



Cimarex West Gramma Ridge 8-5 Federal Com 2H Rev0 cvs 30Sept16
Proposal Geodetic Report
(Non-Def Plan)



Report Date: October 07, 2016 - 07:56 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex West Gramma Ridge 8-5 Federal Com 2H / Cimarex West Gramma Ridge 8-5 Federal Com
Well: Cimarex West Gramma Ridge 8-5 Federal Com 2H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex West Gramma Ridge 8-5 Federal Com 2H Rev0 cvs 30Sept16
Survey Date: September 30, 2016
Tort / AHD / DDI / ERD Ratio: 105.258 ° / 10040.370 ft / 6.296 / 0.916
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 23' 59.05866", W 103° 29' 38.80848"
Location Grid N/E Y/X: N 510172.700 ftUS, E 800354.630 ftUS
CRS Grid Convergence Angle: 0.4497 °
Grid Scale Factor: 0.99998593
Version / Patch: 2.9.370.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 358.980 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3556.000 ft above MSL
Seabed / Ground Elevation: 3531.000 ft above MSL
Magnetic Declination: 6.900 °
Total Gravity Field Strength: 998.4751mgN (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48333.409 nT
Magnetic Dip Angle: 60.321 °
Declination Date: September 30, 2016
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.4497 °
Total Corr Mag North->Grid North: 6.4504 °
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	100.00	0.00	280.00	100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	200.00	0.00	280.00	200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	300.00	0.00	280.00	300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	400.00	0.00	280.00	400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	500.00	0.00	280.00	500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	600.00	0.00	280.00	600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	700.00	0.00	280.00	700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	800.00	0.00	280.00	800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	900.00	0.00	280.00	900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1000.00	0.00	280.00	1000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1100.00	0.00	280.00	1100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1200.00	0.00	280.00	1200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1300.00	0.00	280.00	1300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1400.00	0.00	280.00	1400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1500.00	0.00	280.00	1500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1600.00	0.00	280.00	1600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1700.00	0.00	280.00	1700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1800.00	0.00	280.00	1800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	1900.00	0.00	280.00	1900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2000.00	0.00	280.00	2000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2100.00	0.00	280.00	2100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2200.00	0.00	280.00	2200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2300.00	0.00	280.00	2300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2400.00	0.00	280.00	2400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2500.00	0.00	280.00	2500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2600.00	0.00	280.00	2600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2700.00	0.00	280.00	2700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2800.00	0.00	280.00	2800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	2900.00	0.00	280.00	2900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3000.00	0.00	280.00	3000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3100.00	0.00	280.00	3100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3200.00	0.00	280.00	3200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3300.00	0.00	280.00	3300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3400.00	0.00	280.00	3400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3500.00	0.00	280.00	3500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3600.00	0.00	280.00	3600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3700.00	0.00	280.00	3700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3800.00	0.00	280.00	3800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	3900.00	0.00	280.00	3900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4000.00	0.00	280.00	4000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4100.00	0.00	280.00	4100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4200.00	0.00	280.00	4200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4300.00	0.00	280.00	4300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4400.00	0.00	280.00	4400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4500.00	0.00	280.00	4500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4600.00	0.00	280.00	4600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4700.00	0.00	280.00	4700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4800.00	0.00	280.00	4800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	4900.00	0.00	280.00	4900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5000.00	0.00	280.00	5000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5100.00	0.00	280.00	5100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5200.00	0.00	280.00	5200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5300.00	0.00	280.00	5300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5400.00	0.00	280.00	5400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5500.00	0.00	280.00	5500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5600.00	0.00	280.00	5600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5700.00	0.00	280.00	5700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5800.00	0.00	280.00	5800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	5900.00	0.00	280.00	5900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6000.00	0.00	280.00	6000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6100.00	0.00	280.00	6100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6200.00	0.00	280.00	6200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6300.00	0.00	280.00	6300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6400.00	0.00	280.00	6400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6500.00	0.00	280.00	6500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6600.00	0.00	280.00	6600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6700.00	0.00	280.00	6700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6800.00	0.00	280.00	6800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	6900.00	0.00	280.00	6900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7000.00	0.00	280.00	7000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7100.00	0.00	280.00	7100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7200.00	0.00	280.00	7200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7300.00	0.00	280.00	7300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81

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 ° ' ")
	7600.00	0.00	280.00	7600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7700.00	0.00	280.00	7700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7800.00	0.00	280.00	7800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	7900.00	0.00	280.00	7900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8000.00	0.00	280.00	8000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8100.00	0.00	280.00	8100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8200.00	0.00	280.00	8200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8300.00	0.00	280.00	8300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8400.00	0.00	280.00	8400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8500.00	0.00	280.00	8500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8600.00	0.00	280.00	8600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8700.00	0.00	280.00	8700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8800.00	0.00	280.00	8800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	8900.00	0.00	280.00	8900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9000.00	0.00	280.00	9000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9100.00	0.00	280.00	9100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9200.00	0.00	280.00	9200.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9300.00	0.00	280.00	9300.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9400.00	0.00	280.00	9400.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9500.00	0.00	280.00	9500.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9600.00	0.00	280.00	9600.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9700.00	0.00	280.00	9700.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9800.00	0.00	280.00	9800.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	9900.00	0.00	280.00	9900.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	10000.00	0.00	280.00	10000.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	10100.00	0.00	280.00	10100.00	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
Build 12"/100'	10137.84	0.00	280.00	10137.84	0.00	0.00	0.00	0.00	510172.70	800354.63	N 32 23 59.06	W 103 29 38.81
	10200.00	7.46	280.00	10199.82	0.77	0.70	-3.98	12.00	510173.40	800350.65	N 32 23 59.07	W 103 29 38.85
PP Bone Spring	10250.00	13.46	280.00	10248.97	2.51	2.28	-12.91	12.00	510174.98	800341.72	N 32 23 59.08	W 103 29 38.96
	10300.00	19.46	280.00	10296.90	5.21	4.74	-26.86	12.00	510177.44	800327.77	N 32 23 59.11	W 103 29 39.12
Build & Turn 12"/100'	10304.51	20.00	280.00	10301.14	5.50	5.00	-28.36	12.00	510177.70	800326.27	N 32 23 59.11	W 103 29 39.14
	10400.00	24.44	308.32	10389.77	21.20	20.13	-60.04	12.00	510192.83	800294.59	N 32 23 59.26	W 103 29 39.51
	10500.00	32.77	326.60	10477.66	57.30	55.68	-91.28	12.00	510228.38	800263.35	N 32 23 59.62	W 103 29 39.87
	10600.00	42.73	337.63	10556.72	111.95	109.85	-119.20	12.00	510282.55	800235.44	N 32 24 0.15	W 103 29 40.19
	10700.00	53.40	345.04	10623.50	182.77	180.26	-142.56	12.00	510352.96	800212.07	N 32 24 0.85	W 103 29 40.45
	10800.00	64.42	350.60	10675.09	266.65	263.84	-160.35	12.00	510436.54	800194.28	N 32 24 1.68	W 103 29 40.65
	10900.00	75.62	355.22	10709.22	359.94	356.94	-171.79	12.00	510529.63	800182.84	N 32 24 2.60	W 103 29 40.78
	11000.00	86.89	359.38	10724.41	458.56	455.49	-176.39	12.00	510628.18	800178.24	N 32 24 3.58	W 103 29 40.82
Landing Point	11014.99	88.58	359.99	10725.00	473.53	470.46	-176.47	12.00	510643.16	800178.16	N 32 24 3.73	W 103 29 40.82
	11100.00	88.58	359.99	10727.10	558.50	555.45	-176.49	0.00	510728.14	800178.14	N 32 24 4.57	W 103 29 40.82
	11200.00	88.58	359.99	10729.58	658.46	655.42	-176.51	0.00	510828.11	800178.12	N 32 24 5.56	W 103 29 40.81
	11300.00	88.58	359.99	10732.05	758.41	755.39	-176.53	0.00	510928.08	800178.11	N 32 24 6.55	W 103 29 40.80
	11400.00	88.58	359.99	10734.52	858.37	855.36	-176.55	0.00	511028.04	800178.09	N 32 24 7.54	W 103 29 40.79
	11500.00	88.58	359.99	10736.99	958.32	955.33	-176.56	0.00	511128.01	800178.07	N 32 24 8.52	W 103 29 40.78
	11600.00	88.58	359.99	10739.47	1058.27	1055.30	-176.58	0.00	511227.98	800178.05	N 32 24 9.51	W 103 29 40.77
	11700.00	88.58	359.99	10741.94	1158.23	1155.27	-176.60	0.00	511327.95	800178.03	N 32 24 10.50	W 103 29 40.76
	11800.00	88.58	359.99	10744.41	1258.18	1255.24	-176.62	0.00	511427.92	800178.01	N 32 24 11.49	W 103 29 40.75
	11900.00	88.58	359.99	10746.89	1358.13	1355.21	-176.64	0.00	511527.88	800177.99	N 32 24 12.48	W 103 29 40.74
	12000.00	88.58	359.99	10749.36	1458.09	1455.17	-176.66	0.00	511627.85	800177.97	N 32 24 13.47	W 103 29 40.74
	12100.00	88.58	359.99	10751.83	1558.04	1555.14	-176.68	0.00	511727.82	800177.95	N 32 24 14.46	W 103 29 40.73
	12200.00	88.58	359.99	10754.30	1658.00	1655.11	-176.70	0.00	511827.79	800177.94	N 32 24 15.45	W 103 29 40.72
	12300.00	88.58	359.99	10756.78	1757.95	1755.08	-176.72	0.00	511927.75	800177.92	N 32 24 16.44	W 103 29 40.71
	12400.00	88.58	359.99	10759.25	1857.90	1855.05	-176.74	0.00	512027.72	800177.90	N 32 24 17.43	W 103 29 40.70
	12500.00	88.58	359.99	10761.72	1957.86	1955.02	-176.75	0.00	512127.69	800177.88	N 32 24 18.42	W 103 29 40.69
	12600.00	88.58	359.99	10764.20	2057.81	2054.99	-176.77	0.00	512227.66	800177.86	N 32 24 19.41	W 103 29 40.68
	12700.00	88.58	359.99	10766.67	2157.77	2154.96	-176.79	0.00	512327.63	800177.84	N 32 24 20.39	W 103 29 40.67
	12800.00	88.58	359.99	10769.14	2257.72	2254.93	-176.81	0.00	512427.59	800177.82	N 32 24 21.38	W 103 29 40.66
	12900.00	88.58	359.99	10771.61	2357.67	2354.90	-176.83	0.00	512527.56	800177.80	N 32 24 22.37	W 103 29 40.66
	13000.00	88.58	359.99	10774.09	2457.63	2454.87	-176.85	0.00	512627.53	800177.78	N 32 24 23.36	W 103 29 40.65
	13100.00	88.58	359.99	10776.56	2557.58	2554.84	-176.87	0.00	512727.50	800177.76	N 32 24 24.35	W 103 29 40.64
	13200.00	88.58	359.99	10779.03	2657.54	2654.81	-176.89	0.00	512827.46	800177.75	N 32 24 25.34	W 103 29 40.63
	13300.00	88.58	359.99	10781.51	2757.49	2754.78	-176.91	0.00	512927.43	800177.73	N 32 24 26.33	W 103 29 40.62
	13400.00	88.58	359.99	10783.98	2857.44	2854.75	-176.92	0.00	513027.40	800177.71	N 32 24 27.32	W 103 29 40.61
	13500.00	88.58	359.99	10786.45	2957.40	2954.72	-176.94	0.00	513127.37	800177.69	N 32 24 28.31	W 103 29 40.60
	13600.00	88.58	359.99	10788.92	3057.35	3054.69	-176.96	0.00	513227.34	800177.67	N 32 24 29.30	W 103 29 40.59
	13700.00	88.58	359.99	10791.40	3157.31	3154.65	-176.98	0.00	513327.30	800177.65	N 32 24 30.29	W 103 29 40.58
	13800.00	88.58	359.99	10793.87	3257.26	3254.62	-177.00	0.00	513427.27	800177.63	N 32 24 31.28	W 103 29 40.58
	13900.00	88.58	359.99	10796.34	3357.21	3354.59	-177.02	0.00	513527.24	800177.61	N 32 24 32.26	W 103 29 40.57
	14000.00	88.58	359.99	10798.82	3457.17	3454.56	-177.04	0.00	513627.21	800177.59	N 32 24 33.25	W 103 29 40.56
	14100.00	88.58	359.99	10801.29	3557.12	3554.53	-177.06	0.00	513727.18	800177.58	N 32 24 34.24	W 103 29 40.55
	14200.00	88.58	359.99	10803.76	3657.07	3654.50	-177.08	0.00	513827.14	800177.56	N 32 24 35.23	W 103 29 40.54
	14300.00	88.58	359.99	10806.23	3757.03	3754.47	-177.10	0.00	513927.11	800177.54	N 32 24 36.22	W 103 29 40.53
	14400.00	88.58	359.99	10808.71	3856.98	3854.44	-177.11	0.00	514027.08	800177.52	N 32 24 37.21	W 103 29 40.52
	14500.00	88.58	359.99	10811.18	3956.94	3954.41	-177.13	0.00	514127.05	800177.50	N 32 24 38.20	W 103 29 40.51
	14600.00	88.58	359.99	10813.65	4056.89	4054.38	-177.15	0.00	514227.01	800177.48	N 32 24 39.19	W 103 29 40.50
	14700.00	88.58	359.99	10816.13	4156.84	4154.35	-177.17	0.00	514326.98	800177.46	N 32 24 40.18	W 103 29 40.49
	14800.00	88.58	359.99	10818.60	4256.80							

