

Final Survey - Cimarex Crawford 27-26 Fee 2H MWD 0ft-18219ft (Surcon Corrected) 30-015-44694

(Def Survey)



Report Date: July 31, 2018 - 03:21 PM
 Client: Cimarex
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Cimarex Crawford 27-26 Fee 2H / Cimarex Crawford 27-26 Fee 2H
 Well: Cimarex Crawford 27-26 Fee 2H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Final Survey - Cimarex Crawford 27-26 Fee 2H MWD 0ft-18219ft (Surcon Corrected)
 Survey Date: June 29, 2018
 Tort / AHD / DDI / ERD Ratio: 219.636 ° / 10376.339 ft / 6.676 / 1.185
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 11' 36.57600", W 104° 17' 18.44328"
 Location Grid N/E Y/X: N 434130.200 ftUS, E 555219.500 ftUS
 CRS Grid Convergence Angle: 0.0239 °
 Grid Scale Factor: 0.99990931
 Version / Patch: 2.10.720.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 90.156 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3373.000 ft above MSL
 Seabed / Ground Elevation: 3349.000 ft above MSL
 Magnetic Declination: 7.396 °
 Total Gravity Field Strength: 998.4453mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47890.703 nT
 Magnetic Dip Angle: 59.867 °
 Declination Date: July 24, 2018
 Magnetic Declination Model: HDGM 2018
 North Reference: Grid North
 Grid Convergence Used: 0.0239 °
 Total Corr Mag North->Grid North: 7.3725 °
 Local Coord Referenced To: Structure Reference Point

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 01 2018

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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 [782' FNL, 330' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	434130.20	555219.50	N 32 11 36.58 W 104 17 18.44	
	168.00	0.39	75.43	168.00	0.55	0.14	0.55	0.23	434130.34	555220.05	N 32 11 36.58 W 104 17 18.44	
	202.00	0.40	76.97	202.00	0.78	0.20	0.78	0.04	434130.40	555220.28	N 32 11 36.58 W 104 17 18.43	
	273.00	0.53	80.62	273.00	1.35	0.31	1.35	0.19	434130.51	555220.85	N 32 11 36.58 W 104 17 18.43	
	341.00	0.50	87.90	340.99	1.95	0.37	1.95	0.11	434130.57	555221.45	N 32 11 36.58 W 104 17 18.42	
	485.00	0.53	120.87	484.99	3.15	0.05	3.15	0.20	434130.25	555222.65	N 32 11 36.58 W 104 17 18.41	
	576.00	0.62	121.38	575.98	3.94	-0.42	3.93	0.10	434129.78	555223.43	N 32 11 36.57 W 104 17 18.40	
	667.00	0.88	126.89	666.97	4.92	-1.10	4.91	0.30	434129.10	555224.41	N 32 11 36.57 W 104 17 18.39	
	758.00	1.53	126.40	757.95	6.46	-2.24	6.45	0.71	434127.96	555225.95	N 32 11 36.55 W 104 17 18.37	
	849.00	1.21	112.10	848.93	8.33	-3.32	8.32	0.51	434126.88	555227.82	N 32 11 36.54 W 104 17 18.35	
	943.00	0.90	104.56	942.91	9.96	-3.88	9.95	0.36	434126.32	555229.45	N 32 11 36.54 W 104 17 18.33	
	1037.00	1.52	115.44	1036.89	11.81	-4.60	11.79	0.70	434125.60	555231.29	N 32 11 36.53 W 104 17 18.31	
	1131.00	2.58	116.09	1130.83	14.84	-6.06	14.82	1.13	434124.14	555234.32	N 32 11 36.52 W 104 17 18.27	
	1226.00	2.12	108.27	1225.75	18.43	-7.56	18.41	0.59	434122.64	555237.91	N 32 11 36.50 W 104 17 18.23	
	1320.00	2.14	104.04	1319.68	21.78	-8.53	21.76	0.17	434121.67	555241.26	N 32 11 36.49 W 104 17 18.19	
	1415.00	2.09	69.22	1414.62	25.12	-8.34	25.10	1.33	434121.86	555244.60	N 32 11 36.49 W 104 17 18.15	
	1509.00	2.89	50.54	1508.54	28.55	-6.23	28.53	1.20	434123.97	555248.03	N 32 11 36.51 W 104 17 18.11	
	1603.00	1.15	54.41	1602.47	31.14	-4.17	31.13	1.86	434126.03	555250.63	N 32 11 36.53 W 104 17 18.08	
	1698.00	0.99	226.20	1697.47	31.33	-4.19	31.31	2.25	434126.01	555250.81	N 32 11 36.53 W 104 17 18.08	
	1861.00	1.31	233.70	1860.44	28.81	-6.26	28.80	0.22	434123.94	555248.29	N 32 11 36.51 W 104 17 18.11	
	1956.00	1.49	228.99	1955.41	27.01	-7.72	26.99	0.22	434122.48	555246.49	N 32 11 36.50 W 104 17 18.13	
	2051.00	0.80	4.32	2050.40	26.13	-7.87	26.11	2.25	434122.33	555245.60	N 32 11 36.50 W 104 17 18.14	
	2145.00	1.87	357.10	2144.37	26.09	-5.68	26.08	1.15	434124.52	555245.58	N 32 11 36.52 W 104 17 18.14	
	2240.00	3.93	348.88	2239.24	25.37	-0.94	25.37	2.21	434129.26	555244.87	N 32 11 36.57 W 104 17 18.15	
	2334.00	4.07	350.08	2333.02	24.16	5.51	24.18	0.17	434135.71	555243.67	N 32 11 36.63 W 104 17 18.16	

