

Please provide signature
page for directional survey

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 05 2017

30-015-42170

RECEIVED

Schlumberger

CIMAREX

Cimarex Hornsby 35 Federal Com 10H MWD Final Survey Geodetic Report

(Def Survey)

Report Date: June 05, 2017 - 01:33 PM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Hornsby 35 Federal Com 10H / Cimarex Hornsby 35 Federal Com 10H
Well: Cimarex Hornsby 35 Federal Com 10H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Hornsby 35 Federal Com 10H MWD Final
Survey Date: May 18, 2017
Tort / AHD / DDI / ERD Ratio: 200.805 * / 7242.475 ft / 6.433 / 0.929
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 0' 2.85064", W 104° 9' 17.57866"
Location Grid N/E Y/X: N 364073.230 NUS, E 596654.550 NUS
CRS Grid Convergence Angle: 0.0946°
Grid Scale Factor: 0.9999126
Version / Patch: 2.10.254.0
Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 0.040° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3249.100 ft above MSL
Seabed / Ground Elevation: 3225.100 ft above MSL
Magnetic Declination: 7.319°
Total Gravity Field Strength: 998.4288mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47991.652 nT
Magnetic Dip Angle: 59.709°
Declination Date: May 18, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.0946°
Total Corr Mag North->Grid North: 7.2240°
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [290° FSL, 820° FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	364073.23	596654.55	N 32 0 2.85	W 104 9 17.58
180.00	1.90	326.61	179.97	2.50	2.50	-1.63	1.06	364075.73	596652.92	N 32 0 2.88	W 104 9 17.60	
295.00	2.12	329.63	294.90	5.93	5.93	-3.75	0.21	364079.16	596650.80	N 32 0 2.91	W 104 9 17.62	
335.00	2.03	333.24	334.87	7.20	7.20	-4.45	0.40	364080.43	596650.10	N 32 0 2.92	W 104 9 17.63	
433.00	2.03	333.24	432.81	10.29	10.30	-6.01	0.00	364083.53	596648.54	N 32 0 2.95	W 104 9 17.65	
475.00	2.12	328.30	474.78	11.62	11.62	-6.75	0.48	364084.85	596647.80	N 32 0 2.97	W 104 9 17.66	
565.00	2.12	329.14	564.72	14.46	14.47	-8.48	0.03	364087.70	596646.07	N 32 0 2.99	W 104 9 17.68	
658.00	2.12	334.03	657.66	17.49	17.49	-10.12	0.19	364090.72	596644.43	N 32 0 3.02	W 104 9 17.70	
750.00	1.02	356.60	749.62	19.83	19.84	-10.91	1.35	364093.07	596643.64	N 32 0 3.05	W 104 9 17.70	
841.00	1.30	105.03	840.61	20.37	20.38	-9.96	2.08	364093.61	596644.59	N 32 0 3.05	W 104 9 17.69	
935.00	1.30	105.73	934.59	19.81	19.81	-7.90	0.02	364093.04	596646.65	N 32 0 3.05	W 104 9 17.67	
1030.00	1.40	101.43	1029.58	19.29	19.29	-5.73	0.15	364092.52	596648.82	N 32 0 3.04	W 104 9 17.64	
1126.00	1.33	92.15	1125.53	19.02	19.02	-3.47	0.24	364092.25	596651.08	N 32 0 3.04	W 104 9 17.62	
1219.00	2.30	197.16	1218.50	17.19	17.19	-2.94	3.16	364090.42	596651.61	N 32 0 3.02	W 104 9 17.61	
1314.00	2.50	200.25	1313.42	13.43	13.43	-4.22	0.25	364086.66	596650.33	N 32 0 2.98	W 104 9 17.63	
1409.00	2.92	199.58	1408.31	9.20	9.21	-5.75	0.44	364082.43	596648.80	N 32 0 2.94	W 104 9 17.65	