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 ° ' ")
	17800.00	88.58	359.99	10892.78	7255.42	7253.40	-177.76	0.00	517425.98	800176.87	N 32 25 10.84	W 103 29 40.22
	17900.00	88.58	359.99	10895.26	7355.37	7353.37	-177.78	0.00	517525.95	800176.86	N 32 25 11.83	W 103 29 40.21
	18000.00	88.58	359.99	10897.73	7455.32	7453.34	-177.80	0.00	517625.92	800176.84	N 32 25 12.82	W 103 29 40.20
	18100.00	88.58	359.99	10900.20	7555.28	7553.31	-177.81	0.00	517725.89	800176.82	N 32 25 13.81	W 103 29 40.19
	18200.00	88.58	359.99	10902.67	7655.23	7653.28	-177.83	0.00	517825.86	800176.80	N 32 25 14.80	W 103 29 40.18
	18300.00	88.58	359.99	10905.15	7755.19	7753.25	-177.85	0.00	517925.82	800176.78	N 32 25 15.79	W 103 29 40.17
	18400.00	88.58	359.99	10907.62	7855.14	7853.22	-177.87	0.00	518025.79	800176.76	N 32 25 16.78	W 103 29 40.16
	18500.00	88.58	359.99	10910.09	7955.09	7953.19	-177.89	0.00	518125.76	800176.74	N 32 25 17.77	W 103 29 40.16
	18600.00	88.58	359.99	10912.57	8055.05	8053.16	-177.91	0.00	518225.73	800176.72	N 32 25 18.75	W 103 29 40.15
	18700.00	88.58	359.99	10915.04	8155.00	8153.13	-177.93	0.00	518325.69	800176.70	N 32 25 19.74	W 103 29 40.14
	18800.00	88.58	359.99	10917.51	8254.95	8253.09	-177.95	0.00	518425.66	800176.69	N 32 25 20.73	W 103 29 40.13
	18900.00	88.58	359.99	10919.98	8354.91	8353.06	-177.97	0.00	518525.63	800176.67	N 32 25 21.72	W 103 29 40.12
	19000.00	88.58	359.99	10922.46	8454.86	8453.03	-177.99	0.00	518625.60	800176.65	N 32 25 22.71	W 103 29 40.11
	19100.00	88.58	359.99	10924.93	8554.82	8553.00	-178.00	0.00	518725.57	800176.63	N 32 25 23.70	W 103 29 40.10
	19200.00	88.58	359.99	10927.40	8654.77	8652.97	-178.02	0.00	518825.53	800176.61	N 32 25 24.69	W 103 29 40.09
	19300.00	88.58	359.99	10929.88	8754.72	8752.94	-178.04	0.00	518925.50	800176.59	N 32 25 25.68	W 103 29 40.08
	19400.00	88.58	359.99	10932.35	8854.68	8852.91	-178.06	0.00	519025.47	800176.57	N 32 25 26.67	W 103 29 40.07
	19500.00	88.58	359.99	10934.82	8954.63	8952.88	-178.08	0.00	519125.44	800176.55	N 32 25 27.66	W 103 29 40.07
	19600.00	88.58	359.99	10937.29	9054.59	9052.85	-178.10	0.00	519225.40	800176.53	N 32 25 28.65	W 103 29 40.06
	19700.00	88.58	359.99	10939.77	9154.54	9152.82	-178.12	0.00	519325.37	800176.51	N 32 25 29.64	W 103 29 40.05
	19800.00	88.58	359.99	10942.24	9254.49	9252.79	-178.14	0.00	519425.34	800176.50	N 32 25 30.62	W 103 29 40.04
	19900.00	88.58	359.99	10944.71	9354.45	9352.76	-178.16	0.00	519525.31	800176.48	N 32 25 31.61	W 103 29 40.03
	20000.00	88.58	359.99	10947.18	9454.40	9452.73	-178.17	0.00	519625.28	800176.46	N 32 25 32.60	W 103 29 40.02
	20100.00	88.58	359.99	10949.66	9554.36	9552.70	-178.19	0.00	519725.24	800176.44	N 32 25 33.59	W 103 29 40.01
	20200.00	88.58	359.99	10952.13	9654.31	9652.67	-178.21	0.00	519825.21	800176.42	N 32 25 34.58	W 103 29 40.00
	20300.00	88.58	359.99	10954.60	9754.26	9752.64	-178.23	0.00	519925.18	800176.40	N 32 25 35.57	W 103 29 39.99
	20400.00	88.58	359.99	10957.08	9854.22	9852.61	-178.25	0.00	520025.15	800176.38	N 32 25 36.56	W 103 29 39.99
	20500.00	88.58	359.99	10959.55	9954.17	9952.58	-178.27	0.00	520125.12	800176.36	N 32 25 37.55	W 103 29 39.98
Cimarex West Gamma Ridge 8-5 Federal Com BHL	20518.24	88.58	359.99	10960.00	9972.40	9970.81	-178.27	0.00	520143.35	800176.36	N 32 25 37.73	W 103 29 39.97

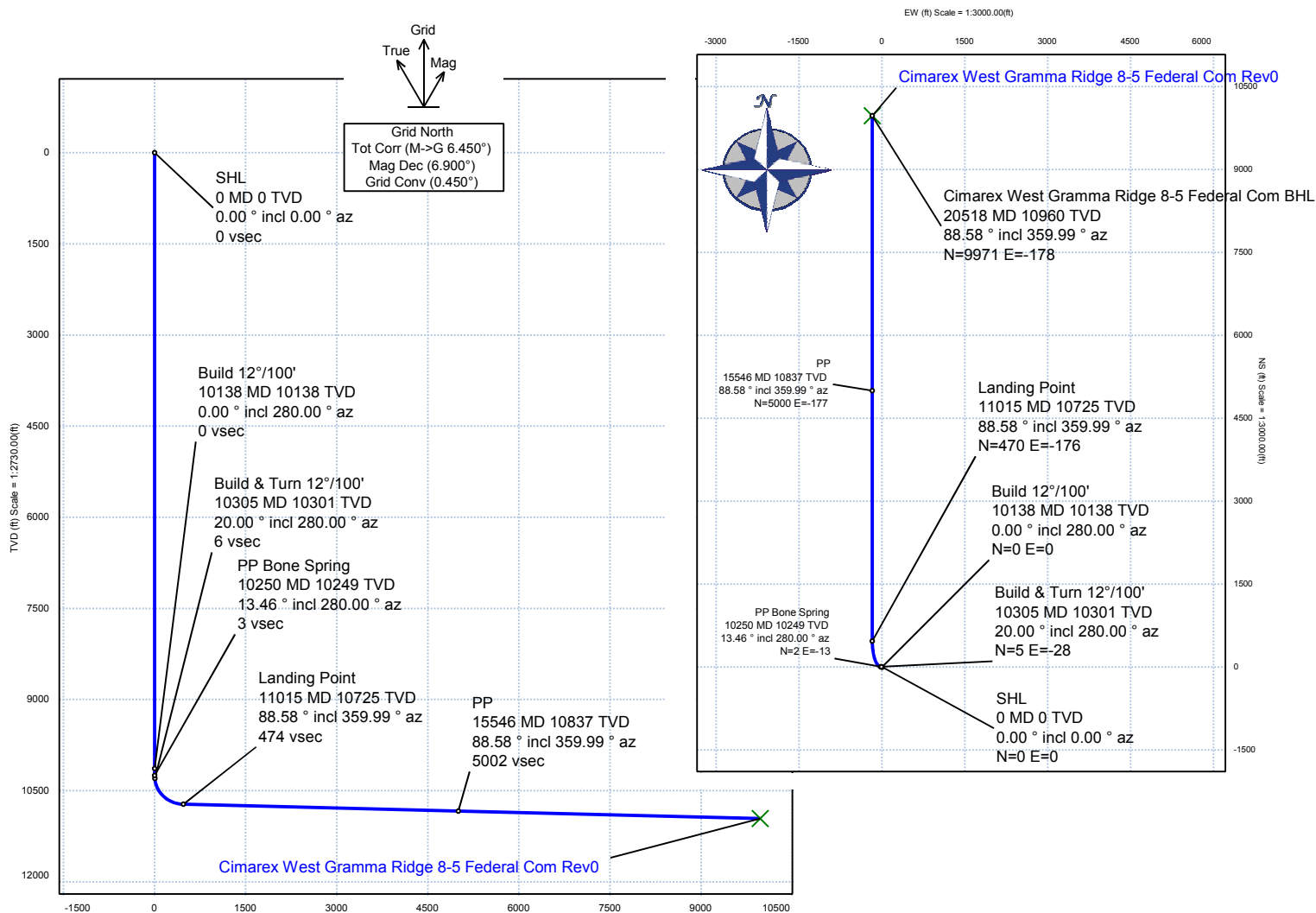
Survey Type: Non-Def Plan

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)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/100.000	30.000	30.000		SLB_UNKNOWN-Depth Only	Original Borehole / Cimarex West Gamma Ridge 8-5 Federal Com
	1	25.000	20518.241	1/100.000	30.000	30.000		SLB_UNKNOWN	Original Borehole / Cimarex West Gamma Ridge 8-5 Federal Com

Borehole: Original Borehole	Well: Cimarex West Gramma Ridge 8-5 Federal Com 2H	Field: NM Lea County (NAD 83)	Structure: Cimarex West Gramma Ridge 8-5 Federal Com 2H
---------------------------------------	--	---	---

Gravity & Magnetic Parameters	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Miscellaneous
Model: HDGM 2016 Dip: 60.321° Date: 30-Sep-2016	Lat: N 32 23 59.06 Northing: 510172.7ftUS Grid Conv: 0.4497°	Slot: Gramma Ridge 8-5	TVD Ref: RKB(3556ft above MSL)
MagDec: 6.9° FS: 48333.409nT Gravity FS: 998.475mgm (9.80665 Based)	Lon: W 103 29 38.81 Easting: 800354.63ftUS Scale Fact: 0.99998593	Plan: Cimarex West Gramma Ridge 8-5 Federal Com 2H Rev0 cvs 30Sept16	



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Build 12°/100'	10137.84	0.00	280.00	10137.84	0.00	0.00	0.00	0.00
PP Bone Spring	10250.00	13.46	280.00	10248.97	2.51	2.28	-12.91	12.00
Build & Turn 12°/100'	10304.51	20.00	280.00	10301.14	5.50	5.00	-28.36	12.00
Landing Point	11014.99	88.58	359.99	10725.00	473.53	470.46	-176.47	12.00
PP	15546.00	88.58	359.99	10837.05	5002.45	5000.09	-177.33	0.00
Cimarex West Gramma Ridge 8-5 Federal Com BHL	20518.24	88.58	359.99	10960.00	9972.40	9970.81	-178.27	0.00

1. Geological Formations

TVD of target 10,960

Pilot Hole TD N/A

MD at TD 20,518

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1530	N/A	
Salado	1680	N/A	
Base of Salt	3740	N/A	
Delaware Sands	5160	N/A	
Bone Spring	8640	N/A	
1st Bone Spring	9700	Hydrocarbons	
2nd Bone Spring Sand	10250	Hydrocarbons	
2nd BSPG Sand Target	10530	Hydrocarbons	
3rd Bone spring	10680	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1430	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.13	2.64	4.69
12 1/4	0	5140	9-5/8"	40.00	J-55	LT&C	1.33	1.45	2.53
8 3/4	0	10138	5-1/2"	20.00	L-80	LT&C	1.82	1.89	2.23
8 3/4	10138	20518	5-1/2"	17.00	L-80	BT&C	1.20	1.48	28.41
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	694	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	186	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	964	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	292	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	695	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H
	2220	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	44
Production	4940	15

4. Pressure Control Equipment

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	50% of working pressure
			Blind Ram	X	2M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	50% of working pressure
			Blind Ram	X	3M
			Pipe Ram		
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

		Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
N	Are anchors required by manufacturer?	

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1430'	FW Spud Mud	8.30 - 8.80	28	N/C
1430' to 5140'	Brine Water	9.70 - 10.20	30-32	N/C
5140' to 20518'	FW/Cut Brine	8.70 - 9.20	30-32	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval
-------------------------	----------

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5243 psi
Abnormal Temperature	No

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

X	H ₂ S is present
X	H ₂ S plan is attached

8. Other Facets of Operation

Exhibit F – Co-Flex Hose
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
8-22S-34E
Lea County, NM

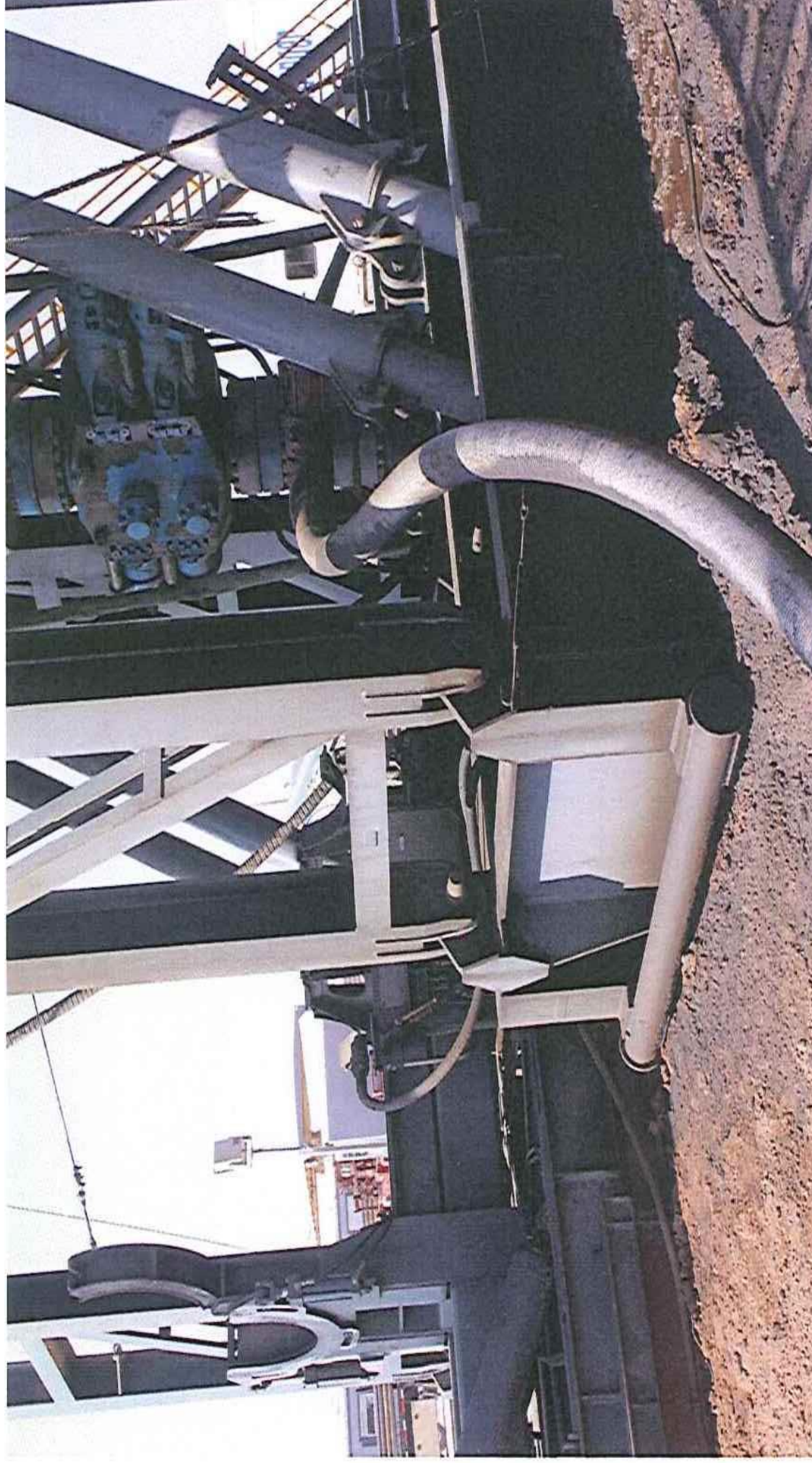


Exhibit F-1 – Co-Flex Hose Hydrostatic Test

West Grama Ridge 8-5 Federal Com 2H

Cimarex Energy Co.