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 ° ' ")
	2429.00	3.77	347.45	2427.79	22.88	11.88	22.92	0.37	434142.08	555242.41	N 32 11 36.69 W 104 17 18.18	
	2523.00	5.14	348.28	2521.51	21.34	19.02	21.39	1.46	434149.22	555240.89	N 32 11 36.76 W 104 17 18.19	
	2618.00	5.65	346.38	2616.09	19.35	27.73	19.42	0.57	434157.93	555238.92	N 32 11 36.85 W 104 17 18.22	
	2712.00	5.41	342.04	2709.65	16.87	36.44	16.97	0.51	434166.64	555236.47	N 32 11 36.94 W 104 17 18.25	
	2806.00	6.23	347.81	2803.16	14.40	45.64	14.52	1.07	434175.84	555234.02	N 32 11 37.03 W 104 17 18.27	
	2901.00	6.73	348.50	2897.56	12.17	56.14	12.33	0.53	434186.33	555231.83	N 32 11 37.13 W 104 17 18.30	
	2995.00	5.44	348.27	2991.02	10.14	65.90	10.32	1.37	434196.09	555229.82	N 32 11 37.23 W 104 17 18.32	
	3089.00	5.17	345.00	3084.62	8.12	74.35	8.32	0.43	434204.54	555227.82	N 32 11 37.31 W 104 17 18.35	
	3184.00	4.97	348.67	3179.25	6.18	82.52	6.40	0.40	434212.71	555225.90	N 32 11 37.39 W 104 17 18.37	
	3278.00	3.31	341.46	3273.00	4.50	89.09	4.74	1.85	434219.28	555224.24	N 32 11 37.46 W 104 17 18.39	
	3373.00	3.12	328.98	3367.85	2.28	93.90	2.54	0.76	434224.09	555222.04	N 32 11 37.51 W 104 17 18.41	
	3467.00	3.66	342.54	3461.69	0.05	98.96	0.32	1.02	434229.15	555219.82	N 32 11 37.56 W 104 17 18.44	
	3562.00	5.52	354.36	3556.38	-1.33	106.40	-1.04	2.19	434236.59	555218.46	N 32 11 37.63 W 104 17 18.45	
	3656.00	5.57	357.30	3649.94	-2.01	115.45	-1.70	0.31	434245.64	555217.80	N 32 11 37.72 W 104 17 18.46	
	3751.00	5.57	359.34	3744.50	-2.31	124.67	-1.97	0.21	434254.86	555217.53	N 32 11 37.81 W 104 17 18.47	
	3845.00	4.81	353.64	3838.11	-2.82	133.15	-2.46	0.98	434263.33	555217.04	N 32 11 37.89 W 104 17 18.47	
	3940.00	4.15	345.36	3932.82	-4.15	140.43	-3.77	0.97	434270.62	555215.73	N 32 11 37.97 W 104 17 18.49	
	4034.00	4.28	6.82	4026.57	-4.61	147.21	-4.21	1.67	434277.39	555215.29	N 32 11 38.03 W 104 17 18.49	
	4129.00	3.96	11.31	4121.33	-3.57	153.94	-3.15	0.48	434284.13	555216.35	N 32 11 38.10 W 104 17 18.48	
	4223.00	3.99	13.24	4215.10	-2.20	160.31	-1.76	0.15	434290.49	555217.74	N 32 11 38.16 W 104 17 18.46	
	4318.00	3.94	13.92	4309.87	-0.67	166.69	-0.22	0.07	434296.88	555219.28	N 32 11 38.23 W 104 17 18.45	
	4412.00	3.92	17.66	4403.65	1.06	172.89	1.53	0.27	434303.07	555221.03	N 32 11 38.29 W 104 17 18.42	
	4507.00	3.76	20.33	4498.44	3.11	178.91	3.60	0.25	434309.09	555223.10	N 32 11 38.35 W 104 17 18.40	
	4602.00	3.38	5.01	4593.26	4.42	184.62	4.93	1.08	434314.80	555224.42	N 32 11 38.40 W 104 17 18.39	
	4696.00	3.24	6.39	4687.10	4.95	190.02	5.46	0.17	434320.20	555224.96	N 32 11 38.46 W 104 17 18.38	
	4791.00	2.72	1.88	4781.97	5.30	194.94	5.84	0.60	434325.12	555225.34	N 32 11 38.50 W 104 17 18.37	
	4886.00	3.07	3.29	4876.85	5.51	199.73	6.06	0.38	434329.91	555225.55	N 32 11 38.55 W 104 17 18.37	
	4980.00	3.90	10.35	4970.68	6.22	205.39	6.77	0.99	434335.57	555226.27	N 32 11 38.61 W 104 17 18.36	
	5075.00	3.37	9.30	5065.48	7.23	211.32	7.81	0.56	434341.50	555227.31	N 32 11 38.67 W 104 17 18.35	
