



Cimarex Energy Co.

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March 29th, 2018

OCD
APR 02 2018
RECEIVED

State of New Mexico
Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, NM 88240

Re: Request for Oil Allowable Exception
State LF 32-5 #2H – 30-025-43626
Lea County, NM

Dear Sir:

Cimarex Energy Co. respectfully requests an exception to NMOCD Rule 19.50.20.9 regarding oil allowable. Cimarex requests permission to produce the project area assigned to State LF 32-5 #2H well above top depth bracket allowable to allow greater load recovery during flowback after frac stimulation.

Thank you for your consideration of this request. Please feel free to contact me if you need additional information.

Sincerely,

Amithy Crawford
Amithy Crawford
Regulatory Analyst
432-620-1909

Cimarex State LF 32-5 # 2H MWD final Survey Geodetic Report

(Def Survey)

Report Date: November 13, 2017 - 02:32 PM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex State LF 32-5 # 2H / Cimarex State LF 32-5 # 2H
 Well: Cimarex State LF 32-5 # 2H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex State LF 32-5 # 2H MWD final
 Survey Date: September 20, 2017
 Tort / AHD / DDI / ERD Ratio: 198.451 * / 9326.827 ft / 6.502 / 0.800

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 179.390 * (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 4152.000 ft above MSL
 Seabed / Ground Elevation: 4127.000 ft above MSL
 Magnetic Declination: 6.702 *
 Total Gravity Field Strength: 998.5123mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48316.547 nT

Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 53' 5.24195", W 103° 35' 21.44393"
 Location Grid N/E Y/X: N 686425.500 RUS, E 769742.400 RUS
 CRS Grid Convergence Angle: 0.4040 *
 Grid Scale Factor: 0.99996883
 Version / Patch: 2.10.565.0

Magnetic Dip Angle: 60.844 *
 Declination Date: September 20, 2017
 Magnetic Declination Model: HDGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.4040 *
 Total Corr Mag North->Grid North: 6.2976 *
 Local Coord Referenced To: Structure Reference Point