8-22S-34E

Lea County, NM



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT		
Customer: Oderco Inc		P.O. Number: odyd-271
HOSE SPECIFICATIONS		
Type: Stainless Steel Armor Choke & Kill Hose	Hose Length: 45'ft.	
I.D. 4 INCHES	O.D. 9 INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE 0 PSI
COUPLINGS		
Stem Part No. OKC OKC	Ferrule No. OKC OKC	
Type of Coupling: Swage-It		
PROCEDURE		
<u>Hose assembly pressure tested with water at ambient temperature.</u>		
TIME HELD AT TEST PRESSURE 15 MIN.	ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793	Hose Serial Number: OKC	
Comments:		
Date: 3/8/2011	Tested: <i>A. Joins</i>	Approved: <i>Kevin</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

March 3, 2011

Hose Specifications

Hose Type

C & K

I.D.

4"

Length

45'

O.D.

6.09"

Verification

Type of Fitting

4 1/16 10K

Die Size

6.38"

Coupling Method

Swage

Final O.D.

6.25"

Working Pressure

10000 PSI

Burst Pressure

Standard Safety Multiplier Applies

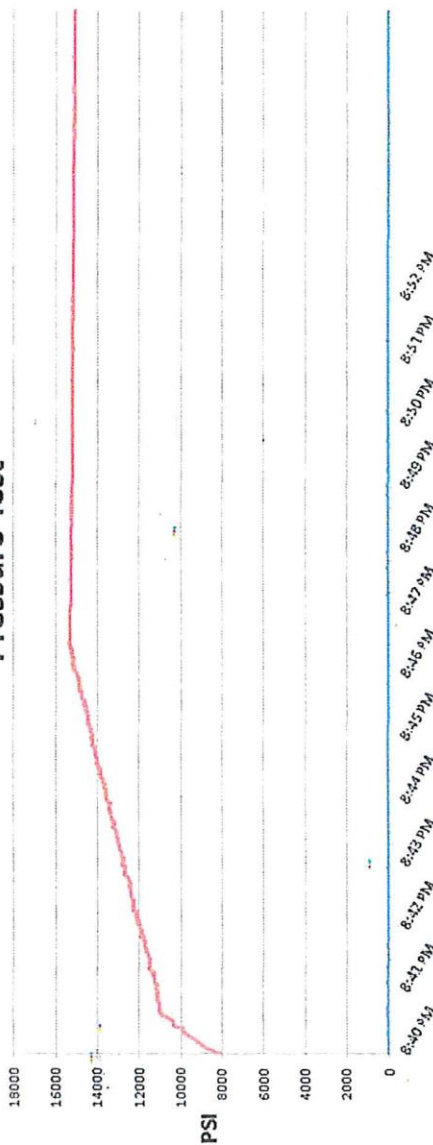
Hose Serial #

5544

Hose Assembly Serial #

79793

Pressure Test



Test Pressure

15000 PSI

Time Held at Test Pressure

11 Minutes

Actual Burst Pressure

15483 PSI

Peak Pressure

15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

Exhibit F-2 – Co-Flex Hose
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
8-22S-34E
Lea County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:

DEM

PO

ODYD-271

SPECIFICATIONS

Sales Order

79793

Dated:

3/8/2011

We hereby certify that the material supplied
for the referenced purchase order to be true
according to the requirements of the purchase
order and current industry standards

Supplier:
Midwest Hose & Specialty, Inc.
10640 Tanner Road
Houston, Texas 77041

Comments:

Approved:

Samuel Garcia

Date:

3/8/2011

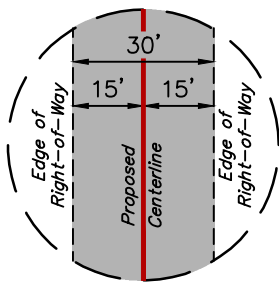


Exhibit F -3- Co-Flex Hose
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
8-22S-34E
Lea County, NM

Specification Sheet Choke & Kill Hose

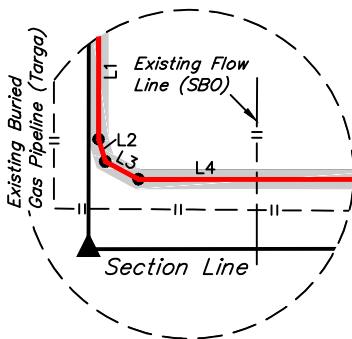
The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)



**TYPICAL
RIGHT-OF-WAY
DETAIL**
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S00°03'42"W	2718.75'
L2	S16°42'30"E	34.80'
L3	S61°52'25"E	56.60'
L4	N89°59'08"E	1735.47'



Detail "A"
No Scale



ACREAGE / LENGTH TABLE

	OWNERSHIP	FEET	RODS	ACRES
(SW 1/4 NW 1/4)	STATE	244.12	14.80	0.168
(NW 1/4 SW 1/4)	STATE	1319.70	79.98	0.909
(SW 1/4 SW 1/4)	STATE	2489.69	150.89	1.715
(SE 1/4 SW 1/4)	STATE	492.10	29.82	0.339
TOTAL		4545.62	275.49	3.131

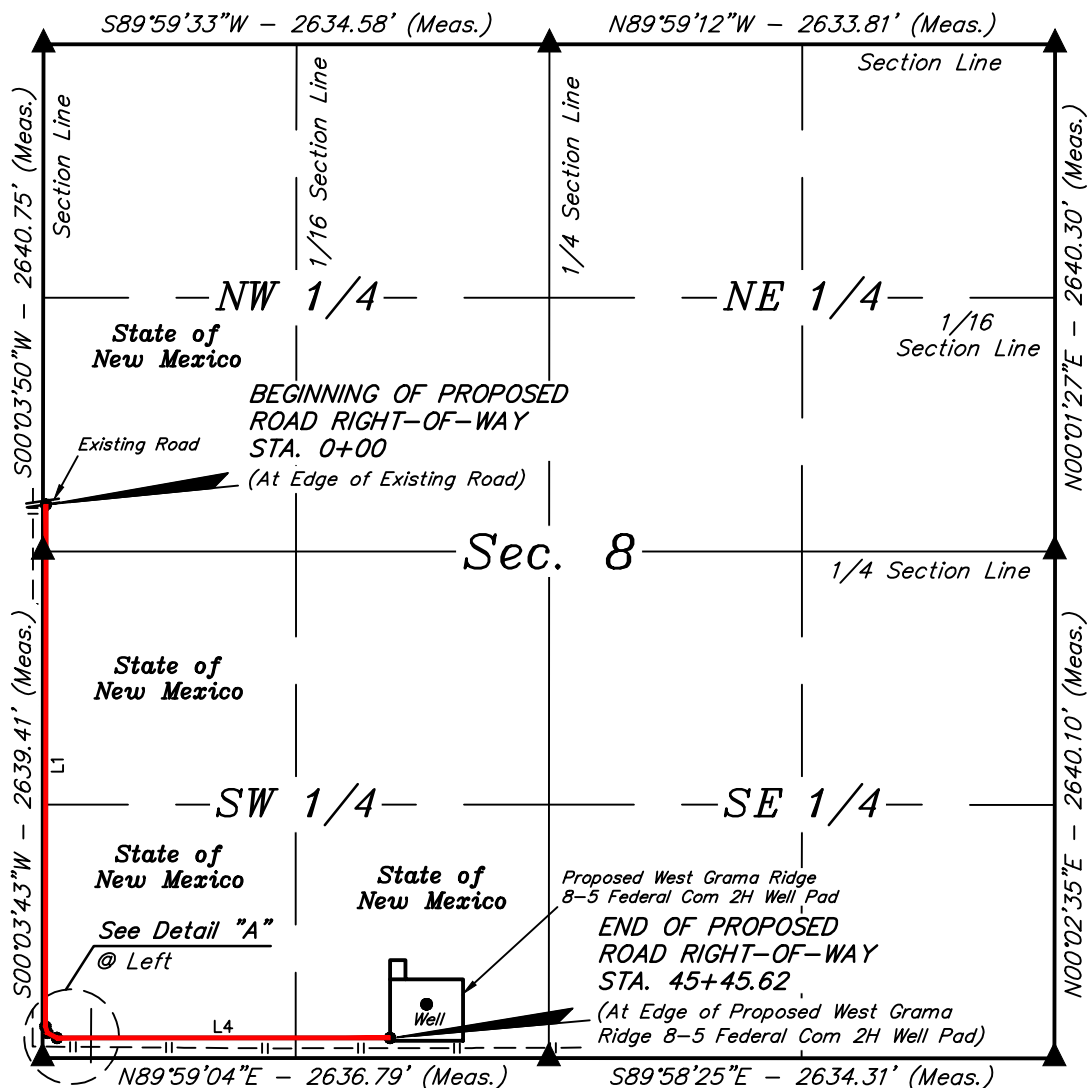
▲ = SECTION CORNERS LOCATED.

NOTES:

- The maximum grade of existing ground for the proposed access road is $\pm 4.9\%$.
- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

10-18-16

FILE: 61096-A1

Sheet 1 of 2

CIMAREX ENERGY CO.

**WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO**

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 1000'
ACCESS ROAD R-O-W		EXHIBIT C-2	

ROAD RIGHT-OF-WAY DESCRIPTION ON STATE OF NEW MEXICO LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE SW 1/4 NW 1/4 OF SECTION 8, T22S, R34E, N.M.P.M., WHICH BEARS N03°34'49"E 244.60' FROM THE WEST 1/4 CORNER OF SAID SECTION 8, THENCE S00°03'42"W 2718.75'; THENCE S16°42'30"E 34.80'; THENCE S61°52'25"E 56.60'; THENCE N89°59'08"E 1735.47' TO A POINT IN THE SE 1/4 SW 1/4 OF SAID SECTION 8, WHICH BEARS N82°47'31"W 832.81' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 8. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 3.131 ACRES MORE OR LESS.

BEGINNING OF ROAD STA. 0+00 BEARS N03°34'49"E 244.60' FROM THE WEST 1/4 CORNER OF SECTION 8, T22S, R34E, N.M.P.M.

END OF ROAD STA. 45+45.62 BEARS N82°47'31"W 832.80' FROM THE SOUTH 1/4 CORNER OF SECTION 8, T22S, R34E, N.M.P.M.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H ACCESS ROAD R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.54"	W 103°30'02.02"
N1/4 COR. SEC. 8, T22S, R34E	IRON PIPE	N 32°24'48.52"	W 103°29'31.29"
NE COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.49"	W 103°29'00.57"
E1/4 COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'22.37"	W 103°29'00.62"
SE COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°23'56.25"	W 103°29'00.67"
S1/4 COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°23'56.28"	W 103°29'31.39"
SW COR. SEC. 8, T22S, R34E	T-POST	N 32°23'56.30"	W 103°30'02.14"
W1/4 COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'22.41"	W 103°30'02.08"

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H ACCESS ROAD R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°24'24.83"	W 103°30'01.90"
1	27+18.75	N 32°23'57.93"	W 103°30'01.96"
2	27+53.55	N 32°23'57.60"	W 103°30'01.84"
3	28+10.15	N 32°23'57.34"	W 103°30'01.26"
END	45+45.62	N 32°23'57.33"	W 103°29'41.02"