	5169.00	4.13	9.30	5159.28	8.21	217.39	8.80	0.81	434347.57	555228.30	N 32 11 38.73 W 104 17 18.34	
	5266.00	4.21	7.68	5256.03	9.23	224.36	9.84	0.15	434354.54	555229.34	N 32 11 38.80 W 104 17 18.33	
	5360.00	4.04	10.43	5349.78	10.27	231.04	10.90	0.28	434361.22	555230.40	N 32 11 38.86 W 104 17 18.32	
	5455.00	3.32	12.36	5444.59	11.45	237.02	12.10	0.77	434367.20	555231.59	N 32 11 38.92 W 104 17 18.30	
	5549.00	3.36	350.39	5538.43	11.56	242.39	12.22	1.35	434372.57	555231.72	N 32 11 38.97 W 104 17 18.30	
	5644.00	3.90	354.85	5633.24	10.79	248.36	11.46	0.64	434378.53	555230.96	N 32 11 39.03 W 104 17 18.31	
	5738.00	4.98	345.62	5726.96	9.47	255.49	10.16	1.37	434385.67	555229.66	N 32 11 39.10 W 104 17 18.32	
	5833.00	5.37	340.80	5821.57	6.96	263.68	7.68	0.61	434393.86	555227.18	N 32 11 39.19 W 104 17 18.35	
	5928.00	4.19	350.26	5916.24	4.89	271.30	5.63	1.49	434401.48	555225.13	N 32 11 39.26 W 104 17 18.38	
	6022.00	3.14	353.41	6010.05	4.00	277.25	4.75	1.14	434407.42	555224.25	N 32 11 39.32 W 104 17 18.39	
	6117.00	3.84	345.04	6104.87	2.86	282.90	3.63	0.91	434413.08	555223.13	N 32 11 39.38 W 104 17 18.40	
	6212.00	3.75	340.15	6199.66	0.97	288.90	1.76	0.35	434419.07	555221.26	N 32 11 39.43 W 104 17 18.42	
	6306.00	4.02	346.88	6293.45	-0.84	295.00	-0.04	0.56	434425.17	555219.46	N 32 11 39.50 W 104 17 18.44	
	6401.00	3.81	347.48	6388.22	-2.30	301.32	-1.48	0.23	434431.50	555218.02	N 32 11 39.56 W 104 17 18.46	
	6496.00	4.30	346.70	6482.99	-3.82	307.87	-2.98	0.52	434438.04	555216.52	N 32 11 39.62 W 104 17 18.48	
	6590.00	4.93	348.50	6576.68	-5.45	315.26	-4.60	0.69	434445.43	555214.90	N 32 11 39.70 W 104 17 18.50	
	6685.00	6.96	351.34	6671.17	-7.16	324.95	-6.28	2.16	434455.12	555213.22	N 32 11 39.79 W 104 17 18.51	
	6779.00	6.14	348.32	6764.55	-9.07	335.50	-8.15	0.95	434465.67	555211.35	N 32 11 39.90 W 104 17 18.54	
	6873.00	5.52	348.24	6858.07	-11.03	344.85	-10.09	0.66	434475.02	555209.41	N 32 11 39.99 W 104 17 18.56	
	6968.00	4.94	347.53	6952.67	-12.87	353.32	-11.91	0.61	434483.49	555207.60	N 32 11 40.07 W 104 17 18.58	
	7063.00	3.79	342.92	7047.39	-14.69	360.32	-13.71	1.26	434490.48	555205.79	N 32 11 40.14 W 104 17 18.60	
	7157.00	3.17	347.09	7141.22	-16.20	365.82	-15.20	0.71	434495.98	555204.30	N 32 11 40.20 W 104 17 18.62	
	7252.00	2.89	356.68	7236.09	-16.94	370.77	-15.93	0.61	434500.94	555203.57	N 32 11 40.24 W 104 17 18.63	
	7346.00	3.12	6.93	7329.96	-16.78	375.67	-15.76	0.62	434505.84	555203.74	N 32 11 40.29 W 104 17 18.62	
	7441.00	2.09	5.68	7424.86	-16.31	379.97	-15.28	1.09	434510.13	555204.23	N 32 11 40.34 W 104 17 18.62	
	7535.00	1.36	15.60	7518.82	-15.85	382.75	-14.81	0.84	434512.91	555204.70	N 32 11 40.36 W 104 17 18.61	
	7630.00	0.59	56.16	7613.80	-15.14	384.10	-14.10	1.04	434514.27	555205.41	N 32 11 40.38 W 104 17 18.61	
	7724.00	0.49	102.84	7707.80	-14.35	384.28	-13.30	0.47	434514.45	555206.20	N 32 11 40.38 W 104 17 18.60	
	7819.00	0.76	116.82	7802.79	-13.39	383.91	-12.34	0.32	434514.07	555207.16	N 32 11 40.37 W 104 17 18.59	
	7930.00	0.24	103.08	7913.79	-12.50	383.52	-11.46	0.48	434513.69	555208.04	N 32 11 40.37 W 104 17 18.57	