1504.00	2.83	200.86	1503.19	4.73	4.73	-7.39	0.12	364077.96	596647.16	N 32 0 2.90	W 104 9 17.66	
1588.00	2.43	181.30	1587.11	1.01	1.02	-8.17	1.16	364074.25	596646.38	N 32 0 2.86	W 104 9 17.67	
1683.00	2.70	143.00	1682.02	-2.79	-2.78	-6.87	1.79	364070.45	596647.88	N 32 0 2.82	W 104 9 17.66	
1777.00	3.23	124.14	1775.89	-6.04	-6.04	-3.35	1.17	364067.19	596651.20	N 32 0 2.79	W 104 9 17.62	
1880.00	3.62	119.65	1878.71	-9.27	-9.28	1.88	0.46	364063.95	596656.43	N 32 0 2.76	W 104 9 17.56	
1975.00	4.51	109.91	1973.47	-12.03	-12.03	8.00	1.18	364061.20	596662.55	N 32 0 2.73	W 104 9 17.49	
2070.00	4.40	118.83	2068.19	-15.05	-15.06	14.70	0.74	364058.17	596669.25	N 32 0 2.70	W 104 9 17.41	
2105.00	3.93	134.67	2103.09	-18.54	-18.55	16.73	3.54	364056.88	596671.28	N 32 0 2.69	W 104 9 17.38	
2230.00	3.40	140.71	2227.84	-22.42	-22.43	22.13	0.52	364050.80	596676.68	N 32 0 2.63	W 104 9 17.32	
2284.00	3.31	142.42	2281.78	-23.97	-23.99	23.36	0.40	364048.24	596677.91	N 32 0 2.61	W 104 9 17.31	
2358.00	1.72	121.52	2355.69	-26.86	-26.88	26.22	1.93	364046.35	596680.77	N 32 0 2.58	W 104 9 17.27	
2453.00	1.59	115.32	2450.65	-28.17	-28.19	28.63	0.23	364045.04	596683.18	N 32 0 2.57	W 104 9 17.25	
2548.00	1.90	117.42	2545.60	-29.45	-29.48	31.22	0.33	364043.76	596685.77	N 32 0 2.56	W 104 9 17.22	
2643.00	1.02	70.22	2640.58	-29.89	-29.92	33.41	1.49	364043.32	596687.96	N 32 0 2.55	W 104 9 17.19	
2736.00	0.80	29.42	2735.56	-29.03	-29.05	34.53	0.70	364044.18	596689.08	N 32 0 2.56	W 104 9 17.18	
2832.00	0.80	14.02	2829.56	-27.82	-27.84	35.01	0.23	364045.39	596689.56	N 32 0 2.57	W 104 9 17.17	
2928.00	0.50	8.92	2923.55	-26.78	-26.80	35.24	0.32	364046.43	596689.78	N 32 0 2.58	W 104 9 17.17	
3021.00	0.49	12.34	3018.55	-25.97	-26.00	35.39	0.03	364047.24	596689.94	N 32 0 2.59	W 104 9 17.17	
3115.00	0.49	13.66	3112.54	-25.19	-25.21	35.57	0.01	364048.02	596690.12	N 32 0 2.60	W 104 9 17.17	
3209.00	0.31	343.02	3206.54	-24.55	-24.58	35.59	0.29	364048.65	596690.14	N 32 0 2.61	W 104 9 17.17	
3303.00	0.30	333.22	3300.54	-24.09	-24.12	35.40	0.06	364049.12	596689.95	N 32 0 2.61	W 104 9 17.17	
3397.00	0.30	311.32	3394.54	-23.71	-23.73	35.11	0.12	364049.50	596689.66	N 32 0 2.62	W 104 9 17.17	
3491.00	0.88	111.62	3488.53	-23.81	-23.84	35.60	1.24	364049.40	596690.14	N 32 0 2.61	W 104 9 17.17	
3586.00	2.12	109.22	3583.50	-24.66	-24.68	37.93	1.31	364048.55	596692.48	N 32 0 2.61	W 104 9 17.14	
3681.00	3.00	109.32	3678.40	-26.06	-26.09	41.94	0.93	364047.15	596696.48	N 32 0 2.59	W 104 9 17.09	
3776.00	2.70	109.12	3773.29	-27.61	-27.64	46.40	0.32	364045.59	596700.94	N 32 0 2.58	W 104 9 17.04	
3870.00	2.61	113.72	3867.19	-29.19	-29.23	50.45	0.25	364044.01	596704.99	N 32 0 2.56	W 104 9 16.99	
3964.00	3.40	116.82	3961.06	-31.31	-31.35	54.90	0.86	364041.89	596709.44	N 32 0 2.54	W 104 9 16.94	
4059.00	3.23	117.02	4055.90	-33.79	-33.83	59.79	0.18	364039.40	596714.34	N 32 0 2.51	W 104 9 16.88	
4153.00	3.23	116.62	4149.75	-36.18	-36.22	64.52	0.02	364037.01	596719.07	N 32 0 2.49	W 104 9 16.83	