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

10-18-16

FILE: 61096-A2

Sheet 2 of 2



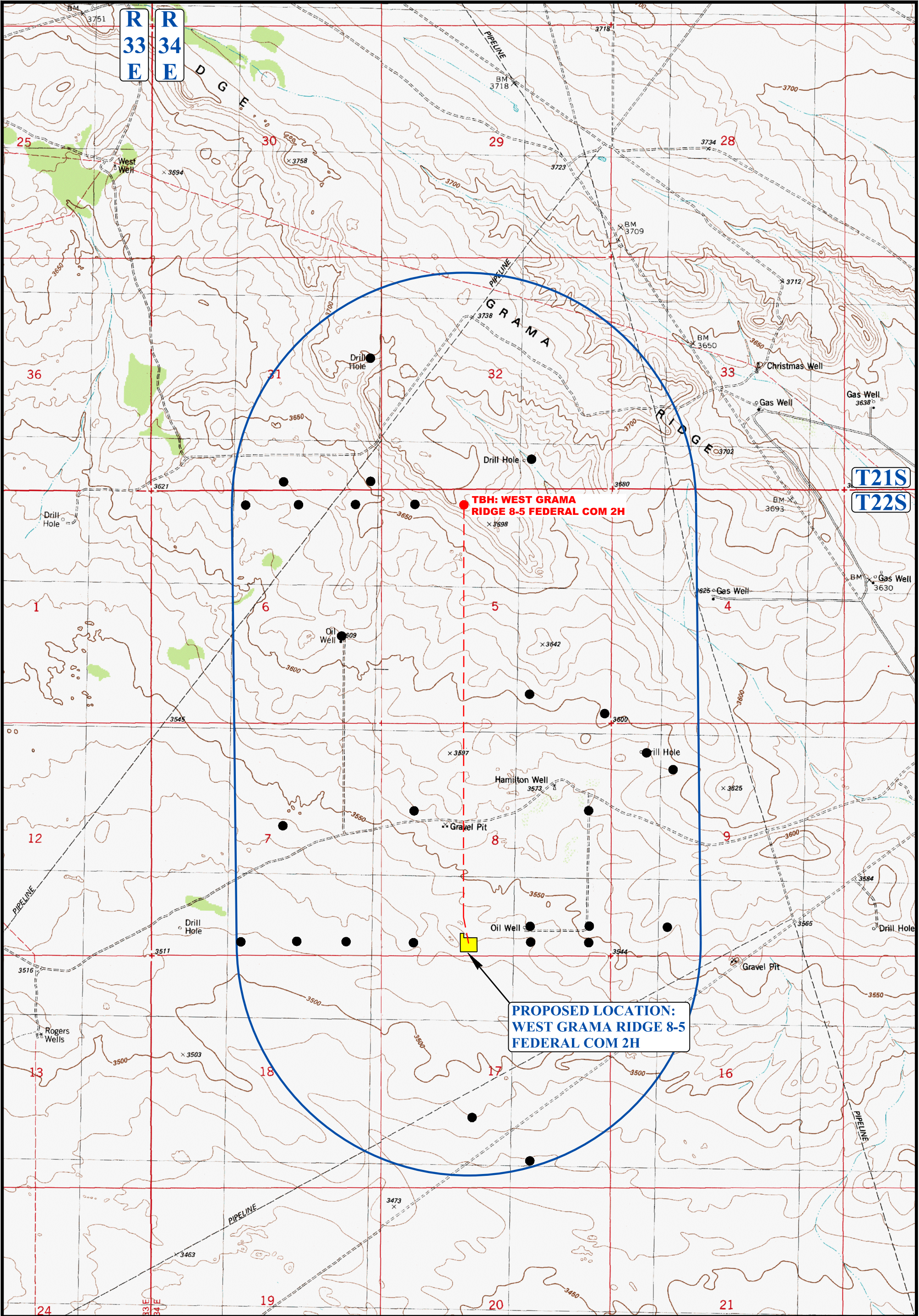
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 1000'
ACCESS ROAD R-O-W			EXHIBIT C-2



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LEGEND:
● EXISTING WELLS



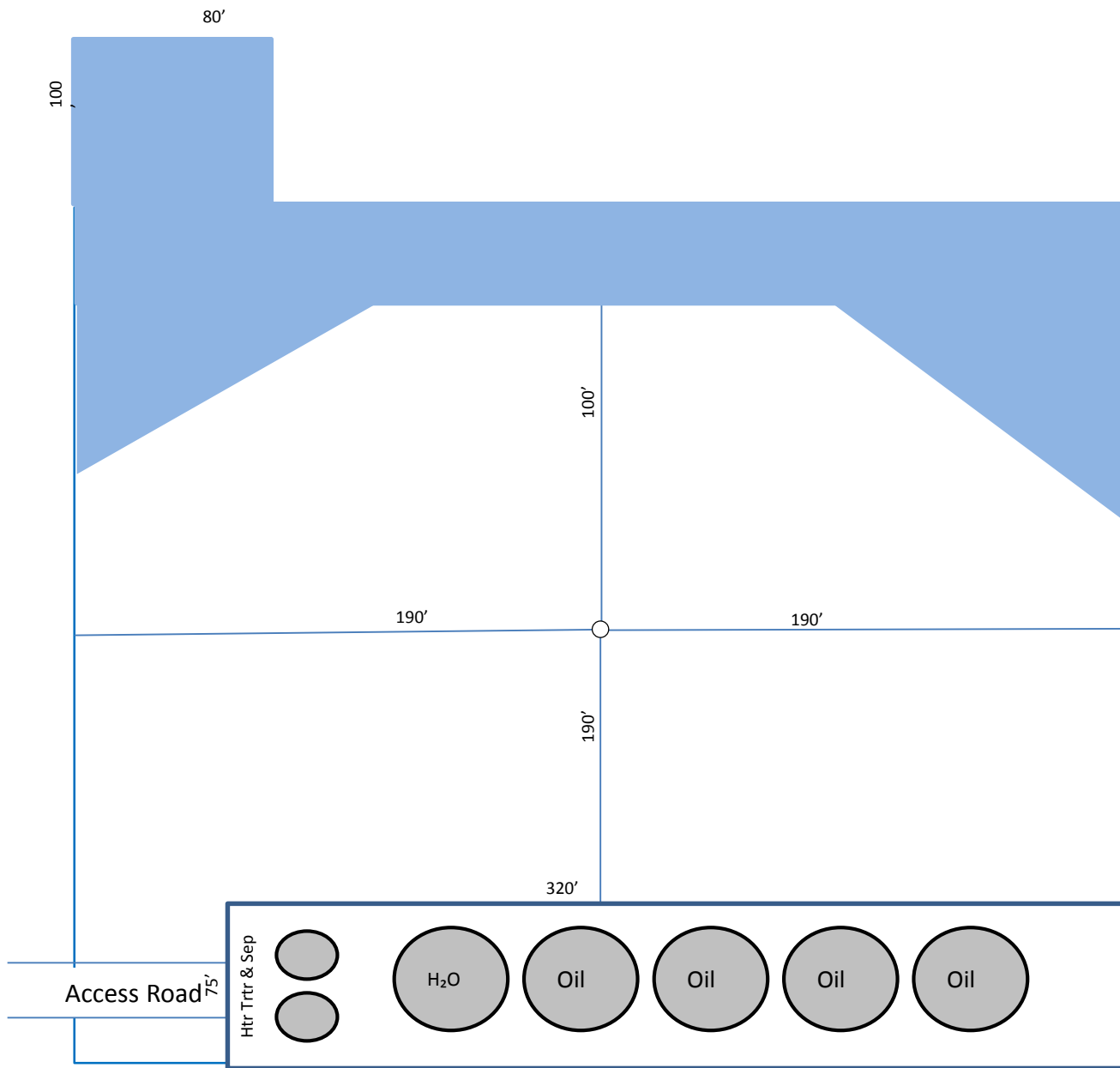
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

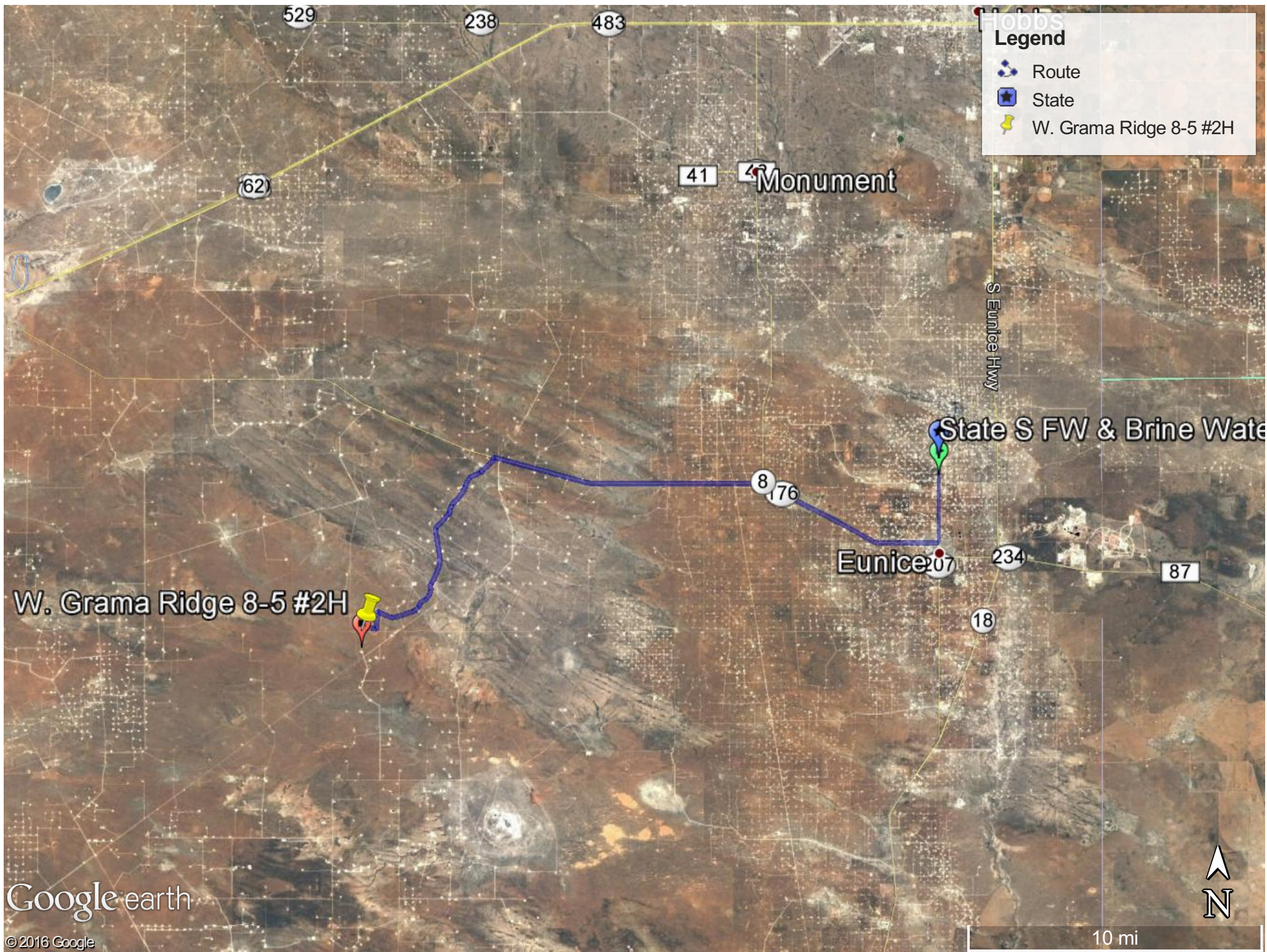
SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	J.L.G.	10-18-16	1 : 24,000
1 MILE RADIUS PLAT			EXHIBIT A



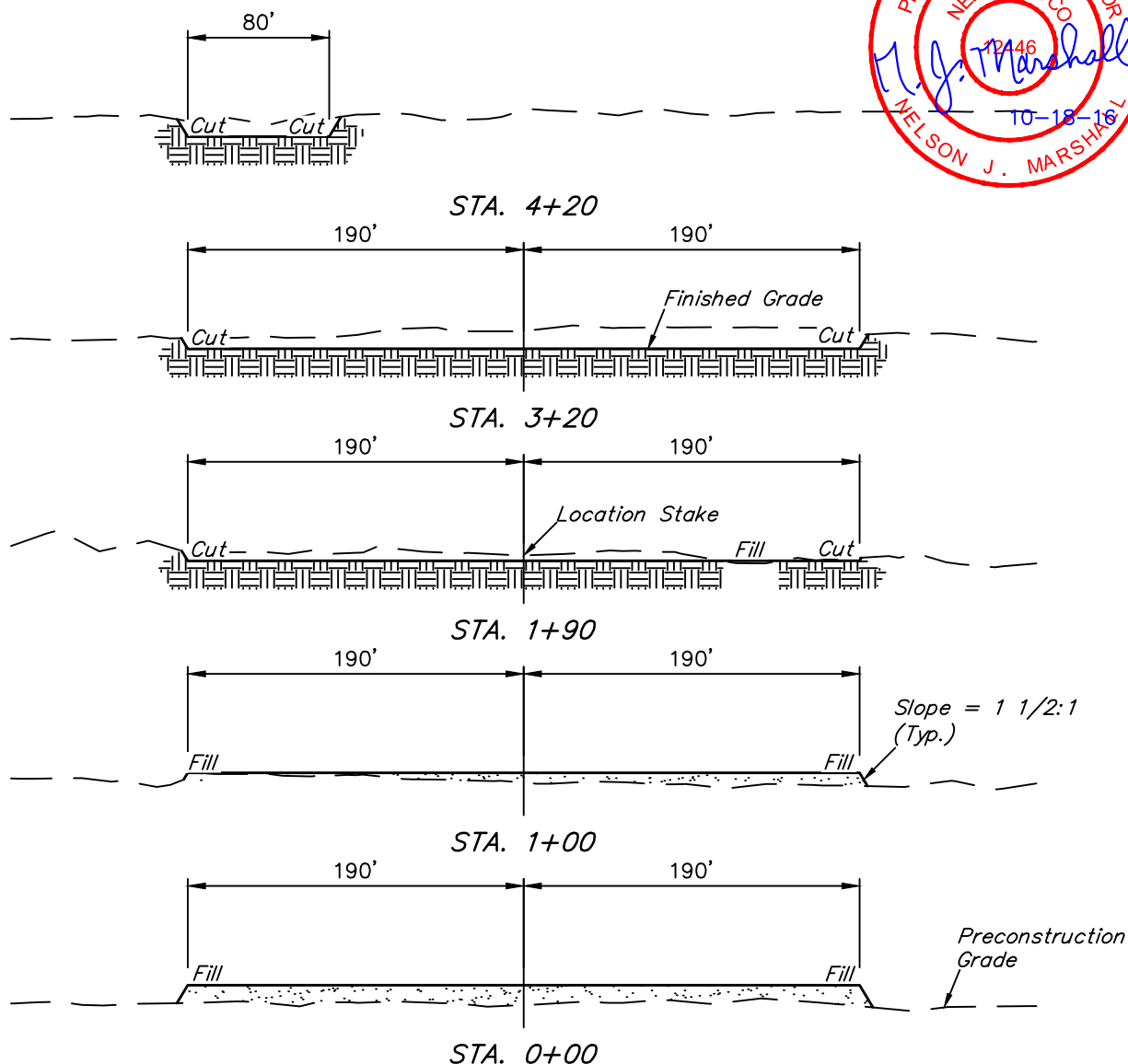
N



Exhibit D-1
Interim Reclamation Diagram
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
8-22S-34E
Lea County, NM



X-Section
Scale
1" = 100'



APPROXIMATE EARTHWORK QUANTITIES	
(4") TOPSOIL STRIPPING	1,710 Cu. Yds.
REMAINING LOCATION	6,600 Cu. Yds.
TOTAL CUT	8,310 Cu. Yds.
FILL	6,600 Cu. Yds.
EXCESS MATERIAL	1,710 Cu. Yds.
TOPSOIL	1,710 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	0 Cu. Yds.