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 ° ' ")
First Legal Take Point	8012.00	5.07	95.21	7995.68	-8.73	383.16	-7.68	5.89	434513.32	555211.82	N 32 11 40.37	W 104 17 18.53
	8049.00	7.25	95.09	8032.46	-4.77	382.80	-3.73	5.89	434512.97	555215.77	N 32 11 40.36	W 104 17 18.48
	8081.00	11.51	91.07	8064.02	0.44	382.56	1.48	13.46	434512.73	555220.98	N 32 11 40.36	W 104 17 18.42
	8113.00	14.35	88.01	8095.21	7.59	382.64	8.63	9.13	434512.80	555228.13	N 32 11 40.36	W 104 17 18.34
	8144.00	15.73	86.81	8125.15	15.63	383.01	16.67	4.56	434513.17	555236.17	N 32 11 40.37	W 104 17 18.25
	8176.00	18.57	87.48	8155.72	25.05	383.47	26.09	8.90	434513.64	555245.59	N 32 11 40.37	W 104 17 18.14
	8208.00	22.07	87.68	8185.73	36.15	383.94	37.19	10.94	434514.11	555256.69	N 32 11 40.38	W 104 17 18.01
	8239.00	25.23	88.15	8214.12	48.57	384.39	49.62	10.21	434514.55	555269.11	N 32 11 40.38	W 104 17 17.86
	8270.00	29.42	89.45	8241.65	62.79	384.68	63.84	13.65	434514.84	555283.34	N 32 11 40.38	W 104 17 17.70
	8302.00	33.17	91.19	8268.99	79.41	384.57	80.46	12.05	434514.73	555299.95	N 32 11 40.38	W 104 17 17.51
	8333.00	36.94	91.78	8294.37	97.21	384.10	98.26	12.21	434514.27	555317.75	N 32 11 40.38	W 104 17 17.30
	8365.00	41.28	91.64	8319.19	117.38	383.50	118.43	13.57	434513.67	555337.92	N 32 11 40.37	W 104 17 17.06
	8396.00	45.22	90.88	8341.77	138.62	383.04	139.66	12.82	434513.21	555359.15	N 32 11 40.37	W 104 17 16.82
	8428.00	48.56	90.75	8363.63	161.97	382.71	163.01	10.44	434512.87	555382.50	N 32 11 40.36	W 104 17 16.54
	8460.00	52.87	90.37	8383.89	186.73	382.47	187.78	13.50	434512.63	555407.26	N 32 11 40.36	W 104 17 16.26
	8491.00	56.75	89.51	8401.75	212.06	382.50	213.11	12.72	434512.67	555432.59	N 32 11 40.36	W 104 17 15.96
	8523.00	60.18	88.16	8418.48	239.32	383.06	240.37	11.31	434513.23	555459.85	N 32 11 40.37	W 104 17 15.64
	8554.00	64.52	86.61	8432.87	266.74	384.32	267.79	14.68	434514.49	555487.27	N 32 11 40.38	W 104 17 15.33
	8586.00	68.57	86.68	8445.60	296.04	386.04	297.09	12.66	434516.20	555516.56	N 32 11 40.39	W 104 17 14.98
	8685.00	75.40	86.77	8476.20	389.96	391.41	391.03	6.90	434521.58	555610.49	N 32 11 40.45	W 104 17 13.89
	8717.00	77.98	87.57	8483.57	421.06	392.95	422.13	8.42	434523.11	555641.59	N 32 11 40.46	W 104 17 13.53
	8749.00	81.16	88.16	8489.36	452.50	394.12	453.57	10.10	434524.28	555673.03	N 32 11 40.47	W 104 17 13.16
	8780.00	84.04	89.12	8493.35	483.23	394.85	484.30	9.78	434525.01	555703.76	N 32 11 40.48	W 104 17 12.81
	8812.00	86.18	89.38	8496.08	515.10	395.27	516.18	6.74	434525.43	555735.63	N 32 11 40.49	W 104 17 12.43
	8907.00	88.45	89.24	8500.53	609.98	396.41	611.06	2.39	434526.57	555830.51	N 32 11 40.50	W 104 17 11.33
	9002.00	88.49	89.65	8503.07	704.94	397.33	706.03	0.43	434527.49	555925.46	N 32 11 40.50	W 104 17 10.23
	9097.00	88.45	89.85	8505.60	799.91	397.74	800.99	0.21	434527.91	556020.42	N 32 11 40.51	W 104 17 9.12
	9192.00	88.35	89.22	8508.26	894.86	398.51	895.95	0.67	434528.68	556115.37	N 32 11 40.52	W 104 17 8.02
	9287.00	88.66	89.38	8510.73	989.82	399.67	990.91	0.37	434529.84	556210.32	N 32 11 40.53	W 104 17 6.91
	9382.00	88.83	89.43	8512.81	1084.79	400.66	1085.88	0.19	434530.82	556305.28	N 32 11 40.54	W 104 17 5.81
	9477.00	89.59	90.05	8514.12	1179.78	401.09	1180.87	1.03	434531.25	556400.26	N 32 11 40.54	W 104 17 4.70
	9572.00	89.42	89.07	8514.95	1274.77	401.82	1275.86	1.05	434531.98	556495.25	N 32 11 40.55	W 104 17 3.59
	9666.00	89.45	89.61	8515.87	1368.75	402.90	1369.85	0.58	434533.07	556589.23	N 32 11 40.56	W 104 17 2.50
	9761.00	89.59	89.16	8516.67	1463.74	403.92	1464.84	0.50	434534.09	556684.21	N 32 11 40.57	W 104 17 1.40
	9857.00	89.45	89.64	8517.47	1559.73	404.93	1560.83	0.52	434535.09	556780.19	N 32 11 40.58	W 104 17 0.28
	9951.00	89.28	90.98	8518.51	1653.72	404.42	1654.83	1.44	434534.58	556874.17	N 32 11 40.57	W 104 16 59.18
	10046.00	87.87	91.37	8520.88	1748.67	402.47	1749.77	1.54	434532.64	556969.11	N 32 11 40.55	W 104 16 58.08
	10141.00	88.38	91.37	8523.99	1843.60	400.20	1844.70	0.54	434530.37	557064.02	N 32 11 40.53	W 104 16 56.97
	10236.00	88.38	91.35	8526.67	1938.54	397.95	1939.63	0.02	434528.11	557158.95	N 32 11 40.51	W 104 16 55.87
	10331.00	88.38	91.25	8529.36	2033.48	395.79	2034.57	0.11	434525.96	557253.88	N 32 11 40.48	W 104 16 54.77
	10425.00	88.25	91.37	8532.12	2127.42	393.65	2128.50	0.19	434523.81	557347.81	N 32 11 40.46	W 104 16 53.67
	10520.00	88.28	91.42	8535.00	2222.36	391.33	2223.43	0.06	434521.50	557442.73	N 32 11 40.44	W 104 16 52.57
	10615.00	87.97	90.95	8538.11	2317.29	389.37	2318.36	0.59	434519.53	557537.64	N 32 11 40.42	W 104 16 51.46
	10710.00	87.93	90.06	8541.50	2412.23	388.53	2413.29	0.94	434518.70	557632.57	N 32 11 40.41	W 104 16 50.36
	10805.00	88.00	90.66	8544.88	2507.17	387.94	2508.23	0.84	434518.10	557727.50	N 32 11 40.40	W 104 16 49.25
	10900.00	89.11	91.27	8547.27	2602.12	386.34	2603.19	1.33	434516.50	557822.45	N 32 11 40.39	W 104 16 48.15
	10994.00	89.11	90.92	8548.73	2696.10	384.54	2697.16	0.37	434514.71	557916.41	N 32 11 40.37	W 104 16 47.05
	11089.00	88.90	89.13	8550.38	2791.08	384.50	2792.14	1.90	434514.66	558011.38	N 32 11 40.37	W 104 16 45.95
	11184.00	89.07	89.61	8552.07	2886.06	385.54	2887.12	0.54	434515.71	558106.35	N 32 11 40.38	W 104 16 44.84
	11279.00	89.66	89.41	8553.12	2981.05	386.36	2982.11	0.66	434516.52	558201.33	N 32 11 40.39	W 104 16 43.74
	11374.00	88.59	88.94	8554.57	3076.02	387.72	3077.09	1.23	434517.89	558296.30	N 32 11 40.40	W 104 16 42.63
	11468.00	88.62	89.00	8556.86	3169.97	389.41	3171.04	0.07	434519.58	558390.25	N 32 11 40.41	W 104 16 41.54
	11563.00	88.59	88.69	8559.17	3264.92	391.33	3266.00	0.33	434521.49	558485.19	N 32 11 40.43	W 104 16 40.44
	11658.00	88.45	89.20	8561.62	3359.86	393.08	3360.95	0.56	434523.24	558580.14	N 32 11 40.45	W 104 16 39.33
	11753.00	89.31	89.41	8563.48	3454.84	394.23	3455.92	0.93	434524.39	558675.10	N 32 11 40.46	W 104 16 38.23
	11848.00	89.00	89.03	8564.88	3549.81	395.52	3550.90	0.52	434525.69	558770.07	N 32 11 40.47	W 104 16 37.12
	11943.00	89.97	88.43	8565.74	3644.78	397.63	3645.87	1.20	434527.79	558865.04	N 32 11 40.49	W 104 16 36.01
	12038.00	88.21	91.45	8567.24	3739.75	397.73	3740.85	3.68	434527.89	558960.00	N 32 11 40.49	W 104 16 34.91