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
SHL [330° FNL, 715° FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	686425.50	769742.40	N 32 53 5.24	W 103 35 21.44
	173.00	0.22	211.53	173.00	0.28	-0.28	-0.17	0.13	686425.22	769742.23	N 32 53 5.24	W 103 35 21.45
	261.00	0.31	285.70	261.00	0.36	-0.36	-0.49	0.37	686425.14	769741.91	N 32 53 5.24	W 103 35 21.45
	392.00	0.22	34.60	392.00	0.05	-0.06	-0.69	0.33	686425.44	769741.71	N 32 53 5.24	W 103 35 21.45
	481.00	0.40	39.10	481.00	-0.33	0.32	-0.40	0.20	686425.82	769742.00	N 32 53 5.25	W 103 35 21.45
	573.00	0.22	71.53	573.00	-0.63	0.63	-0.03	0.27	686426.13	769742.37	N 32 53 5.25	W 103 35 21.44
	662.00	0.09	12.30	662.00	-0.75	0.75	0.15	0.21	686426.25	769742.55	N 32 53 5.25	W 103 35 21.44
	753.00	0.40	42.09	752.99	-1.05	1.06	0.38	0.36	686426.56	769742.78	N 32 53 5.25	W 103 35 21.44
	843.00	0.31	341.22	842.99	-1.51	1.52	0.51	0.41	686427.02	769742.91	N 32 53 5.26	W 103 35 21.44
	934.00	0.31	339.81	933.99	-1.98	1.98	0.35	0.01	686427.48	769742.75	N 32 53 5.26	W 103 35 21.44
	1025.00	0.49	321.00	1024.99	-2.52	2.52	0.02	0.24	686428.02	769742.42	N 32 53 5.27	W 103 35 21.44
	1115.00	0.49	324.83	1114.99	-3.13	3.13	-0.45	0.04	686428.63	769741.95	N 32 53 5.27	W 103 35 21.45
	1209.00	0.49	339.90	1208.98	-3.84	3.84	-0.82	0.14	686429.34	769741.58	N 32 53 5.28	W 103 35 21.45
	1304.00	0.71	321.92	1303.98	-4.69	4.68	-1.32	0.30	686430.18	769741.08	N 32 53 5.29	W 103 35 21.46
	1398.00	0.80	326.20	1397.97	-5.71	5.68	-2.04	0.11	686431.18	769740.36	N 32 53 5.30	W 103 35 21.47
	1493.00	0.71	342.50	1492.96	-6.82	6.80	-2.59	0.24	686432.30	769739.81	N 32 53 5.31	W 103 35 21.47
	1679.00	0.40	321.52	1678.95	-8.44	8.40	-3.34	0.20	686433.90	769739.06	N 32 53 5.33	W 103 35 21.48
	1774.00	0.88	329.50	1773.95	-9.33	9.29	-3.92	0.51	686434.79	769738.48	N 32 53 5.33	W 103 35 21.49
	1868.00	0.71	318.13	1867.94	-10.40	10.35	-4.67	0.25	686435.85	769737.73	N 32 53 5.34	W 103 35 21.50
	1962.00	0.62	325.62	1961.93	-11.26	11.20	-5.35	0.13	686436.70	769737.05	N 32 53 5.35	W 103 35 21.51
	2057.00	1.02	340.83	2056.92	-12.49	12.42	-5.92	0.48	686437.92	769736.48	N 32 53 5.37	W 103 35 21.51
	2151.00	0.80	323.02	2150.91	-13.81	13.74	-6.59	0.38	686439.24	769735.82	N 32 53 5.38	W 103 35 21.52
	2246.00	0.62	225.02	2245.90	-13.98	13.91	-7.35	1.13	686439.41	769735.05	N 32 53 5.38	W 103 35 21.53
	2340.00	1.81	211.09	2339.88	-12.36	12.27	-8.47	1.30	686437.77	769733.93	N 32 53 5.36	W 103 35 21.54
	2434.00	1.68	214.70	2433.84	-9.98	9.87	-10.03	0.18	686435.37	769732.38	N 32 53 5.34	W 103 35 21.56
	2529.00	1.28	210.43	2528.81	-7.93	7.81	-11.36	0.44	686433.31	769731.05	N 32 53 5.32	W 103 35 21.58
	2623.00	1.19	200.60	2622.78	-6.12	5.99	-12.23	0.24	686431.49	769730.17	N 32 53 5.30	W 103 35 21.59
	2717.00	1.28	205.89	2716.76	-4.27	4.13	-13.03	0.15	686429.63	769729.37	N 32 53 5.28	W 103 35 21.60
	2812.00	1.68	223.52	2811.73	-2.32	2.17	-14.45	0.63	686427.67	769727.95	N 32 53 5.26	W 103 35 21.61
	2906.00	3.00	236.12	2905.65	0.02	-0.20	-17.45	1.50	686425.30	769724.85	N 32 53 5.24	W 103 35 21.65
First take point	2909.00	3.05	236.48	2908.65	0.10	-0.29	-17.58	1.76	686425.21	769724.82	N 32 53 5.24	W 103 35 21.65
	3001.00	4.60	243.70	3000.44	3.03	-3.28	-22.93	1.76	686422.22	769719.48	N 32 53 5.21	W 103 35 21.71
	3095.00	5.08	247.31	3094.10	6.23	-6.55	-30.14	0.60	686418.95	769712.26	N 32 53 5.18	W 103 35 21.80