4252.00	3.14	117.62	4248.59	-38.69	-38.74	69.41	0.11	364034.50	596723.96	N 32 0 2.47	W 104 9 16.77	
4346.00	2.52	114.52	4342.48	-40.74	-40.80	73.57	0.88	364032.44	596728.11	N 32 0 2.45	W 104 9 16.73	
4441.00	3.62	114.32	4437.34	-42.84	-42.90	78.20	1.16	364030.34	596732.75	N 32 0 2.42	W 104 9 16.67	
4536.00	3.71	113.32	4532.15	-45.29	-45.35	83.76	0.12	364027.88	596738.30	N 32 0 2.40	W 104 9 16.61	
4625.00	3.14	122.12	4620.99	-47.72	-47.79	88.47	0.87	364025.45	596743.01	N 32 0 2.38	W 104 9 16.55	
4719.00	2.90	126.12	4714.86	-50.49	-50.56	92.57	0.34	364022.68	596747.11	N 32 0 2.35	W 104 9 16.50	
4814.00	2.43	126.22	4809.76	-53.10	-53.16	96.13	0.49	364020.07	596750.68	N 32 0 2.32	W 104 9 16.46	
4909.00	3.40	125.22	4904.63	-55.91	-55.98	100.06	1.02	364017.26	596754.60	N 32 0 2.30	W 104 9 16.42	
5004.00	4.02	123.92	4999.43	-59.39	-59.46	105.13	0.66	364013.77	596759.67	N 32 0 2.26	W 104 9 16.36	
5098.00	3.14	126.42	5093.25	-62.75	-62.83	109.93	0.95	364010.41	596764.47	N 32 0 2.23	W 104 9 16.30	
5193.00	3.00	129.72	5188.11	-65.88	-65.96	113.94	0.24	364007.27	596768.48	N 32 0 2.20	W 104 9 16.26	
5287.00	3.31	125.32	5281.97	-69.02	-69.10	118.04	0.42	364004.13	596772.58	N 32 0 2.16	W 104 9 16.21	
5382.00	3.31	127.52	5376.81	-72.27	-72.36	122.46	0.13	364000.88	596777.00	N 32 0 2.13	W 104 9 16.16	
5475.00	3.31	126.22	5469.66	-75.49	-75.58	126.75	0.08	363997.66	596781.29	N 32 0 2.10	W 104 9 16.11	
5571.00	3.14	125.32	5565.50	-78.65	-78.74	131.13	0.18	363994.50	596785.67	N 32 0 2.07	W 104 9 16.06	
5666.00	2.83	133.42	5660.37	-81.76	-81.85	134.96	0.55	363991.38	596789.50	N 32 0 2.04	W 104 9 16.01	
5760.00	3.23	125.12	5754.24	-84.87	-84.97	138.81	0.63	363988.27	596793.35	N 32 0 2.01	W 104 9 15.97	
5852.00	2.83	126.92	5846.11	-87.73	-87.83	142.75	0.45	363985.41	596797.28	N 32 0 1.98	W 104 9 15.92	
5947.00	3.14	119.32	5940.99	-90.41	-90.51	146.89	0.53	363982.73	596801.43	N 32 0 1.95	W 104 9 15.87	
6042.00	1.90	105.02	6035.89	-92.09	-92.19	150.68	1.45	363981.05	596805.22	N 32 0 1.94	W 104 9 15.83	
6138.00	1.33	89.82	6131.86	-92.49	-92.60	153.33	0.74	363980.64	596807.87	N 32 0 1.93	W 104 9 15.80	
6232.00	1.90	91.82	6225.82	-92.54	-92.65	155.98	0.61	363980.59	596810.52	N 32 0 1.93	W 104 9 15.77	
6327.00	2.83	98.52	6320.74	-92.93	-93.04	159.87	1.02	363980.19	596814.41	N 32 0 1.93	W 104 9 15.72	
6421.00	2.21	104.92	6414.64	-93.74	-93.86	163.92	0.72	363979.38	596818.45	N 32 0 1.92	W 104 9 15.68	
6517.00	3.14	119.82	6510.54	-95.52	-95.64	167.99	1.20	363977.60	596822.52	N 32 0 1.90	W 104 9 15.63	
6611.00	4.11	124.32	6604.35	-98.70	-98.82	173.01	1.07	363974.42	596827.54	N 32 0 1.87	W 104 9 15.57	
6705.00	4.02	126.02	6698.11	-102.53	-102.66	178.45	0.16	363970.58	596832.99	N 32 0 1.83	W 104 9 15.51	
6799.00	3.23	127.52	6791.93	-106.08	-106.21	183.22	0.85	363967.03	596837.75	N 32 0 1.80	W 104 9 15.45	
6894.00	2.30	127.62	6886.81	-108.87	-109.00	186.85	0.98	363964.24	596841.38	N 32 0 1.77	W 104 9 15.41	
7083.00	1.90	141.42	7075.69	-113.63	-113.76	191.81	0.34	363959.48	596846.34	N 32 0 1.72	W 104 9 15.35	