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 ° ' '')
	12133.00	89.66	91.48	8569.01	3834.71	395.30	3835.80	1.53	434525.46	559054.94	N 32 11 40.47	W 104 16 33.80
	12228.00	89.55	91.79	8569.67	3929.67	392.59	3930.76	0.35	434522.75	559149.89	N 32 11 40.44	W 104 16 32.70
	12320.00	88.93	92.71	8570.89	4021.60	388.98	4022.67	1.21	434519.14	559241.80	N 32 11 40.41	W 104 16 31.63
	12415.00	89.69	90.33	8572.03	4116.56	386.46	4117.63	2.63	434516.62	559336.75	N 32 11 40.38	W 104 16 30.52
	12510.00	89.55	90.25	8572.66	4211.56	385.98	4212.62	0.17	434516.14	559431.73	N 32 11 40.38	W 104 16 29.42
	12605.00	89.28	90.38	8573.63	4306.55	385.45	4307.62	0.32	434515.62	559526.72	N 32 11 40.37	W 104 16 28.31
	12700.00	89.52	90.52	8574.62	4401.55	384.71	4402.61	0.29	434514.87	559621.70	N 32 11 40.36	W 104 16 27.21
	12795.00	89.14	90.15	8575.74	4496.54	384.15	4497.60	0.56	434514.32	559716.68	N 32 11 40.36	W 104 16 26.10
	12890.00	90.07	89.92	8576.39	4591.53	384.10	4592.60	1.01	434514.26	559811.67	N 32 11 40.35	W 104 16 25.00
	12985.00	89.48	90.47	8576.76	4686.53	383.77	4687.60	0.85	434513.94	559906.66	N 32 11 40.35	W 104 16 23.89
	13079.00	89.35	90.15	8577.72	4780.53	383.26	4781.59	0.37	434513.43	560000.65	N 32 11 40.35	W 104 16 22.80
	13174.00	88.97	90.34	8579.12	4875.52	382.86	4876.58	0.45	434513.02	560095.63	N 32 11 40.34	W 104 16 21.69
	13269.00	89.17	90.21	8580.66	4970.50	382.40	4971.56	0.25	434512.57	560190.60	N 32 11 40.34	W 104 16 20.59
	13364.00	89.17	90.33	8582.03	5065.49	381.95	5066.55	0.13	434512.12	560285.58	N 32 11 40.33	W 104 16 19.48
	13459.00	88.90	90.35	8583.63	5160.48	381.39	5161.54	0.28	434511.55	560380.56	N 32 11 40.32	W 104 16 18.38
	13554.00	89.17	90.44	8585.23	5255.47	380.74	5256.52	0.30	434510.90	560475.53	N 32 11 40.32	W 104 16 17.27
	13649.00	88.66	90.15	8587.03	5350.45	380.25	5351.50	0.62	434510.41	560570.51	N 32 11 40.31	W 104 16 16.17
	13743.00	87.39	90.44	8590.27	5444.39	379.76	5445.44	1.39	434509.93	560664.44	N 32 11 40.31	W 104 16 15.07
	13838.00	86.46	90.65	8595.37	5539.25	378.86	5540.30	1.00	434509.03	560759.29	N 32 11 40.30	W 104 16 13.97
	13933.00	86.49	90.37	8601.21	5634.07	378.02	5635.12	0.30	434508.18	560854.10	N 32 11 40.29	W 104 16 12.87
	14028.00	86.70	89.32	8606.85	5728.90	378.27	5729.95	1.13	434508.44	560948.92	N 32 11 40.29	W 104 16 11.76
	14123.00	86.52	88.69	8612.47	5823.71	379.92	5824.77	0.69	434510.08	561043.73	N 32 11 40.31	W 104 16 10.66
	14218.00	86.28	88.63	8618.43	5918.49	382.14	5919.55	0.26	434512.30	561138.51	N 32 11 40.33	W 104 16 9.56
	14313.00	86.39	88.81	8624.51	6013.27	384.25	6014.34	0.22	434514.42	561233.28	N 32 11 40.35	W 104 16 8.45
	14408.00	86.63	88.74	8630.29	6108.06	386.28	6109.14	0.26	434516.45	561328.07	N 32 11 40.37	W 104 16 7.35
	14503.00	86.56	88.50	8635.93	6202.86	388.57	6203.94	0.26	434518.73	561422.87	N 32 11 40.39	W 104 16 6.25
	14598.00	86.35	88.86	8641.81	6297.65	390.75	6298.74	0.44	434520.91	561517.65	N 32 11 40.41	W 104 16 5.14
	14693.00	86.25	89.15	8647.94	6392.43	392.40	6393.52	0.32	434522.56	561612.43	N 32 11 40.43	W 104 16 4.04
	14788.00	86.25	90.79	8654.15	6487.22	392.45	6488.32	1.72	434522.61	561707.22	N 32 11 40.43	W 104 16 2.94