	3189.00	4.82	248.11	3187.75	9.23	-9.63	-37.65	0.29	686415.87	769704.75	N 32 53 5.15	W 103 35 21.89
	3284.00	5.61	240.92	3282.36	12.89	-13.37	-45.41	1.08	686412.13	769696.99	N 32 53 5.11	W 103 35 21.98
	3378.00	6.50	242.29	3375.84	17.50	-18.08	-54.14	0.96	686407.42	769688.27	N 32 53 5.07	W 103 35 22.08
	3472.00	6.10	241.19	3469.27	22.29	-22.96	-63.22	0.44	686402.54	769679.18	N 32 53 5.02	W 103 35 22.19
	3567.00	5.61	239.21	3563.77	27.01	-27.77	-71.63	0.58	686397.73	769670.77	N 32 53 4.97	W 103 35 22.29
	3662.00	5.48	237.71	3658.33	31.72	-32.57	-79.46	0.20	686392.93	769662.95	N 32 53 4.93	W 103 35 22.38
	3756.00	5.08	237.40	3751.93	36.29	-37.21	-86.76	0.43	686388.29	769655.64	N 32 53 4.88	W 103 35 22.46
	3850.00	5.70	242.11	3845.51	40.63	-41.64	-94.39	0.81	686383.86	769648.01	N 32 53 4.84	W 103 35 22.55
	3945.00	6.41	245.60	3939.98	44.93	-46.03	-103.39	0.84	686379.47	769639.01	N 32 53 4.79	W 103 35 22.66
	4039.00	6.19	241.72	4033.42	49.40	-50.60	-112.63	0.51	686374.90	769629.77	N 32 53 4.75	W 103 35 22.77
	4133.00	5.92	244.63	4126.89	53.78	-55.08	-121.47	0.43	686370.42	769620.93	N 32 53 4.71	W 103 35 22.87
	4228.00	5.61	241.50	4221.41	58.01	-59.40	-129.98	0.46	686366.11	769612.42	N 32 53 4.66	W 103 35 22.97
	4322.00	5.21	244.32	4314.99	61.97	-63.44	-137.87	0.51	686362.06	769604.54	N 32 53 4.62	W 103 35 23.07
	4417.00	5.21	240.62	4409.60	65.87	-67.42	-145.51	0.35	686358.08	769596.89	N 32 53 4.59	W 103 35 23.16
	4511.00	4.99	243.92	4503.23	69.68	-71.31	-152.90	0.39	686354.19	769589.50	N 32 53 4.55	W 103 35 23.24
	4605.00	4.99	243.70	4596.87	73.21	-74.92	-160.24	0.02	686350.58	769582.17	N 32 53 4.51	W 103 35 23.33
	4700.00	4.82	241.81	4691.52	76.85	-78.64	-167.46	0.25	686346.86	769574.94	N 32 53 4.48	W 103 35 23.41
	4795.00	4.99	240.62	4786.18	80.69	-82.55	-174.58	0.21	686342.95	769567.83	N 32 53 4.44	W 103 35 23.50
	4889.00	4.91	242.03	4879.83	84.50	-86.44	-181.69	0.15	686339.06	769560.71	N 32 53 4.40	W 103 35 23.58
	4983.00	4.82	243.22	4973.49	88.09	-90.11	-188.77	0.14	686335.39	769553.63	N 32 53 4.36	W 103 35 23.66
	5078.00	4.68	239.82	5068.16	91.77	-93.86	-195.69	0.33	686331.65	769546.72	N 32 53 4.33	W 103 35 23.75
	5172.00	4.68	242.73	5161.85	95.38	-97.54	-202.41	0.25	686327.96	769540.00	N 32 53 4.29	W 103 35 23.83
	5267.00	4.60	243.39	5256.54	98.79	-101.02	-209.26	0.10	686324.48	769533.15	N 32 53 4.26	W 103 35 23.91
	5361.00	4.82	242.91	5350.22	102.20	-104.51	-216.15	0.24	686320.99	769526.26	N 32 53 4.22	W 103 35 23.99
	5455.00	4.68	243.39	5443.90	105.64	-108.03	-223.09	0.15	686317.48	769519.32	N 32 53 4.19	W 103 35 24.07
	5550.00	4.60	240.13	5538.58	109.21	-111.66	-229.86	0.29	686313.84	769512.55	N 32 53 4.15	W 103 35 24.15
	5644.00	4.68	243.70	5632.28	112.71	-115.24	-236.57	0.32	686310.27	769505.84	N 32 53 4.12	W 103 35 24.23
	5738.00	4.82	242.60	5725.95	116.15	-118.75	-243.51	0.18	686306.75	769498.90	N 32 53 4.08	W 103 35 24.31
	5833.00	4.82	242.03	5820.62	119.79	-122.46	-250.58	0.05	686303.04	769491.83	N 32 53 4.05	W 103 35 24.39
	5927.00	3.80	255.11	5914.35	122.37	-125.11	-257.08	1.50	686300.39	769485.33	N 32 53 4.02	W 103 35 24.47
	6022.00	2.92	278.91	6009.19	122.75	-125.55	-262.51	1.72	686299.96	769479.90	N 32 53 4.02	W 103 35 24.53
	6116.00	2.52	292.92	6103.09	121.52	-124.37	-266.78	0.82	686301.13	769475.63	N 32 53 4.03	W 103 35 24.58