APPROXIMATE SURFACE DISTURBANCE AREAS		
	DISTANCE	ACRES
WELL SITE DISTURBANCE	NA	±3.358
30' WIDE ACCESS ROAD R-O-W DISTURBANCE	±4,545.62'	±3.131
30' WIDE PIPELINE R-O-W DISTURBANCE	±37.86'	±0.026
30' WIDE SWD FLOWLINE R-O-W DISTURBANCE	±43,348.34'	±29.854
30' WIDE POWER LINE R-O-W DISTURBANCE	±11,501.16'	±7.921
TOTAL SURFACE USE AREA		±44.290

NOTES:

- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

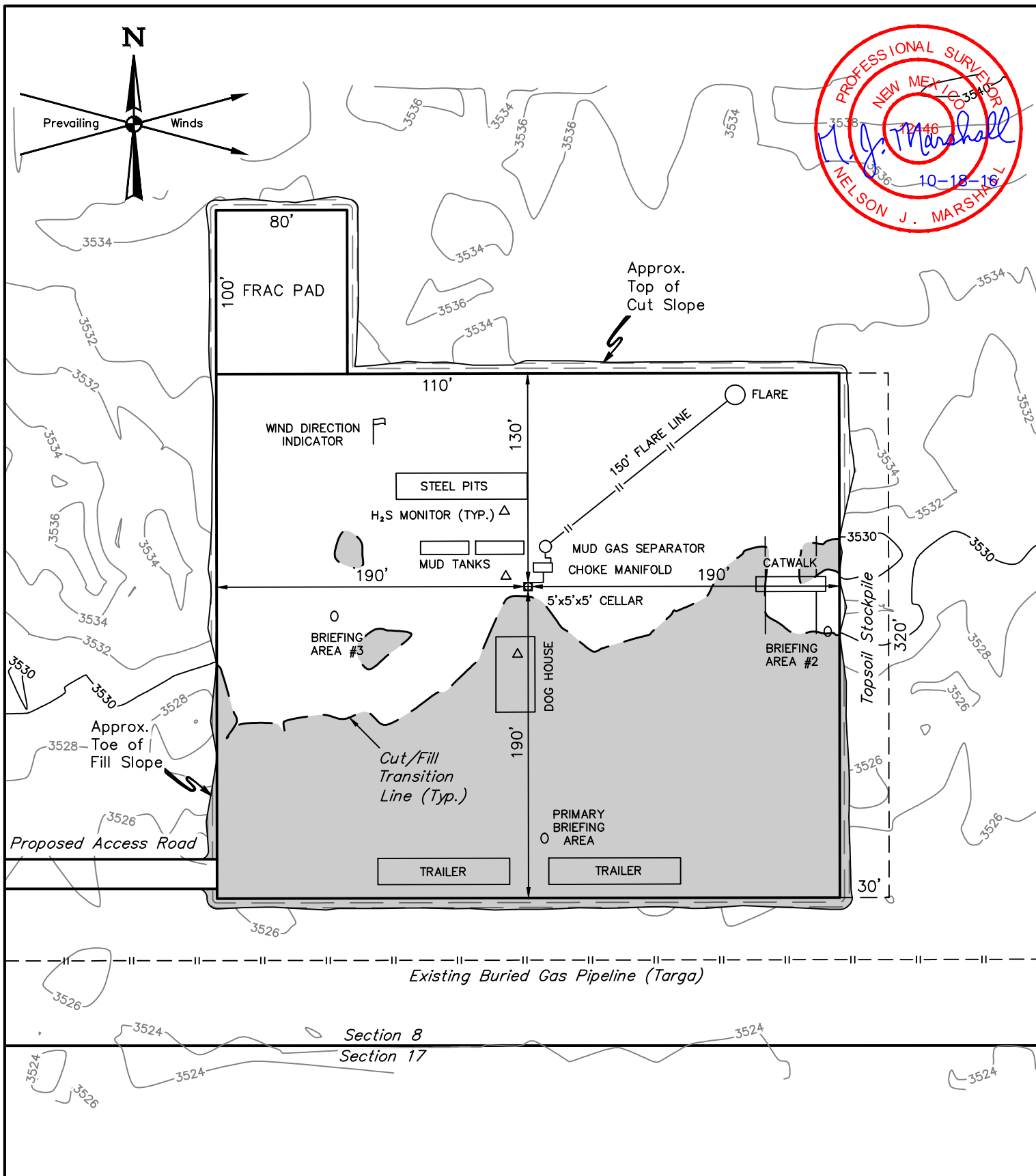
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	AS SHOWN
TYPICAL CROSS SECTIONS		EXHIBIT D	



NOTES:

- Contours shown at 2' intervals.

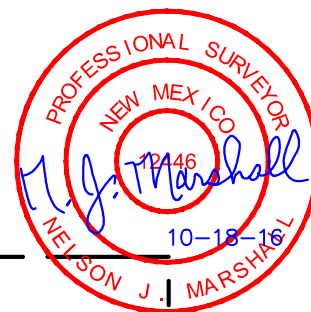
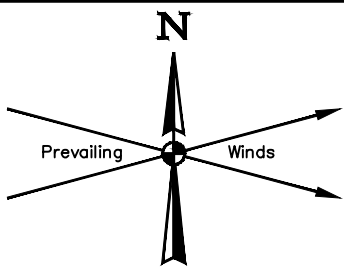
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 80'
TYPICAL RIG LAYOUT		EXHIBIT D	



UELS, LLC
 Corporate Office * 85 South 200 East
 Vernal, UT 84078 * (435) 789-1017



600' X 600' Archaeological Survey Boundary

FRAC PAD

LINE TABLE

LINE	DIRECTION	LENGTH
L1	SOUTH	228'

West Grama Ridge
8-5 Federal Com
2H Location Stake

Topsoil Stockpile

Proposed Access Road

Existing Buried Gas Pipeline (Targa)

Section 8
Section 17

NOTES:

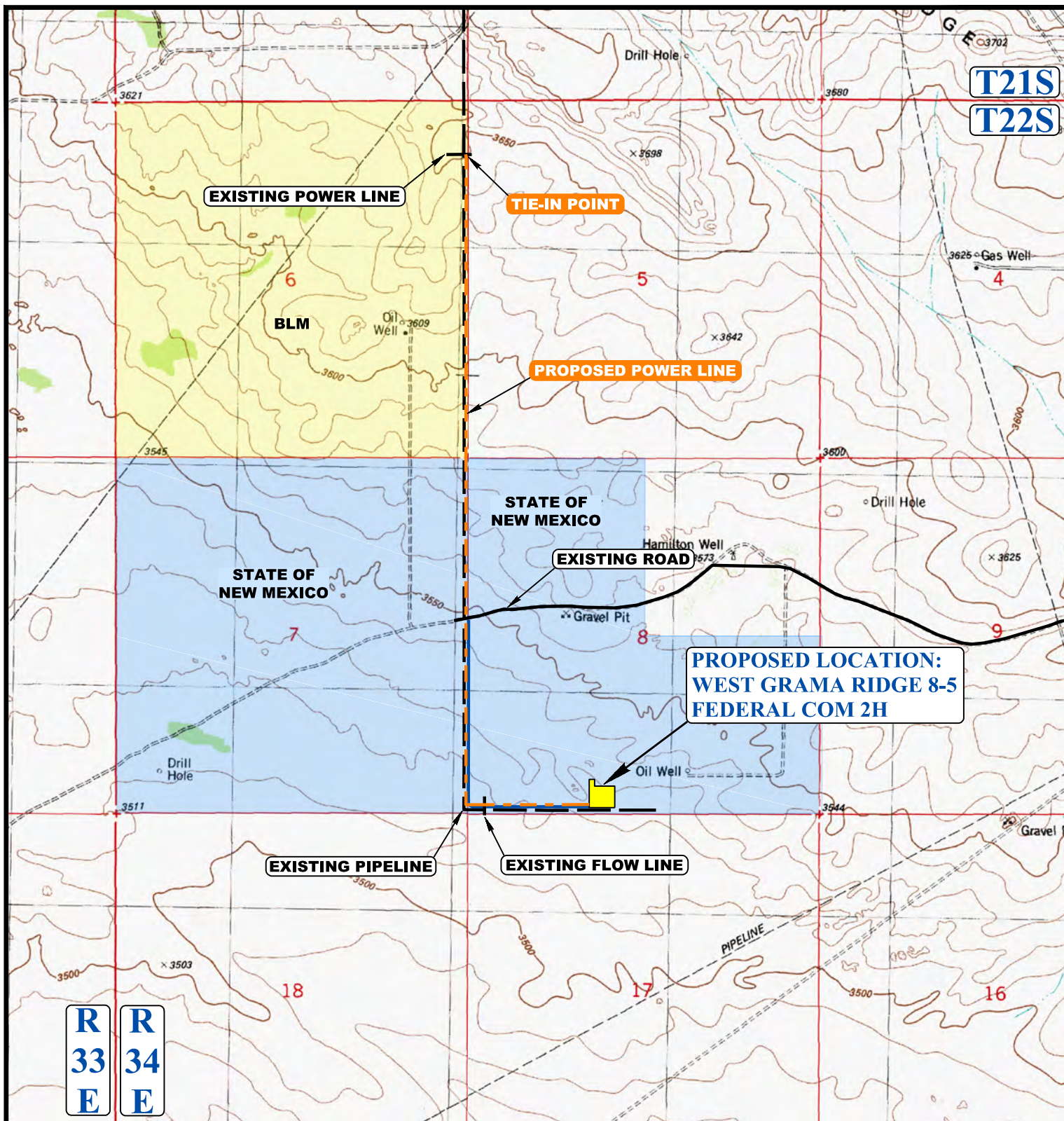
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 100'
ARCHAEOLOGICAL SURVEY BOUNDARY			EXHIBIT D



APPROXIMATE TOTAL POWER LINE DISTANCE = 11,501' +/-

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- PROPOSED ROAD
- PROPOSED POWER LINE
- EXISTING PIPELINE / FLOW LINE
- EXISTING POWER LINE



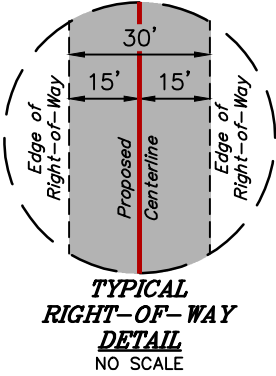
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



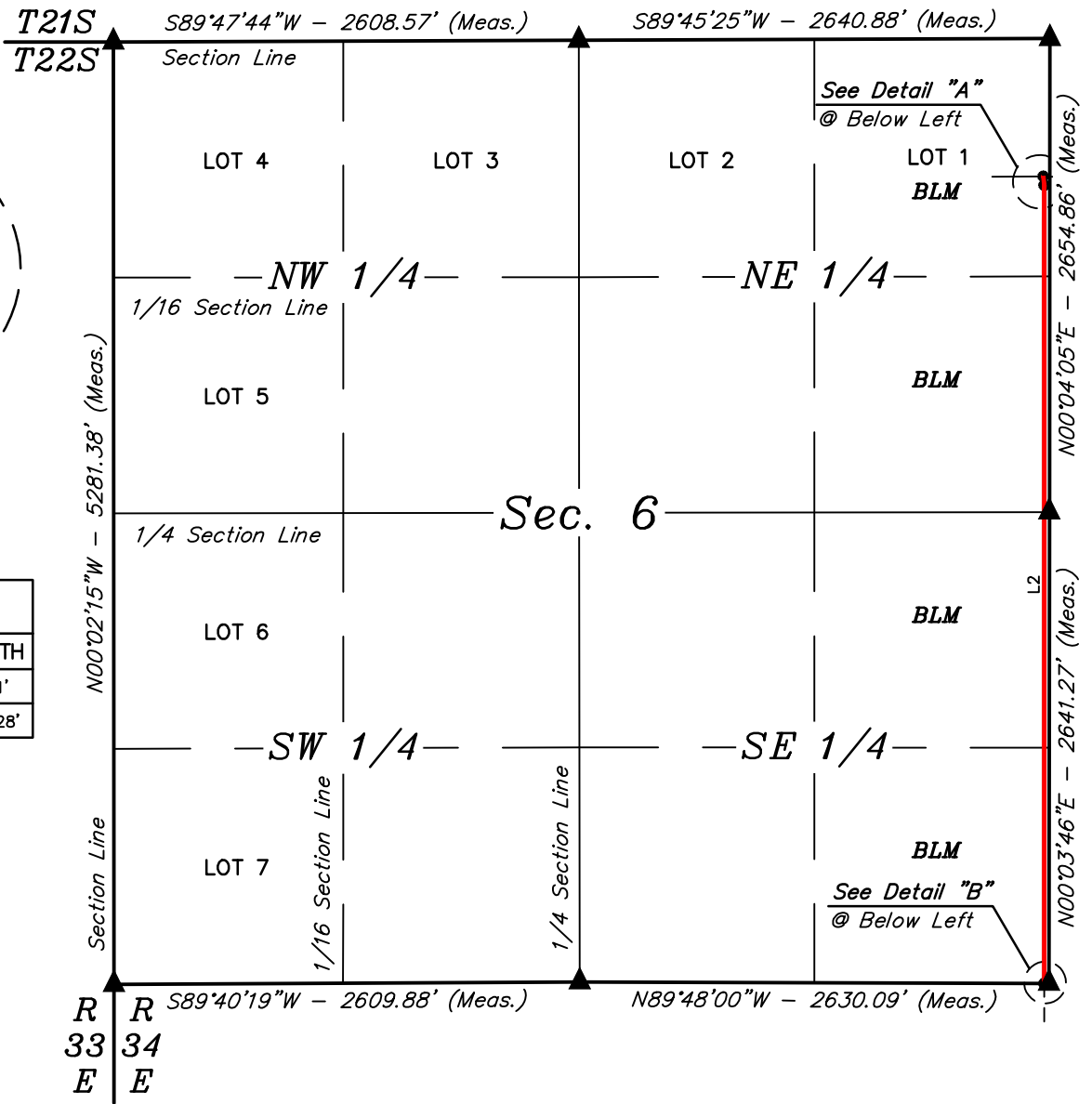
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	J.L.G.	10-18-16	1 : 24,000
ELECTRIC R-O-W			EXHIBIT H