	14883.00	86.97	91.04	8659.77	6582.05	390.93	6583.14	0.80	434521.10	561802.03	N 32 11 40.41	W 104 16 1.83
	14978.00	86.66	90.65	8665.05	6676.89	389.53	6677.98	0.52	434519.70	561896.86	N 32 11 40.40	W 104 16 0.73
	15072.00	87.87	90.65	8669.53	6770.78	388.47	6771.87	1.29	434518.63	561990.74	N 32 11 40.39	W 104 15 59.64
	15167.00	87.25	90.69	8673.58	6865.69	387.36	6866.77	0.65	434517.52	562085.64	N 32 11 40.37	W 104 15 58.53
	15262.00	87.69	91.40	8677.77	6960.59	385.63	6961.66	0.88	434515.79	562180.52	N 32 11 40.36	W 104 15 57.43
	15357.00	87.73	91.57	8681.57	7055.49	383.17	7056.56	0.18	434513.33	562275.40	N 32 11 40.33	W 104 15 56.32
	15452.00	87.80	90.65	8685.27	7150.40	381.33	7151.46	0.97	434511.49	562370.30	N 32 11 40.31	W 104 15 55.22
	15547.00	88.25	90.69	8688.55	7245.34	380.22	7246.40	0.48	434510.38	562465.23	N 32 11 40.30	W 104 15 54.12
	15643.00	88.73	90.43	8691.07	7341.30	379.28	7342.36	0.57	434509.44	562561.18	N 32 11 40.29	W 104 15 53.00
	15738.00	88.73	91.23	8693.18	7436.27	377.90	7437.33	0.84	434508.07	562656.14	N 32 11 40.28	W 104 15 51.89
	15832.00	87.90	90.36	8695.94	7530.22	376.60	7531.28	1.28	434506.77	562750.08	N 32 11 40.26	W 104 15 50.80
	15927.00	87.28	89.70	8699.94	7625.14	376.55	7626.19	0.95	434506.72	562844.99	N 32 11 40.26	W 104 15 49.70
	16022.00	88.31	90.09	8703.59	7720.07	376.72	7721.12	1.16	434506.89	562939.90	N 32 11 40.26	W 104 15 48.59
	16117.00	88.73	89.95	8706.05	7815.03	376.69	7816.09	0.47	434506.86	563034.86	N 32 11 40.26	W 104 15 47.49
	16212.00	89.00	89.35	8707.93	7910.01	377.27	7911.07	0.69	434507.44	563129.83	N 32 11 40.27	W 104 15 46.38
	16307.00	88.14	89.24	8710.30	8004.97	378.44	8006.03	0.91	434508.60	563224.79	N 32 11 40.28	W 104 15 45.28
	16402.00	89.93	90.06	8711.90	8099.95	379.02	8101.01	2.07	434509.18	563319.76	N 32 11 40.28	W 104 15 44.17
	16497.00	90.10	90.23	8711.88	8194.95	378.78	8196.01	0.25	434508.94	563414.75	N 32 11 40.28	W 104 15 43.07
	16592.00	87.42	90.26	8713.93	8289.92	378.37	8290.98	2.82	434508.54	563509.71	N 32 11 40.28	W 104 15 41.96
	16687.00	87.90	90.00	8717.81	8384.84	378.16	8385.90	0.57	434508.32	563604.62	N 32 11 40.27	W 104 15 40.86
	16782.00	86.97	89.54	8722.06	8479.74	378.54	8480.80	1.09	434508.70	563699.51	N 32 11 40.28	W 104 15 39.75
	16877.00	89.38	90.57	8725.09	8574.68	378.45	8575.74	2.76	434508.61	563794.45	N 32 11 40.27	W 104 15 38.65
	16972.00	89.52	90.32	8726.00	8669.68	377.71	8670.74	0.30	434507.87	563889.43	N 32 11 40.27	W 104 15 37.54
	17068.00	89.62	90.71	8726.72	8765.67	376.85	8766.73	0.42	434507.01	563985.42	N 32 11 40.26	W 104 15 36.42
	17163.00	89.14	90.64	8727.75	8860.66	375.73	8861.72	0.51	434505.89	564080.40	N 32 11 40.25	W 104 15 35.32
	17258.00	88.83	90.35	8729.43	8955.64	374.91	8956.70	0.45	434505.07	564175.37	N 32 11 40.24	W 104 15 34.21
	17352.00	89.21	90.40	8731.04	9049.63	374.29	9050.68	0.41	434504.46	564269.34	N 32 11 40.23	W 104 15 33.12
	17447.00	88.93	90.53	8732.58	9144.62	373.52	9145.67	0.32	434503.69	564364.32	N 32 11 40.22	W 104 15 32.01
	17542.00	88.93	90.77	8734.35	9239.60	372.44	9240.64	0.25	434502.61	564459.29	N 32 11 40.21	W 104 15 30.91
	17637.00	88.86	90.54	8736.19	9334.57	371.36	9335.62	0.25	434501.52	564554.26	N 32 11 40.20	W 104 15 29.80