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6210.00	2.70	294.03	6196.89	119.78	-122.67	-270.70	0.20	686302.84	769471.70	N 32 53 4.05	W 103 35 24.63
	6305.00	2.70	293.10	6291.89	117.94	-120.88	-274.81	0.05	686304.83	769467.60	N 32 53 4.07	W 103 35 24.68
	6399.00	2.70	295.13	6385.78	116.09	-119.07	-278.85	0.10	686306.44	769463.56	N 32 53 4.08	W 103 35 24.72
	6494.00	2.61	292.31	6480.68	114.28	-117.30	-282.87	0.17	686308.21	769459.54	N 32 53 4.10	W 103 35 24.77
	6588.00	2.61	293.81	6574.58	112.56	-115.62	-286.81	0.07	686309.88	769455.60	N 32 53 4.12	W 103 35 24.82
	6683.00	2.52	298.92	6669.49	110.84	-113.74	-290.62	0.26	686311.77	769451.79	N 32 53 4.14	W 103 35 24.86
	6777.00	2.39	289.53	6763.40	108.94	-112.08	-294.27	0.45	686313.42	769448.13	N 32 53 4.15	W 103 35 24.90
	6871.00	2.39	297.73	6857.32	107.34	-110.52	-297.86	0.36	686314.99	769444.55	N 32 53 4.17	W 103 35 24.95
	6966.00	2.21	296.01	6952.24	105.58	-108.79	-301.26	0.20	686316.71	769441.15	N 32 53 4.19	W 103 35 24.99
	7060.00	2.21	288.21	7046.17	104.18	-107.43	-304.61	0.32	686318.07	769437.80	N 32 53 4.20	W 103 35 25.02
	7155.00	2.30	287.42	7141.10	103.00	-106.29	-308.17	0.10	686319.22	769434.24	N 32 53 4.21	W 103 35 25.07
	7249.00	2.21	286.49	7235.03	101.88	-105.21	-311.70	0.10	686320.30	769430.71	N 32 53 4.22	W 103 35 25.11
	7343.00	2.30	297.42	7328.95	100.46	-103.82	-315.12	0.47	686321.68	769427.30	N 32 53 4.24	W 103 35 25.15
	7438.00	2.39	291.91	7423.87	98.81	-102.21	-318.65	0.26	686323.30	769423.77	N 32 53 4.25	W 103 35 25.19
	7532.00	1.99	287.72	7517.81	97.54	-100.98	-322.02	0.46	686324.52	769420.39	N 32 53 4.27	W 103 35 25.23
	7626.00	1.99	286.01	7611.75	96.56	-100.03	-325.14	0.06	686325.47	769417.27	N 32 53 4.27	W 103 35 25.26
	7721.00	2.21	290.81	7706.69	95.42	-98.93	-328.44	0.30	686326.58	769413.97	N 32 53 4.29	W 103 35 25.30
	7819.00	2.12	289.00	7804.62	94.13	-97.66	-331.92	0.12	686327.84	769410.49	N 32 53 4.30	W 103 35 25.34
	7914.00	1.02	349.51	7899.58	92.70	-96.26	-333.74	1.94	686329.24	769408.68	N 32 53 4.31	W 103 35 25.37
	8008.00	1.19	29.71	7993.57	91.04	-94.59	-333.40	0.83	686330.91	769409.01	N 32 53 4.33	W 103 35 25.36
	8102.00	1.50	32.53	8087.54	89.16	-92.71	-332.26	0.34	686332.80	769410.15	N 32 53 4.35	W 103 35 25.35
	8196.00	1.28	31.91	8181.51	87.25	-90.78	-331.04	0.23	686334.73	769411.37	N 32 53 4.37	W 103 35 25.33
	8290.00	1.50	31.91	8275.49	85.32	-88.84	-329.84	0.23	686336.66	769412.57	N 32 53 4.39	W 103 35 25.32
	8385.00	1.50	37.99	8370.45	83.30	-86.81	-328.41	0.17	686338.70	769414.00	N 32 53 4.41	W 103 35 25.30
	8479.00	1.50	27.99	8464.42	81.26	-84.75	-327.08	0.28	686340.75	769415.33	N 32 53 4.43	W 103 35 25.29
	8573.00	1.59	38.61	8558.39	79.17	-82.64	-325.69	0.32	686342.86	769416.72	N 32 53 4.45	W 103 35 25.27