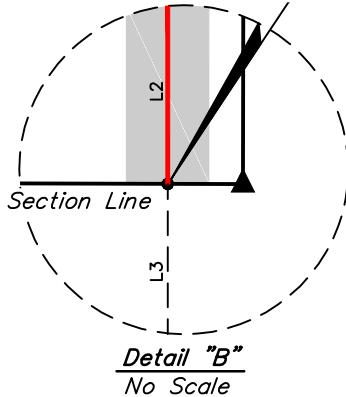
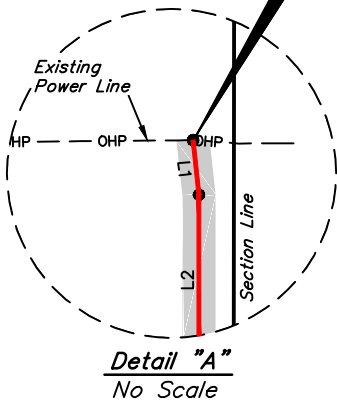


LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S06°12'29"E	50.01'
L2	S00°00'22"W	4473.28'



BEGINNING OF PROPOSED
POWER LINE RIGHT-OF-WAY
STA. 0+00
(At Existing Power Line)

END OF PROPOSED POWER LINE
RIGHT-OF-WAY ON BLM LANDS
IN SEC. 6 STA. 45+23.29
(At Section Line)



ACREAGE / LENGTH TABLE				
	OWNERSHIP	FEET	RODS	ACRES
(NE 1/4)	BLM	1882.15	114.07	1.296
(SE 1/4)	BLM	2641.14	160.06	1.818
TOTAL		4523.29	274.13	3.114

CERTIFICATE
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD
NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION
AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

▲ = SECTION CORNERS LOCATED.

FILE: 61098-A1

Sheet 1 of 2

NOTES:
• Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)



CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 6, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 1000'
POWER LINE R-O-W		EXHIBIT H	



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

POWER LINE RIGHT-OF-WAY DESCRIPTION ON BLM LANDS

A 30’ WIDE RIGHT-OF-WAY 15’ ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN LOT 1 OF SECTION 6, T22S, R34E, N.M.P.M., WHICH BEARS S02°48’57”W 773.97’ FROM THE NORTHEAST CORNER OF SAID SECTION 6, THENCE S06°12’29”E 50.01’; THENCE S00°00’22”W 4473.28’ TO A POINT ON THE SOUTH LINE OF THE SE 1/4 SE 1/4 OF SAID SECTION 6, WHICH BEARS N89°48’00”W 27.06’ FROM THE SOUTHEAST CORNER OF SAID SECTION 6. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR’S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 3.114 ACRES MORE OR LESS.

BEGINNING OF POWER LINE STA. 0+00 BEARS
S02°48’57”W 773.97’ FROM THE NORTHEAST CORNER OF
SECTION 6, T22S, R34E, N.M.P.M.

END OF POWER LINE ON BLM LANDS IN SEC. 6 STA.
45+23.29 BEARS N89°48’00”W 27.06’ FROM THE
SOUTHEAST CORNER OF SECTION 6, T22S, R34E, N.M.P.M.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H POWER LINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°25'40.77"	W 103°31'03.13"
N1/4 COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°25'40.84"	W 103°30'32.70"
NE COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°25'40.93"	W 103°30'01.90"
E1/4 COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°25'14.67"	W 103°30'01.96"
SE COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.54"	W 103°30'02.02"
S1/4 COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.65"	W 103°30'32.69"
SW COR. SEC. 6, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.52"	W 103°31'03.13"

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H POWER LINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°25'33.29"	W 103°30'02.35"
1	0+50.01	N 32°25'32.79"	W 103°30'02.29"
END	45+23.29	N 32°24'48.54"	W 103°30'02.33"

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAN WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

10-18-16

NOTES:
• Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)



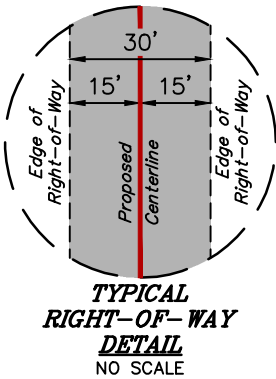
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 6, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

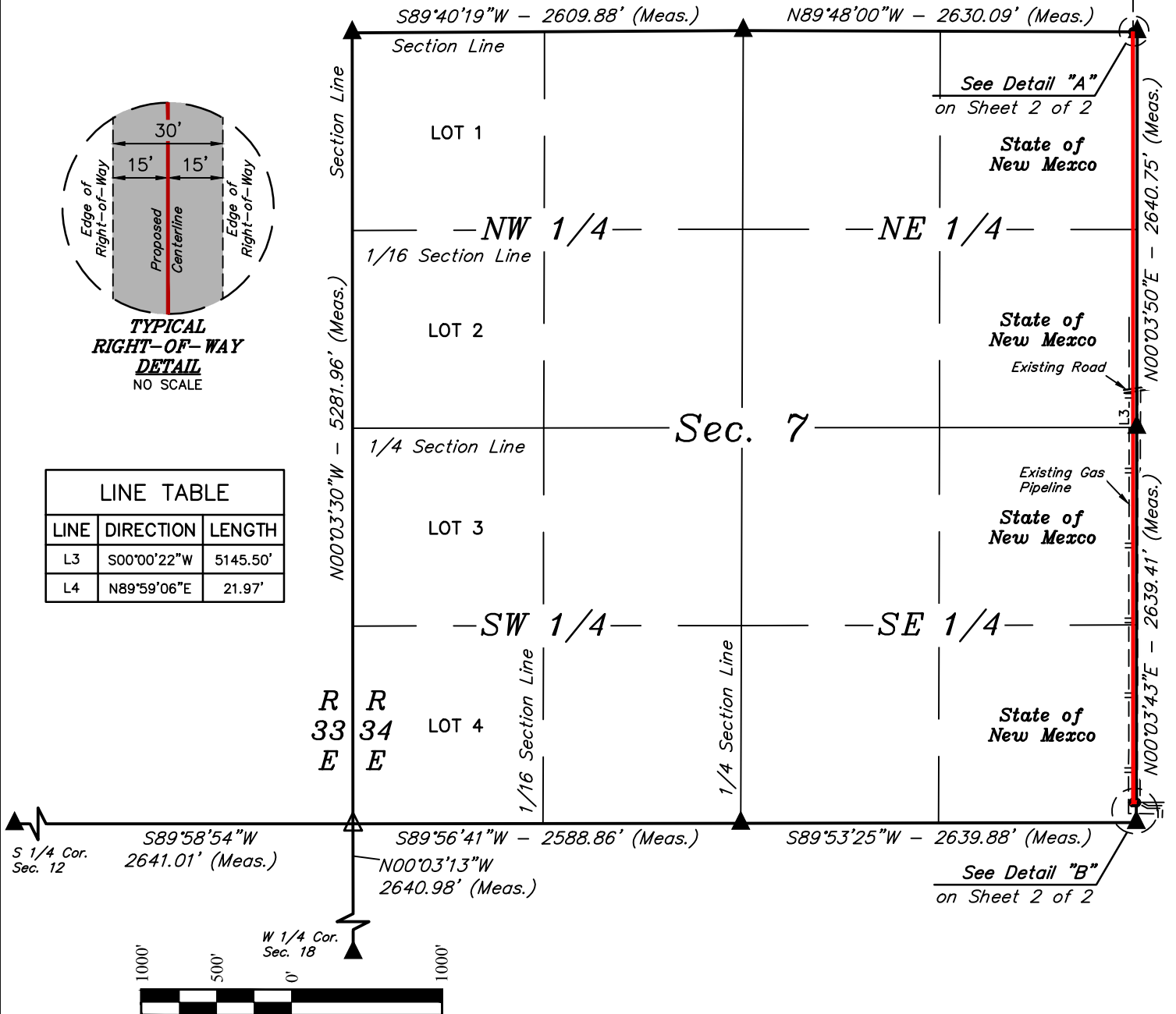
SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	N/A
POWER LINE R-O-W			EXHIBIT H



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LINE TABLE		
LINE	DIRECTION	LENGTH
L3	S00°00'22"W	5145.50'
L4	N89°59'06"E	21.97'



ACREAGE / LENGTH TABLE

	OWNERSHIP	FEET	RODS	ACRES
(NE 1/4 NE 1/4)	STATE	1320.44	80.03	0.909
(NW 1/4 SW 1/4)	STATE	1320.43	80.03	0.909
(NE 1/4 SE 1/4)	STATE	1319.71	79.98	0.909
(SE 1/4 SE 1/4)	STATE	1206.88	73.14	0.831
TOTAL		5167.47	313.18	3.559

- ▲ = SECTION CORNERS LOCATED.
 △ = SECTION CORNER RE-ESTABLISHED BY DOUBLE PROPORTION. (Not Set on Ground.)

NOTES:
 • Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)

CERTIFICATE
 THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
 REGISTRATION NO. 12446
 STATE OF NEW MEXICO
 10-18-16

FILE: 61098-B1

Sheet 1 of 2

CIMAREX ENERGY CO.

**WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
 SECTION 7, T22S, R34E, N.M.P.M.
 LEA COUNTY, NEW MEXICO**

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 1000'
POWER LINE R-O-W		EXHIBIT H	



UELS, LLC
 Corporate Office * 85 South 200 East
 Vernal, UT 84078 * (435) 789-1017

POWER LINE RIGHT-OF-WAY DESCRIPTION ON STATE OF NEW MEXICO LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT ON THE NORTH LINE OF THE NE 1/4 NE 1/4 OF SECTION 7, T22S, R34E, N.M.P.M., WHICH BEARS N89°48'00"W 27.06' FROM THE NORTHEAST CORNER OF SAID SECTION 7, THENCE S00°00'22"W 5145.50'; THENCE N89°59'06"E 21.97' TO A POINT ON THE EAST LINE OF THE SE 1/4 OF SAID SECTION 7, WHICH BEARS N00°03'43"E 134.76' FROM THE SOUTHEAST CORNER OF SAID SECTION 7. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 3.559 ACRES MORE OR LESS.

BEGINNING OF POWER LINE ON STATE OF NEW MEXICO LANDS IN SEC. 7 STA. 45+23.29 BEARS N89°48'00"W 27.06' FROM THE NORTHEAST CORNER OF SECTION 7, T22S, R34E, N.M.P.M.

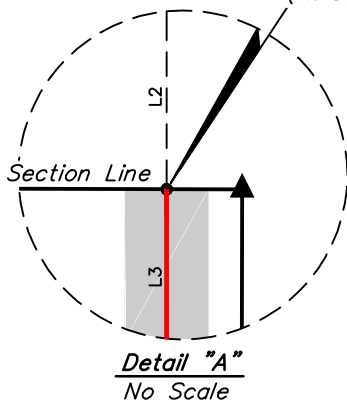
END OF POWER LINE ON STATE OF NEW MEXICO LANDS IN SEC. 7 STA. 96+90.76 BEARS N00°03'43"E 134.76' FROM THE SOUTHEAST CORNER OF SECTION 7, T22S, R34E, N.M.P.M.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H POWER LINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 7, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.52"	W 103°31'03.13"
N1/4 COR. SEC. 7, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.65"	W 103°30'32.69"
NE COR. SEC. 7, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.54"	W 103°30'02.02"
E1/4 COR. SEC. 7, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'22.41"	W 103°30'02.08"
SE COR. SEC. 7, T22S, R34E	T-POST	N 32°23'56.30"	W 103°30'02.14"
S1/4 COR. SEC. 7, T22S, R34E	T-POST	N 32°23'56.27"	W 103°30'32.92"
SW COR. SEC. 7, T22S, R34E	RE-ESTABLISHED BY DOUBLE PROPORTION	N 32°23'56.26"	W 103°31'03.11"

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H POWER LINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	45+23.29	N 32°24'48.54"	W 103°30'02.33"
1	96+68.79	N 32°23'57.63"	W 103°30'02.39"
END	96+90.76	N 32°23'57.63"	W 103°30'02.13"

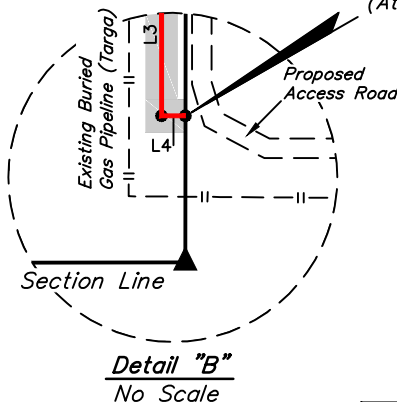
*BEGINNING OF PROPOSED
POWER LINE RIGHT-OF-WAY ON
STATE OF NEW MEXICO LANDS
IN SEC. 7 STA. 45+23.29*