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 ° ' ")
	17732.00	88.66	90.42	8738.24	9429.55	370.56	9430.59	0.25	434500.73	564649.22	N 32 11 40.19 W 104 15 28.70	
	17827.00	87.76	90.47	8741.21	9524.50	369.82	9525.54	0.95	434499.99	564744.16	N 32 11 40.18 W 104 15 27.59	
	17922.00	87.70	88.85	8744.97	9619.42	370.39	9620.47	1.71	434500.55	564839.07	N 32 11 40.19 W 104 15 26.49	
	18017.00	87.63	88.84	8748.84	9714.32	372.30	9715.37	0.07	434502.47	564933.97	N 32 11 40.21 W 104 15 25.38	
	18112.00	88.25	88.83	8752.26	9809.23	374.23	9810.29	0.65	434504.40	565028.88	N 32 11 40.22 W 104 15 24.28	
	18177.00	87.66	88.69	8754.58	9874.17	375.64	9875.23	0.93	434505.80	565093.81	N 32 11 40.24 W 104 15 23.52	
TD, Projection to Bit	18219.00	87.66	88.69	8756.29	9916.12	376.60	9917.18	0.00	434506.76	565135.76	N 32 11 40.25 W 104 15 23.04	

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	24.000	1/98.425	12.250	9.625	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Survey - Cimarex Crawford 27-26 Fee 2H MWD 0ft-18219ft (Surcon
	1	24.000	24.000	Act Stns	12.250	9.625	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Survey - Cimarex Crawford 27-26 Fee 2H MWD 0ft-18219ft (Surcon
	1	24.000	1830.000	Act Stns	12.250	9.625	NAL_MWD_IFR1+MS	Original Borehole / Final Survey - Cimarex Crawford 27-26 Fee 2H
	1	1830.000	8641.000	Act Stns	8.750	7.000	NAL_MWD_IFR1+MS	Original Borehole / Final Survey - Cimarex Crawford 27-26 Fee 2H
	1	8641.000	18219.000	Act Stns	6.000	4.500	NAL_MWD_IFR1+MS	Original Borehole / Final Survey - Cimarex Crawford 27-26 Fee 2H