	8668.00	1.50	36.50	8653.35	77.16	-80.61	-324.13	0.11	686344.89	769418.28	N 32 53 4.47	W 103 35 25.25
	8762.00	1.68	36.50	8747.32	75.08	-78.52	-322.57	0.19	686346.98	769419.84	N 32 53 4.49	W 103 35 25.23
	8856.00	1.68	33.01	8841.28	72.83	-76.25	-321.00	0.11	686349.25	769421.41	N 32 53 4.51	W 103 35 25.21
	8951.00	1.68	33.01	8936.24	70.51	-73.92	-319.49	0.00	686351.58	769422.92	N 32 53 4.53	W 103 35 25.20
	9045.00	1.50	38.39	9030.20	68.41	-71.80	-317.97	0.25	686353.70	769424.44	N 32 53 4.55	W 103 35 25.18
	9140.00	1.68	32.31	9125.16	66.28	-69.65	-316.46	0.26	686355.85	769425.95	N 32 53 4.57	W 103 35 25.16
	9234.00	1.50	30.90	9219.13	64.07	-67.43	-315.09	0.20	686358.07	769427.32	N 32 53 4.60	W 103 35 25.14
	9329.00	1.68	32.71	9314.09	61.85	-65.19	-313.70	0.20	686360.31	769428.71	N 32 53 4.62	W 103 35 25.13
	9423.00	1.81	36.80	9408.05	59.52	-62.84	-312.06	0.19	686362.66	769430.35	N 32 53 4.64	W 103 35 25.11
	9517.00	1.59	32.62	9502.00	57.25	-60.55	-310.47	0.27	686364.95	769431.94	N 32 53 4.66	W 103 35 25.09
	9612.00	1.81	37.42	9596.96	54.96	-58.25	-308.85	0.28	686367.25	769433.56	N 32 53 4.69	W 103 35 25.07
	9706.00	1.59	36.41	9690.92	52.75	-56.02	-307.17	0.24	686369.48	769435.24	N 32 53 4.71	W 103 35 25.05
	9800.00	1.59	37.73	9784.89	50.69	-53.94	-305.60	0.04	686371.56	769436.81	N 32 53 4.73	W 103 35 25.03
	9895.00	1.90	35.39	9879.84	48.38	-51.62	-303.88	0.33	686373.89	769438.53	N 32 53 4.75	W 103 35 25.01
	9989.00	1.99	31.60	9973.79	45.74	-48.96	-302.12	0.17	686376.55	769440.29	N 32 53 4.78	W 103 35 24.99
	10083.00	1.99	36.80	10067.73	43.06	-46.26	-300.29	0.19	686379.24	769442.12	N 32 53 4.81	W 103 35 24.97
	10178.00	1.81	28.52	10162.68	40.44	-43.62	-298.59	0.35	686381.88	769443.82	N 32 53 4.83	W 103 35 24.95
	10272.00	1.99	32.09	10256.63	37.77	-40.93	-297.01	0.23	686384.57	769445.40	N 32 53 4.86	W 103 35 24.93
	10366.00	2.12	34.03	10350.57	34.96	-38.11	-295.17	0.16	686387.39	769447.24	N 32 53 4.89	W 103 35 24.91
	10461.00	2.12	33.01	10445.50	32.06	-35.18	-293.23	0.04	686390.32	769449.18	N 32 53 4.91	W 103 35 24.89
	10555.00	1.99	30.81	10539.44	29.22	-32.32	-291.45	0.16	686393.18	769450.96	N 32 53 4.94	W 103 35 24.86
	10647.00	2.12	36.10	10631.38	26.49	-29.57	-289.63	0.25	686395.93	769452.78	N 32 53 4.97	W 103 35 24.84
	10740.00	2.19	37.43	10658.36	23.68	-26.76	-287.82	0.32	686396.74	769453.39	N 32 53 4.98	W 103 35 24.84
	10834.00	1.64	80.75	10721.33	24.60	-27.66	-287.40	2.39	686397.84	769455.01	N 32 53 4.99	W 103 35 24.82
	10928.00	3.99	145.59	10752.30	25.43	-28.48	-286.35	11.65	686397.02	769456.06	N 32 53 4.98	W 103 35 24.80
	10800.00	9.77	162.56	10784.06	28.95	-31.99	-284.90	18.95	686393.51	769457.50	N 32 53 4.95	W 103 35 24.79