(At Section Line)



*END OF PROPOSED POWER
LINE RIGHT-OF-WAY ON
STATE OF NEW MEXICO LANDS
IN SEC. 7 STA. 96+90.76*

(At Section Line)



CERTIFICATE
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

10-18-16

FILE: 61098-B2

Sheet 2 of 2

NOTES:

- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)



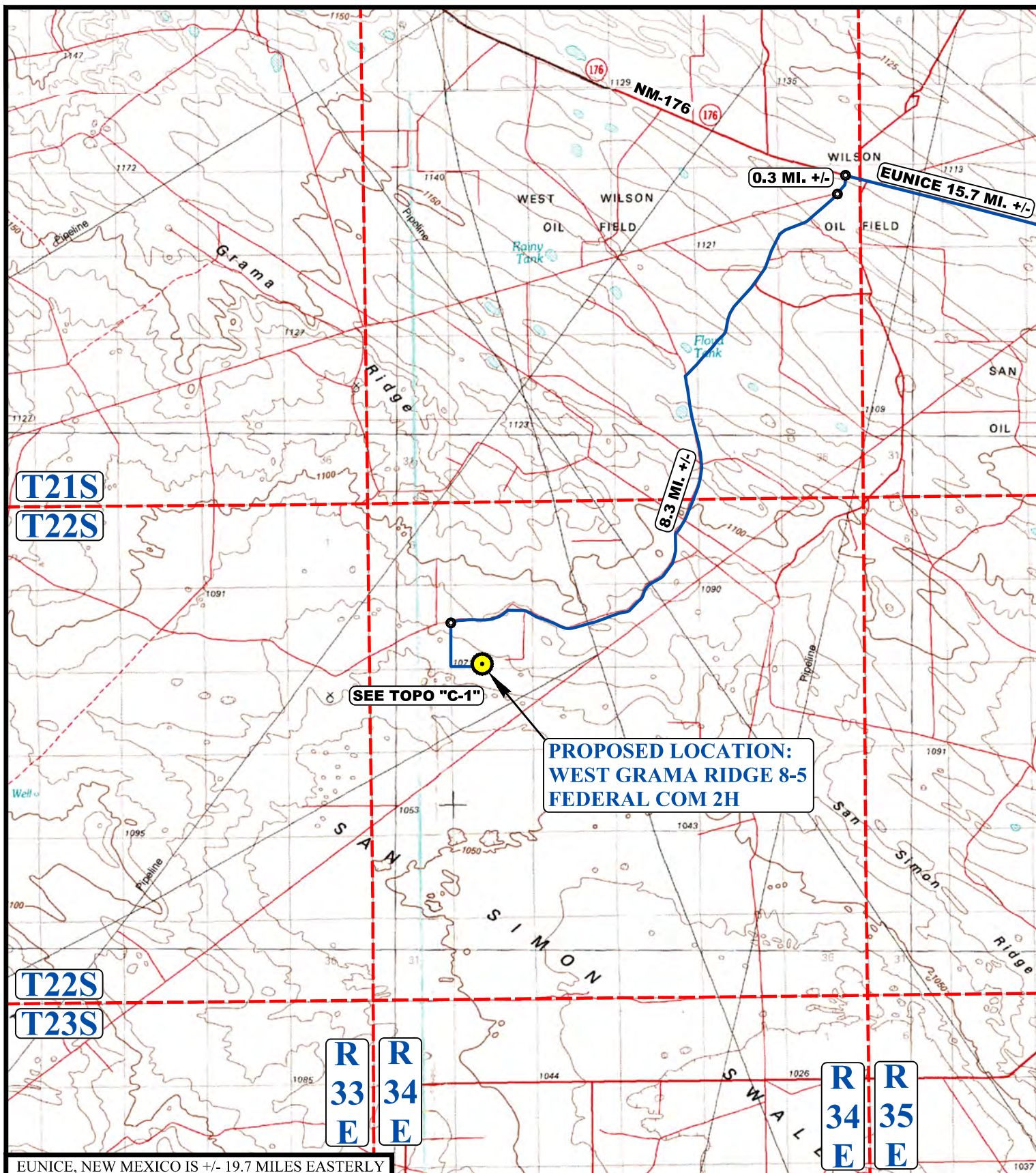
CIMAREX ENERGY CO.

**WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 7, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO**

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	N/A
POWER LINE R-O-W		EXHIBIT H	



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



LEGEND:

 **PROPOSED LOCATION**



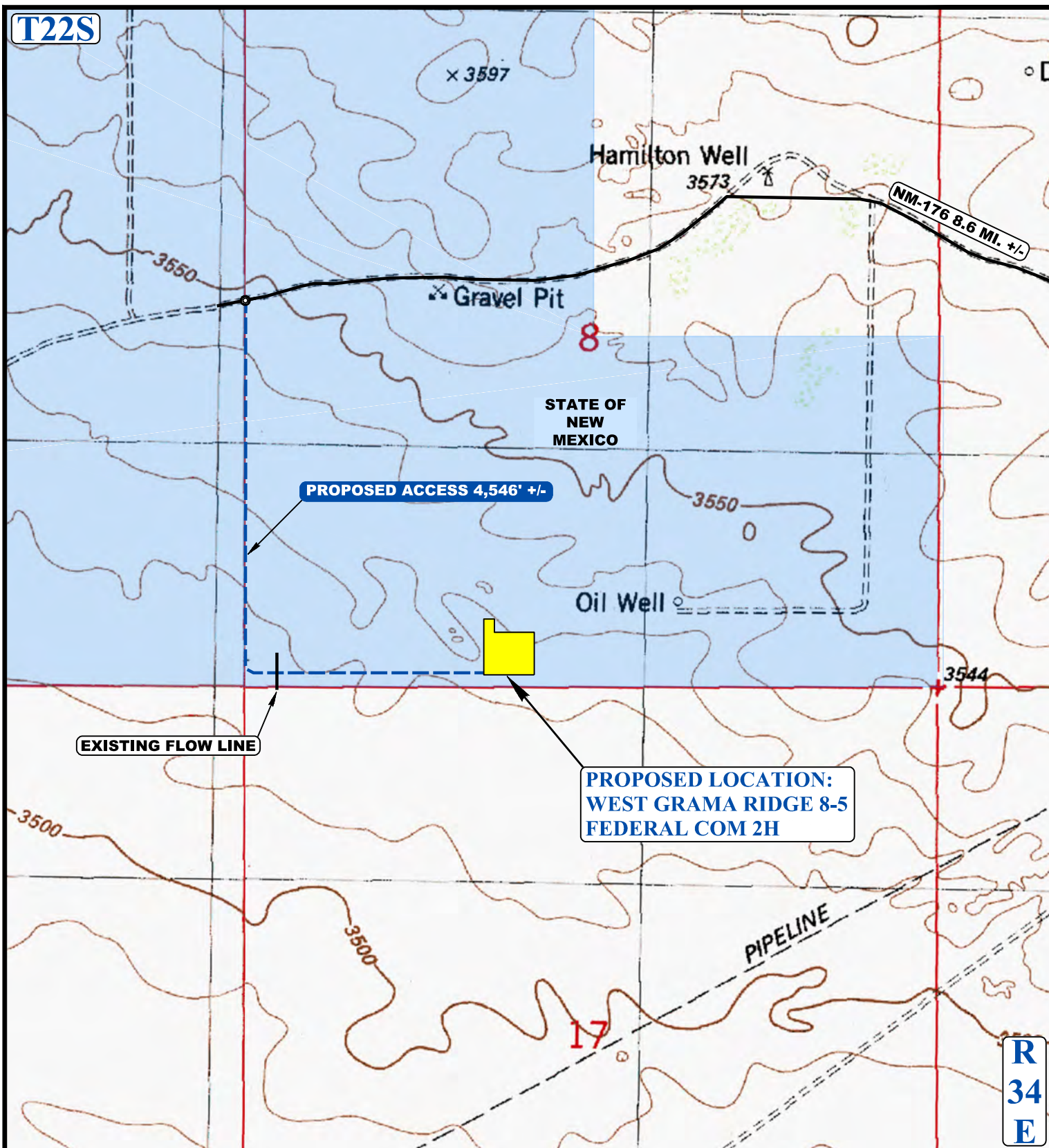
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	J.L.G.	10-18-16	1 : 100,000
PUBLIC ACCESS ROAD MAP		EXHIBIT B	



NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

LEGEND:

- EXISTING ROAD
- - - EXISTING PIPELINE / FLOW LINE
- - - PROPOSED ROAD



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	J.L.G.	10-18-16	1 : 12,000
TOPOGRAPHIC MAP			EXHIBIT C-1

BEGINNING AT THE INTERSECTION OF NM-176 AND AN EXISTING ROAD TO THE SOUTH (LOCATED IN SECTION 13, T21N, R36E, N.M.P.M.) PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 8.3 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY, THEN EASTERLY DIRECTION APPROXIMATELY 4,546' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF NM-176 AND AN EXISTING ROAD TO THE SOUTH (LOCATED IN SECTION 13, T21N, R36E, N.M.P.M.) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 9.5 MILES.

CIMAREX ENERGY CO.

**WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
280' FSL 2000' FWL
SE 1/4 SW 1/4, SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO**

SURVEYED BY	A.V., A.B., J.J.	09-30-16	
DRAWN BY	J.L.G.	10-18-16	
ROAD DESCRIPTION		EXHIBIT J	



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

Surface Use Plan
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
UL: N, Sec. 8, 22S, 34E
Lea Co., NM

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what is submitted in this surface use plan without approval. If any other disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be submitted for approval prior to any new surface disturbance.

1. Existing Roads:

- Please see Exhibit B and C-1 for existing access road planned to be used to access the proposed project.
- Cimarex Energy will improve or maintain existing roads in a condition the same as or better than before the operations began. Cimarex Energy will repair pot holes, etc. All existing structures on the entire access route such as cattle guards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.
- Cimarex Energy will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.
- Cimarex Energy will obtain written BLM approval prior to the application of surfactants, binding agents, or other dust suppression chemicals on the roadways.
- The maximum width of the driving surface will be 14'. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.
- Existing access road route to the proposed project is depicted on the public access point map if applicable. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of the surface use plan.

2. New of Reconstructed Access Roads:

- A new road will be constructed for this project.
- Cimarex Energy plans to construct 4546' of new on-lease access road to service the well. The planned access road does not cross lease boundaries, a right of way grant will not be acquired from the BLM.
- The maximum width of the driving surface will be 14'. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.
- Proposed and existing access road route to the proposed wellsite is depicted on Exhibit C-2. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done without prior approval from the BLM.
- The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

3. Well Radius Map

Please see Exhibit A for wells within one mile of the proposed well SHL and BHL.

4. Proposed or Existing Production Facilities:

- If on completion this well is a producer, a tank battery will be used and the necessary production equipment will be installed at the wellsite. Exhibit D-1 illustrates the proposed facility/battery. Any changes to the facility will be submitted via sundry notice.

5. Gas Pipeline

- Cimarex plans to construct an off lease gas pipeline to service this battery location.
- Please see Exhibit G-2 for pipeline route.
- Specification of pipeline: 12" Buried
- Line will be buried and will require a construction width of 30'.
- Length: 38'
- MAOP: 1440 psi.
- Anticipated working pressure: 1100 psi.

6. Flowlines

- Battery located on pad.

7. Salt Water Disposal

- No pipeline proposed.

8. Electric Lines

- Cimarex Energy plans to construct an off-lease electric line to service the well. The proposed electric line does cross lease boundaries, a right of way grant will be submitted to and obtained from the BLM.
- Cimarex Energy plans to install and overhead electric line from the proposed well to an existing overhead electric line located in SW of section 8. The proposed electric line will be 11501' in length, 1-40 poles, 480 volt, 4 wire, 3 phase. The electric line will exit off the West side of the well location and travel North 11501' until it would intercept the existing electric line.
- The electric line will be routed on the West side of lease road and 25-35' from and parallel to lease road.
- Route is within lease boundaries; a right of way grant will not be acquired from the BLM. Please see Exhibit H. Any changes to E-Line route will be submitted via sundry notice.

9. Water

Cimarex Energy plans to purchase fresh water from a 3rd party company. A local commercial source will truck water utilizing the access road. Please see Exhibit C-1 for access road route.

10. Construction Material

If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu yds is the max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
- An approximate 120' x 120' area is used within the proposed well site to remove caliche.
- Subsoil is removed and piled alongside the 120' by 120' area within the pad site.
- When caliche is found, material will be stockpiled within the pad site to build the location and road.
- Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in Exhibit D – Rig Layout Diagram.

In the event that no caliche is found onsite, caliche will be hauled in from BLM-approved caliche pit.

11. Methods of Handling Waste

- Drilling fluids, produced oil, and water from the well during drilling and completion operations will be stored safely and disposed of properly in a NMOCD approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around well site will be collected for disposal.
- Human waste and grey water will be properly contained and disposed of properly at a state approved disposal site.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste will be removed and disposed of properly at a state approved disposal site.
- The well will be drilled utilizing a closed loop system. Drill cuttings will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

12. Ancillary Facilities:

No camps or airstrips to be constructed.

13. Well Site Layout:

- Exhibit D: Rig Layout
- Exhibit D-2: Well Site layout plat
- Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in steel containment pits.
- Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements. Exhibit D-1: Interim Reclamation Diagram.

Surface Use Plan
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
UL: N, Sec. 8, 22S, 34E
Lea Co., NM

14. Interim and Final Reclamation

- Rehabilitation of the location will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.
- In areas planned for interim and final reclamation, surfacing materials will be removed and returned to a mineral pit or recycled to repair or build roads and well pads.
- Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.
- If the well is a dry hole, the pad and road area will be re-contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.
- Should the well be a producer, those areas of the location not essential to production facilities and operations will be reclaimed and seeded per BLM requirements. Exhibit D-1 illustrates the proposed Interim Reclamation.