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 ° ' ")
	7177.00	1.19	169.92	7169.65	-115.81	-115.94	192.95	1.09	363957.30	596847.48	N 32 0 1.70 W 104 9 15.34	
	7219.00	1.19	204.82	7211.65	-116.63	-116.77	192.84	1.70	363956.47	596847.38	N 32 0 1.69 W 104 9 15.34	
	7301.00	1.29	249.11	7293.63	-117.74	-117.87	191.62	1.15	363955.37	596846.16	N 32 0 1.68 W 104 9 15.36	
	7332.00	3.19	351.05	7324.61	-117.01	-117.14	191.16	11.87	363956.10	596845.70	N 32 0 1.69 W 104 9 15.36	
	7364.00	6.84	2.05	7356.48	-114.22	-114.36	191.09	11.74	363958.88	596845.63	N 32 0 1.72 W 104 9 15.36	
	7395.00	10.22	7.06	7387.14	-109.65	-109.78	191.50	11.15	363963.46	596846.03	N 32 0 1.76 W 104 9 15.36	
	7427.00	14.16	7.12	7418.41	-102.94	-103.08	192.33	12.31	363970.16	596846.86	N 32 0 1.83 W 104 9 15.35	
	7458.00	18.08	7.64	7448.19	-94.42	-94.55	193.44	12.59	363978.69	596847.97	N 32 0 1.91 W 104 9 15.33	
	7490.00	21.78	8.94	7478.27	-83.83	-83.77	195.02	11.71	363989.47	596849.56	N 32 0 2.02 W 104 9 15.32	
	7521.00	25.97	8.27	7506.61	-71.22	-71.36	196.89	13.54	364001.87	596851.43	N 32 0 2.14 W 104 9 15.29	
	7553.00	29.27	4.61	7534.96	-56.49	-56.63	198.53	11.59	364018.61	596853.06	N 32 0 2.29 W 104 9 15.27	
	7584.00	32.19	359.67	7561.61	-40.87	-40.81	199.09	12.44	364032.42	596853.83	N 32 0 2.44 W 104 9 15.27	
	7616.00	34.78	357.54	7588.30	-23.03	-23.17	198.65	8.83	364050.06	596853.19	N 32 0 2.62 W 104 9 15.27	
	7647.00	37.77	357.56	7613.29	-4.71	-4.85	197.87	9.71	364068.38	596852.40	N 32 0 2.80 W 104 9 15.28	
	7679.00	40.63	357.72	7638.08	15.49	15.36	197.04	8.94	364088.58	596851.57	N 32 0 3.00 W 104 9 15.29	
	7711.00	43.88	359.49	7661.77	37.00	36.88	196.52	10.82	364110.09	596851.06	N 32 0 3.21 W 104 9 15.30	
First Taken Point	7716.00	44.44	359.66	7665.36	40.48	40.35	196.50	11.37	364113.57	596851.03	N 32 0 3.25 W 104 9 15.30	
	7742.00	47.33	0.51	7683.45	59.15	59.01	196.53	11.37	364132.23	596851.06	N 32 0 3.43 W 104 9 15.30	
	7774.00	51.15	0.50	7704.34	83.38	83.24	196.74	11.94	364156.47	596851.28	N 32 0 3.67 W 104 9 15.29	
	7805.00	55.78	0.36	7722.79	108.28	108.14	196.93	14.94	364181.36	596851.46	N 32 0 3.92 W 104 9 15.29	
	7837.00	60.63	0.66	7739.65	135.47	135.33	197.17	15.18	364208.55	596851.71	N 32 0 4.19 W 104 9 15.29	
	7868.00	65.25	0.69	7753.75	163.07	162.93	197.50	14.90	364236.14	596852.03	N 32 0 4.46 W 104 9 15.28	
