104 12 31.94
	11849.00	90.65	356.76	7453.36	4541.82	4545.55	292.38	1.36	368607.06	579907.12	N 32 0 47.95	W 104 12 32.01
	11944.00	89.97	358.21	7452.85	4636.76	4640.45	288.21	1.69	368701.96	579902.95	N 32 0 48.89	W 104 12 32.06
	12038.00	91.45	358.39	7451.68	4730.74	4734.40	285.43	1.59	368795.90	579900.16	N 32 0 49.82	W 104 12 32.09
	12133.00	88.38	359.78	7451.82	4825.72	4829.37	283.91	3.55	368890.86	579898.64	N 32 0 50.76	W 104 12 32.11
	12228.00	89.28	359.83	7453.76	4920.70	4924.35	283.59	0.95	368985.83	579898.32	N 32 0 51.70	W 104 12 32.11
	12323.00	90.41	359.59	7454.02	5015.70	5019.35	283.11	1.22	369080.82	579897.84	N 32 0 52.64	W 104 12 32.11
	12418.00	91.72	359.49	7452.25	5110.68	5114.33	282.34	1.38	369175.79	579897.08	N 32 0 53.58	W 104 12 32.12
	12513.00	90.17	0.10	7450.69	5205.66	5209.31	282.00	1.75	369270.77	579896.74	N 32 0 54.52	W 104 12 32.12
	12608.00	91.51	359.54	7449.29	5300.64	5304.30	281.71	1.53	369365.74	579896.44	N 32 0 55.46	W 104 12 32.13
	12703.00	89.00	0.16	7448.87	5395.63	5399.29	281.46	2.72	369460.73	579896.19	N 32 0 56.40	W 104 12 32.13
	12798.00	90.24	359.95	7449.50	5490.62	5494.28	281.55	1.32	369555.71	579896.28	N 32 0 57.34	W 104 12 32.13
	12892.00	90.31	359.36	7449.05	5584.61	5588.28	280.98	0.63	369649.70	579895.72	N 32 0 58.27	W 104 12 32.13
	12987.00	91.24	358.73	7447.76	5679.60	5683.26	279.40	1.18	369744.67	579894.13	N 32 0 59.21	W 104 12 32.15
	13081.00	90.03	359.19	7446.72	5773.59	5777.23	277.69	1.38	369838.64	579892.43	N 32 1 0.14	W 104 12 32.17
	13176.00	88.83	359.15	7447.67	5868.59	5872.22	276.32	1.26	369933.61	579891.05	N 32 1 1.08	W 104 12 32.18
	13270.00	89.97	359.12	7448.65	5962.58	5966.20	274.90	1.21	370027.59	579889.63	N 32 1 2.01	W 104 12 32.20
	13365.00	91.07	358.92	7447.79	6057.57	6061.18	273.27	1.18	370122.56	579888.01	N 32 1 2.95	W 104 12 32.21
	13460.00	89.86	359.53	7447.02	6152.57	6156.17	271.99	1.43	370217.54	579886.72	N 32 1 3.89	W 104 12 32.23
	13555.00	91.14	358.99	7446.19	6247.56	6251.15	270.76	1.46	370312.51	579885.50	N 32 1 4.83	W 104 12 32.24
	13648.00	92.27	358.25	7443.42	6340.51	6344.08	268.52	1.45	370405.43	579883.26	N 32 1 5.75	W 104 12 32.27
	13742.00	91.14	359.46	7440.63	6434.46	6438.02	266.65	1.76	370499.36	579881.38	N 32 1 6.68	W 104 12 32.29
	13837.00	92.06	358.97	7437.97	6529.42	6532.97	265.34	1.10	370594.31	579880.08	N 32 1 7.62	W 104 12 32.30
	13931.00	90.41	359.72	7435.95	6623.40	6626.94	264.27	1.93	370688.27	579879.01	N 32 1 8.55	W 104 12 32.31
	14026.00	91.31	359.23	7434.52	6718.38	6721.92	263.40	1.08	370783.24	579878.14	N 32 1 9.49	W 104 12 32.32
	14068.00	91.89	358.97	7433.35	6760.37	6763.90	262.74	1.51	370825.22	579877.48	N 32 1 9.90	W 104 12 32.33
TD, project to bit	14118.00	91.89	358.97	7431.70	6810.34	6813.87	261.84	0.00	370875.18	579876.58	N 32 1 10.40	W 104 12 32.34

Survey Type: Def Survey

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")

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	23.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex Medwick 32 Federal Com #8H MWD final
	1	23.000	23.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex Medwick 32 Federal Com #8H MWD final
	1	23.000	14118.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Medwick 32 Federal Com #8H

Schlumberger **Cimarex** Final PvA **CIMAREX**

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Medwick 32 Federal Com #8H	NM Eddy County (NAD 83)	Cimarex Medwick 32 Federal Com #8H

Gravity & Magnetic Parameters						Surface Location		NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	HDGM 2016	Dip:	60.661°	Date:	22-May-2017	Lat:	N 32 0 2.87	Northing:	384061.83fUS	Grid Conv:	0.0654°	Slot:	Cimarex Medwick 32 Federal Com #8H	TVD Ref:	RKB(3216ft above MSL)
MagDec:	7.396°	FS:	47967.86nT	Gravity FS:	998.433mgn (9.80665 Based)	Lon:	W 104 12 36.47	Easting:	573914.76fUS	Scale Fact:	0.99991077	Plan:	Cimarex Medwick 32 Federal Com #8H MWD final		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [290' FSL, 2030' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First taken point	7302.00	46.33	10.13	7245.53	36.71	40.43	317.88	11.22
Slot line crossing	7784.00	88.02	0.82	7386.75	482.29	486.32	341.44	0.98
TD, project to bit	14118.00	91.89	358.97	7431.70	6810.34	6813.87	261.84	0.00