Borehole:		Well:		Field:		Structure:	
Original Borehole		Cimarex Crawford 27-26 Fee 2H		NM Eddy County (NAD 83)		Cimarex Crawford 27-26 Fee 2H	
Gravity & Magnetic Parameters		Surface Location		MAG35 Near Mexico State Plains, Eastern Zone, US Post		Miscellaneous	
Model:	NOGM 2016	Dip:	89.857°	Date:	24-JUL-2018	Grid Conv:	0.0228°
Model:	NOGM 2016	Dir:	47889.772° T	Location:	424130.20158	Scale Feet:	0.88888881
Model:	NOGM 2016	Offset:	688.44608 (0.88888881)	Location:	424130.20158	Scale Feet:	0.88888881
						TWO Ref:	
						Ref: (32728 above MSL)	
						Plan: Final Survey - Cimarex Crawford 27-26 Fee 2H MAG35 08-102188 (Barcon Corrected)	

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL (782 FHL 330 FWH)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First Legal Take Point	8012.00	5.07	85.21	7665.66	-8.73	383.16	-7.68	5.39
TD, Projection to SH	18219.00	87.86	88.80	8756.29	8816.12	378.60	8817.18	0.00



Grid
True Mag

Grid North
Tot Corr (M→G 7.373")
Mag Dec (7.396")
Grid Conv (0.024")

CONTROLLED	
Plan no.	PHSD B0404 - CHS/MSD CONTROL 12/25 P&H 20/10/01
Drawing ref	12/01/01 (Revision 1) (Control)
Entry number	of 1
Date	Feb 2001
1 Client	
2 Client	
3 Client	
4 Client	
5 Client	