	7900.00	70.21	0.62	7765.87	192.67	192.53	197.84	15.50	364265.74	596852.37	N 32 0 4.75 W 104 9 15.28	
	7931.00	74.82	360.00	7775.18	222.23	222.09	197.99	14.99	364295.30	596852.53	N 32 0 5.05 W 104 9 15.28	
	7963.00	78.43	359.93	7782.58	253.36	253.22	197.98	11.28	364326.42	596852.51	N 32 0 5.35 W 104 9 15.27	
	7995.00	81.85	359.54	7788.06	284.88	284.74	197.83	10.75	364357.94	596852.36	N 32 0 5.67 W 104 9 15.28	
	8057.00	88.49	359.79	7793.28	346.62	346.48	197.47	10.72	364419.68	596852.00	N 32 0 6.28 W 104 9 15.28	
	8088.00	89.21	359.51	7793.90	377.61	377.48	197.28	2.49	364450.67	596851.81	N 32 0 6.58 W 104 9 15.28	
	8174.00	90.93	358.96	7793.80	483.80	483.47	196.13	2.10	364536.65	596850.86	N 32 0 7.43 W 104 9 15.29	
Slot line crossing	8224.00	90.91	358.38	7792.99	513.58	513.45	194.97	1.16	364586.63	596849.50	N 32 0 7.93 W 104 9 15.30	
	8268.00	90.89	357.87	7792.30	557.55	557.42	193.53	1.16	364630.60	596848.06	N 32 0 8.36 W 104 9 15.32	
	8362.00	90.45	359.03	7791.20	651.51	651.37	190.99	1.32	364724.55	596845.52	N 32 0 9.29 W 104 9 15.35	
	8457.00	90.79	0.62	7790.18	746.50	746.36	190.70	1.71	364819.53	596845.23	N 32 0 10.23 W 104 9 15.35	
	8551.00	90.93	1.35	7788.76	840.47	840.34	192.31	0.79	364913.49	596846.85	N 32 0 11.16 W 104 9 15.33	
	8646.00	90.86	1.83	7787.28	935.43	935.29	194.85	0.51	365008.44	596849.48	N 32 0 12.10 W 104 9 15.30	
	8740.00	91.00	1.46	7785.76	1029.38	1029.24	197.65	0.44	365102.38	596852.18	N 32 0 13.03 W 104 9 15.26	
	8835.00	90.86	1.10	7784.21	1124.34	1124.20	199.77	0.41	365197.33	596854.30	N 32 0 13.97 W 104 9 15.24	
	8929.00	90.93	1.03	7782.74	1218.32	1218.18	201.52	0.11	365291.30	596856.05	N 32 0 14.90 W 104 9 15.22	
	9023.00	90.86	1.00	7781.28	1312.29	1312.15	203.18	0.08	365385.26	596857.71	N 32 0 15.83 W 104 9 15.19	
	9118.00	90.76	0.51	7779.93	1407.27	1407.13	204.43	0.53	365480.24	596858.97	N 32 0 16.77 W 104 9 15.18	
	9212.00	90.72	0.07	7778.66	1501.26	1501.12	204.91	0.47	365574.22	596859.44	N 32 0 17.70 W 104 9 15.17	
	9306.00	90.79	0.56	7777.42	1595.25	1595.11	205.43	0.53	365668.20	596859.96	N 32 0 18.63 W 104 9 15.16	
	9401.00	90.48	359.74	7776.43	1690.25	1690.10	205.67	0.90	365763.18	596860.21	N 32 0 19.57 W 104 9 15.16	
	9496.00	90.79	0.60	7775.38	1785.24	1785.10	205.96	0.96	365858.17	596860.49	N 32 0 20.51 W 104 9 15.15	
	9590.00	90.69	0.49	7774.16	1879.23	1879.09	206.85	0.16	365952.15	596861.38	N 32 0 21.44 W 104 9 15.14	