15. Surface Ownership:

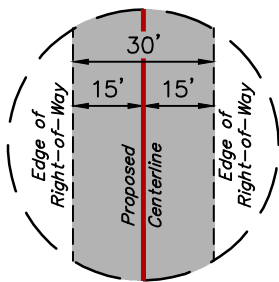
- The wellsite is on surface owned by New Mexico State Land office.
- A copy of Surface Use Agreement has been given to the surface owner.
- The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.

16. Other Information:

- Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak.
- Archeological survey will be conducted for the well pad/location and proposed road and the arch report will be filed with the BLM.
- There are no known dwellings within 1½ miles of this location.

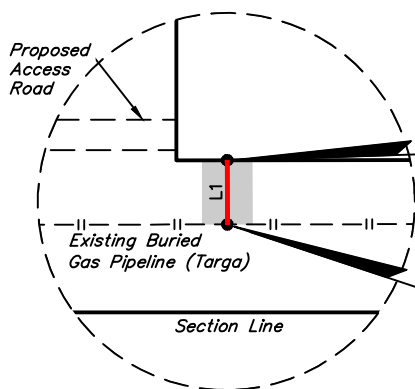
17. On Site Notes and Information:

Onsite with Cimarex (Barry Hunt) & BLM (Jeff Robertson) on Sept 27, 2016. Moved location 50' south and 120' east due to dunal features. Short gas pipeline staked south to Targa pipeline. Access road and E-line off southwest corner, west, following Targa pipeline (north side), then north following Targa's line and on east side of a proposed Excel powerline (Which is east of Targa pipeline). Road ends at existing east/west lease road. E-line ends at existing Excel line near West Grama Ridge 6 Federal 4H.



**TYPICAL
RIGHT-OF-WAY
DETAIL**
NO SCALE

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S00°05'25"E	37.86'

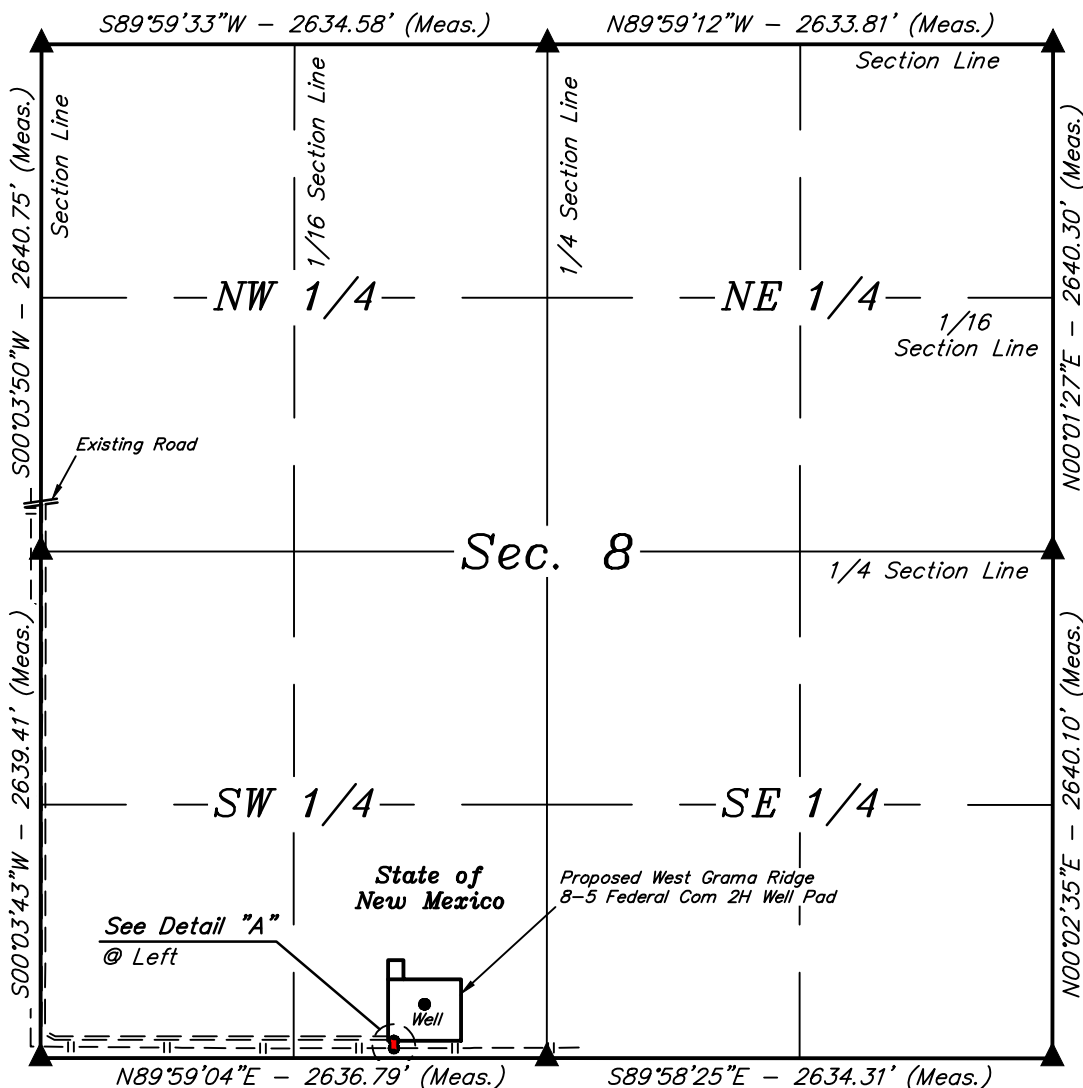


Detail "A"
No Scale



ACREAGE / LENGTH TABLE			
OWNERSHIP	FEET	RODS	ACRES
STATE	37.86	2.29	0.026

▲ = SECTION CORNERS LOCATED.



**BEGINNING OF PROPOSED
PIPELINE RIGHT-OF-WAY
STA. 0+00**
(At Edge of Proposed West Grama
Ridge 8-5 Federal Com 2H Well Pad)

**END OF PROPOSED
PIPELINE RIGHT-OF-WAY
STA. 0+37.86**
(At Existing Gas Pipeline)

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

10-18-16

NOTES:

- Basis of bearing is a G.P.S. observation (Vertical Control Datum: NAVD88)



FILE: 61097-A1

Sheet 1 of 2

CIMAREX ENERGY CO.

**WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO**

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	1" = 1000'
PIPELINE R-O-W		EXHIBIT G	



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

PIPELINE RIGHT-OF-WAY DESCRIPTION ON STATE OF NEW MEXICO LANDS

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT IN THE SE 1/4 SW 1/4 OF SECTION 8, T22S, R34E, N.M.P.M., WHICH BEARS N83°34'56"W 801.20' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 8, THENCE S00°05'25"E 37.86' TO A POINT IN THE SE 1/4 SW 1/4 OF SAID SECTION 8, WHICH BEARS N86°17'04"W 797.80' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 8. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 0.026 ACRES MORE OR LESS.

BEGINNING OF PIPELINE STA. 0+00 BEARS
N83°34'56"W 801.20' FROM THE SOUTH 1/4
CORNER OF SECTION 8, T22S, R34E, N.M.P.M.

END OF PIPELINE STA. 0+37.86 BEARS
N86°17'04"W 797.80' FROM THE SOUTH 1/4
CORNER OF SECTION 8, T22S, R34E, N.M.P.M.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H PIPELINE R-O-W			
SECTION CORNER	SECTION CORNER DESC.	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
NW COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.54"	W 103°30'02.02"
N1/4 COR. SEC. 8, T22S, R34E	IRON PIPE	N 32°24'48.52"	W 103°29'31.29"
NE COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'48.49"	W 103°29'00.57"
E1/4 COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'22.37"	W 103°29'00.62"
SE COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°23'56.25"	W 103°29'00.67"
S1/4 COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°23'56.28"	W 103°29'31.39"
SW COR. SEC. 8, T22S, R34E	T-POST	N 32°23'56.30"	W 103°30'02.14"
W1/4 COR. SEC. 8, T22S, R34E	IRON PIPE WITH BRASS CAP	N 32°24'22.41"	W 103°30'02.08"

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H PIPELINE R-O-W			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°23'57.18"	W 103°29'40.67"
END	0+37.86	N 32°23'56.80"	W 103°29'40.67"

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAN WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 12446
STATE OF NEW MEXICO

Helson J. Marshall
10-18-16

FILE: 61097-A2

Sheet 2 of 2



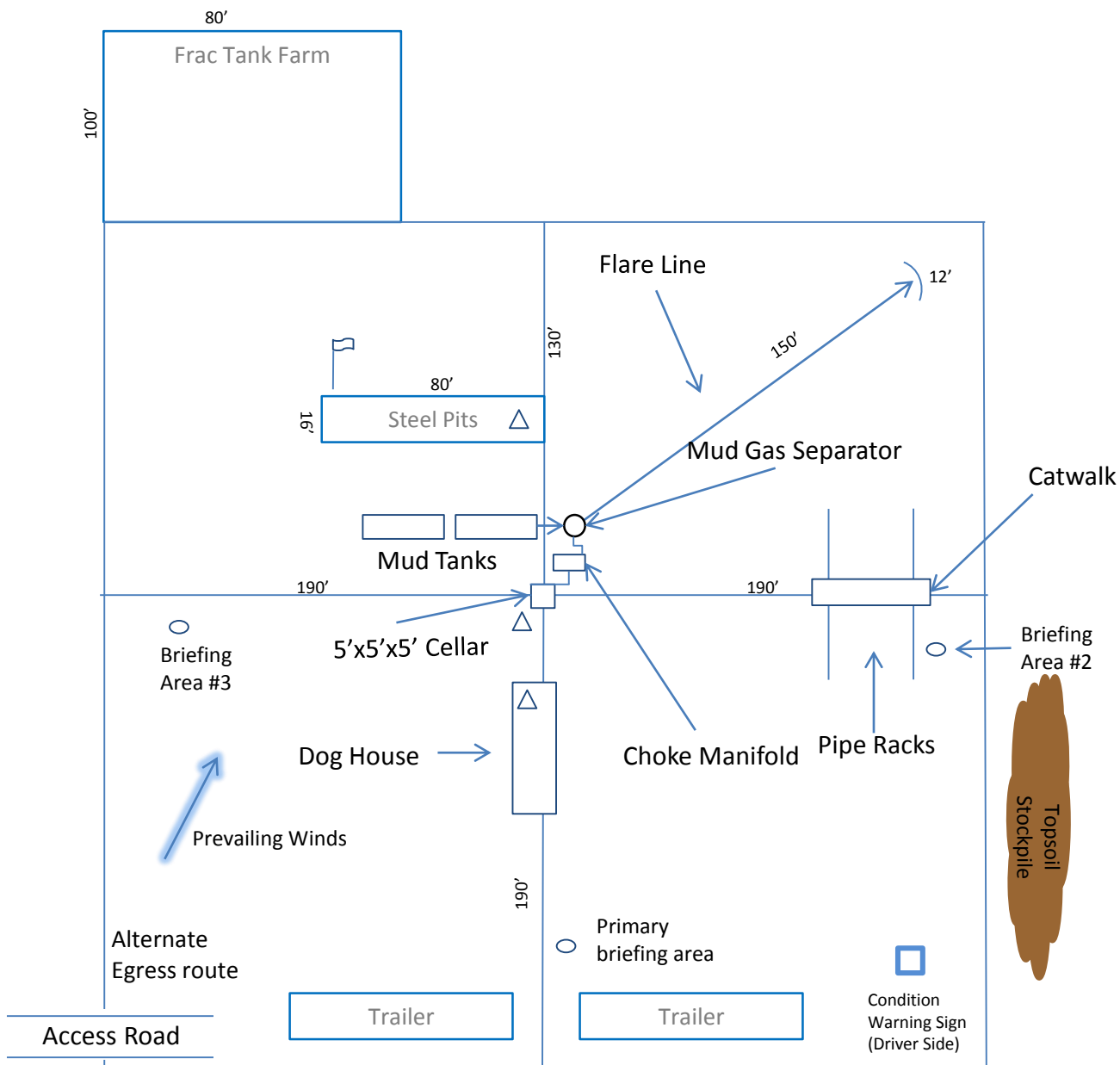
CIMAREX ENERGY CO.

WEST GRAMA RIDGE 8-5 FEDERAL COM 2H
SECTION 8, T22S, R34E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.V., A.B., J.J.	09-30-16	SCALE
DRAWN BY	S.F.	10-10-16	N/A
PIPELINE R-O-W		EXHIBIT G	



UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



Wind Direction Indicators
(wind sock or streamers)



• H2S Monitors
(alarms at bell nipple and shale shaker)



Briefing Areas

N



Exhibit D-1 – Rig Diagram
West Grama Ridge 8-5 Federal Com 2H
Cimarex Energy Co.
8-22S-34E
Lea County, NM

United States Department of the Interior
Bureau of Land Management
CARLSBAD FIELD OFFICE
620 E. GREENE
CARLSBAD, NM 88220 -6292
Phone: (575) 234-5972

Receipt

No:

3677543

Transaction #: 3781933	
Date of Transaction: 10/14/2016	
CUSTOMER:	
	CIMAREX ENERGY CO 202 S CHEYENNE AVE STE 1000 TULSA, OK 74103-3001 US

LINE #	QTY	DESCRIPTION	REMARKS	UNIT PRICE	TOTAL
1	1.00	OIL & GAS / APPLICATION FOR PERMIT TO DRILL (APD) / APD FEE	WEST GRAMA RIDGE 8 5 FEDERAL 2H	9610.00	9610.00
TOTAL:					\$9,610.00

PAYMENT INFORMATION				
1	AMOUNT:	9610.00	POSTMARKED:	N/A
	TYPE:	CHECK	RECEIVED:	10/14/2016
	CHECK NO:	1685072		
	NAME:	CIMAREX ENERGY CO 202 S CHEYENNE AVE STE 1000 TULSA OK 74103-3001 US		

REMARKS

This receipt was generated by the automated BLM Collections and Billing System and is a paper representation of a portion of the official electronic record contained therein.