	10831.00	15.30	168.40	10814.31	35.49	-38.51	-283.29	18.28	686386.99	769459.12	N 32 53 4.88	W 103 35 24.77
	10862.00	18.83	170.52	10843.94	44.45	-47.45	-281.65	11.56	686378.05	769460.78	N 32 53 4.79	W 103 35 24.75
	10910.00	22.17	171.99	10888.89	61.09	-64.07	-279.11	7.04	686361.43	769463.30	N 32 53 4.63	W 103 35 24.72
	10957.00	24.02	175.02	10932.12	79.43	-82.38	-277.04	4.68	686343.12	769465.37	N 32 53 4.45	W 103 35 24.70
	11009.00	26.20	180.11	10979.21	101.46	-104.41	-276.14	5.90	686321.09	769466.27	N 32 53 4.23	W 103 35 24.69
	11056.00	27.96	182.26	11021.06	122.84	-125.80	-276.60	4.28	686299.71	769465.81	N 32 53 4.02	W 103 35 24.70
	11104.00	29.96	183.85	11063.06	146.04	-149.00	-277.85	4.46	686276.50	769464.56	N 32 53 3.79	W 103 35 24.71
	11151.00	31.46	184.19	11103.46	169.96	-172.94	-279.53	3.21	686252.56	769462.88	N 32 53 3.55	W 103 35 24.74
	11182.00	33.14	184.25	11129.67	186.46	-189.46	-280.75	5.42	686236.04	769461.66	N 32 53 3.39	W 103 35 24.75
	11214.00	35.25	183.94	11156.13	204.39	-207.40	-282.03	6.82	686218.11	769460.38	N 32 53 3.21	W 103 35 24.77
	11245.00	38.15	182.88	11180.98	222.87	-225.89	-283.13	9.58	686199.62	769459.28	N 32 53 3.03	W 103 35 24.78
	11276.00	41.44	181.71	11204.80	242.68	-245.71	-283.92	10.88	686179.79	769458.49	N 32 53 2.83	W 103 35 24.79
	11308.00	44.02	180.56	11228.30	264.38	-267.42	-284.34	8.42	686158.09	769458.07	N 32 53 2.62	W 103 35 24.80
	11339.00	46.25	180.30	11250.17	286.35	-289.39	-284.51	7.22	686136.12	769457.90	N 32 53 2.40	W 103 35 24.80
	11371.00	47.87	179.99	11271.97	309.77	-312.82	-284.56	5.11	686112.69	769457.85	N 32 53 2.17	W 103 35 24.81
	11402.00	49.49	179.55	11292.44	333.05	-336.10	-284.47	5.33	686089.41	769457.94	N 32 53 1.94	W 103 35 24.81
	11433.00	52.45	179.52	11311.96	357.13	-360.18	-284.27	9.55	686065.34	769458.14	N 32 53 1.70	W 103 35 24.81
	11465.00	55.41	179.60	11330.80	382.99	-386.04	-284.08	9.25	686039.48	769458.33	N 32 53 1.44	W 103 35 24.81
	11496.00	57.94	179.55	11347.83	408.89	-411.94	-283.88	8.16	686013.58	769458.53	N 32 53 1.19	W 103 35 24.81
	11528.00	60.38	179.80	11364.23	436.36	-439.41	-283.73	7.65	685986.10	769458.68	N 32 53 0.91	W 103 35 24.81
	11559.00	63.15	179.93	11378.89	463.67	-466.72	-283.66	8.94	685958.80	769458.75	N 32 53 0.64	W 103 35 24.81
	11591.00	65.43	179.92	11392.77	492.50	-495.55	-283.63	7.13	685929.97	769458.78	N 32 53 0.36	W 103 35 24.81
	11622.00	68.14	179.93	11404.99	520.99	-524.04	-283.59	8.74	685901.48	769458.82	N 32 53 0.08	W 103 35 24.81
	11652.00	70.36	179.99	11415.62	549.04	-552.09	-283.57	7.40	685873.43	769458.84	N 32 52 59.80	W 103 35 24.81
	11772.00	75.27	179.32	11451.07	663.64	-666.69	-282.87	4.13	685758.83	769459.54	N 32 52 58.67	W 103 35 24.82
	11819.00	76.04	179.46	11462.71</								