	9684.00	90.89	0.10	7772.87	1973.22	1973.07	207.33	0.47	366046.13	596861.87	N 32 0 22.37 W 104 9 15.13	
	9779.00	90.78	359.79	7771.50	2068.21	2068.06	207.24	0.35	366141.11	596861.77	N 32 0 23.31 W 104 9 15.13	
	9873.00	90.52	0.80	7770.45	2162.20	2162.06	207.73	1.10	366235.09	596862.26	N 32 0 24.24 W 104 9 15.12	
	9968.00	90.78	1.27	7769.39	2257.16	2257.03	209.44	0.56	366330.06	596863.97	N 32 0 25.18 W 104 9 15.10	
	10062.00	90.56	0.94	7768.29	2351.16	2351.01	211.26	0.40	366424.03	596865.79	N 32 0 26.11 W 104 9 15.08	
	10157.00	90.89	0.16	7767.07	2446.15	2446.00	212.17	0.88	366519.01	596866.70	N 32 0 27.05 W 104 9 15.07	
	10251.00	91.00	358.49	7765.52	2540.12	2539.97	211.06	1.78	366612.98	596865.59	N 32 0 27.98 W 104 9 15.08	
	10345.00	91.00	357.31	7763.88	2634.04	2633.90	207.62	1.28	366706.89	596862.15	N 32 0 28.91 W 104 9 15.12	
	10440.00	90.69	356.90	7762.48	2728.90	2728.76	202.82	0.54	366801.75	596857.35	N 32 0 29.85 W 104 9 15.17	
	10534.00	90.72	358.78	7761.32	2822.82	2822.69	199.28	2.00	366895.66	596853.81	N 32 0 30.78 W 104 9 15.21	
	10629.00	90.89	0.44	7759.99	2917.81	2917.67	198.63	1.76	366990.64	596853.16	N 32 0 31.72 W 104 9 15.22	
	10724.00	90.55	0.57	7758.79	3012.80	3012.66	199.47	0.38	367085.62	596854.00	N 32 0 32.66 W 104 9 15.20	
	10818.00	90.72	0.56	7757.75	3106.79	3106.65	200.39	0.18	367179.60	596854.93	N 32 0 33.59 W 104 9 15.19	
	10913.00	90.58	0.54	7756.67	3201.78	3201.64	201.31	0.15	367274.58	596855.84	N 32 0 34.53 W 104 9 15.18	
	11007.00	90.76	0.31	7755.57	3295.77	3295.63	202.00	0.31	367368.56	596856.54	N 32 0 35.46 W 104 9 15.17	
	11102.00	90.72	0.48	7754.35	3390.76	3390.62	202.66	0.18	367463.55	596857.19	N 32 0 36.40 W 104 9 15.16	
	11196.00	90.69	0.33	7753.19	3484.75	3484.61	203.32	0.16	367557.53	596857.85	N 32 0 37.33 W 104 9 15.15	
	11291.00	90.55	0.14	7752.16	3578.74	3578.60	203.71	0.26	367652.51	596858.24	N 32 0 38.27 W 104 9 15.14	
	11385.00	90.83	0.41	7751.03	3673.74	3673.60	204.16	0.41	367746.50	596858.70	N 32 0 39.20 W 104 9 15.14	
	11480.00	90.65	359.87	7749.80	3768.73	3768.59	204.40	0.60	367841.48	596858.93	N 32 0 40.14 W 104 9 15.13	
	11573.00	89.45	359.56	7749.72	3861.73	3861.58	203.93	1.33	367934.47	596858.46	N 32 0 41.06 W 104 9 15.14	
	11668.00	89.66	358.35	7750.46	3956.70	3956.56	202.20	1.29	368029.44	596856.73	N 32 0 42.00 W 104 9 15.15	
	11762.00	90.17	358.11	7750.60	4050.66	4050.52	199.30	0.60	368123.39	596853.83	N 32 0 42.93 W 104 9 15.19	
	11857.00	91.00	358.83	7749.63	4145.61	4145.48	196.76	1.16	368218.34	596851.29	N 32 0 43.87 W 104 9 15.21	
	11951.00	91.27	359.69	7747.77	4239.59	4239.45	195.55	0.96	368312.30	596850.08	N 32 0 44.80 W 104 9 15.23	
	12045.00	91.24	0.81	7745.71	4333.56	4333.43	195.96	1.19	368406.27	596850.49	N 32 0 45.73 W 104 9 15.22	
	12139.00	91.41	2.19	7743.53	4427.50	4427.37	198.42	1.48	368500.20	596852.95	N 32 0 46.66 W 104 9 15.19	
	12233.00	91.31	2.56	7741.30	4521.40	4521.26	202.31	0.41	368594.08	596856.84	N 32 0 47.59 W 104 9 15.14	
	12328.00	90.83	1.27	7739.53	4616.33	4616.19	205.48	1.45	368689.00	596860.02	N 32 0 48.53 W 104 9 15.10	
	12423.00	91.03	359.88	7737.99	4711.31	4711.17	206.44	1.48	368783.98	596860.97	N 32 0 49.47 W 104 9 15.09	
	12517.00	91.07	358.63	7736.26	4805.28	4805.14	205.22	1.33	368877.94	596859.75	N 32 0 50.40 W 104 9 15.10	
	12612.00	90.86	357.66	7734.66	4900.22	4900.08	202.14	1.04	368972.87	596856.87	N 32 0 51.34 W 104 9 15.14	
	12706.00	90.86	357.51	7733.25	4994.12	4993.98	198.18	0.16	369066.77	596852.71		

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 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	24.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Hornsby 35 Federal Com 10H MWD Final				
	1	24.000	24.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Borehole / Cimarex Hornsby 35 Federal Com 10H MWD Final				
	1	24.000	14536.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Hornsby 35 Federal Com 10H				

Schlumberger

Cimarex

Final PVA

CIMAREX

Borehole: Original Borehole Well: Cimarex Hornsby 35 Federal Com 10H Field: NM Eddy County (NAD 83) Structure: Cimarex Hornsby 35 Federal Com 10H

Company & Borehole Parameters: Project: 90082 2518 Date: 16-May-2017 Surface Location: UTM Zone 12 S 2.15 Meters Above Sea Level: 354073.2390US Grid Contour: 0.0948' Scale Factor: 0.9999138

Critical Points								
Critical Point	MD	IMCL	AZIM	TVD	VBED	N(1/2)-	E(1/2)-	DLS
SHL (290° FSL 820° FEL)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First Taken Point	7716.00	44.44	359.86	7665.36	40.48	40.35	196.50	11.37
Slot line crossing	8224.00	90.91	358.38	7792.99	513.58	513.45	194.97	1.16
TD, project to bit	14536.00	91.10	4.28	7708.12	6821.77	6821.61	219.96	0.00