Comments		MD	Incl	Azlin Grid	TVD	VSEC	NS	EW	DLS	Eastings	Northings	Longitude
		(ft)	(°)	(°)	(ft)	(ft)		(ft/100ft)		(ft)	(ft)	(°W ... °E)
14512.00		89.90			176.78	3368.19	-3400.96	-241.35	1.95	683024.66	683051.05	N 32 52 31.61 W 103 35 24.55
14600.00		90.21			177.51	3486.18	-3488.85	-236.87	0.90	682936.77	686506.44	N 32 52 30.74 W 103 35 24.51
14694.00		90.07			178.75	3580.10	-3562.79	-233.90	1.33	682642.82	686508.50	N 32 52 29.81 W 103 35 24.48
14789.00		89.24			180.30	3675.10	-3677.78	-232.29	1.05	682747.84	686510.12	N 32 52 28.87 W 103 35 24.47
14883.00		89.93			180.16	3769.09	-3771.77	-231.84	1.17	682563.85	686509.77	N 32 52 27.94 W 103 35 24.47
14978.00		89.80			180.80	3864.07	-3866.77	-232.64	0.67	682558.86	686508.85	N 32 52 27.00 W 103 35 24.49
15072.00		89.66			180.32	3958.05	-3960.76	-233.56	0.57	682464.87	686508.85	N 32 52 26.07 W 103 35 24.51
15166.00		89.42			179.85	4052.04	-4054.76	-233.70	0.56	682370.88	686508.71	N 32 52 25.14 W 103 35 24.52
15261.00		89.42			179.87	4147.03	-4149.75	-233.55	0.13	682275.88	686508.86	N 32 52 24.20 W 103 35 24.53
15355.00		89.28			180.19	4241.92	-4243.75	-233.68	0.25	682181.89	686508.74	N 32 52 23.27 W 103 35 24.53
15449.00		89.28			180.14	4334.98	-4337.73	-234.77	1.01	682087.91	686507.64	N 32 52 22.34 W 103 35 24.56
15544.00		89.24			180.90	4429.94	-4432.71	-236.46	0.26	681982.94	686505.95	N 32 52 21.40 W 103 35 24.56
15638.00		89.52			180.62	4523.91	-4526.71	-237.71	0.42	681888.95	686504.70	N 32 52 20.47 W 103 35 24.56
15733.00		89.28			181.23	4618.87	-4621.68	-239.24	0.69	681803.97	686505.17	N 32 52 19.53 W 103 35 24.61
15827.00		89.18			181.63	4712.80	-4715.64	-241.59	0.44	681710.01	686505.82	N 32 52 18.60 W 103 35 24.67
15921.00		89.07			180.11	4806.76	-4809.62	-243.01	1.62	681616.04	686499.37	N 32 52 17.67 W 103 35 24.69
16016.00		89.35			179.92	4901.74	-4904.61	-243.04	0.36	681521.05	686499.37	N 32 52 16.73 W 103 35 24.70
16105.00		89.24			178.94	4995.73	-4998.59	-242.10	1.05	681427.07	686503.50	N 32 52 15.80 W 103 35 24.71
16205.00		89.52			178.32	5090.72	-5093.56	-239.83	0.72	681332.11	686502.57	N 32 52 14.86 W 103 35 24.88
16299.00		89.07			178.51	5184.70	-5187.52	-237.23	0.52	681238.15	686505.17	N 32 52 13.93 W 103 35 24.85
16394.00		89.38			178.81	5278.68	-5282.48	-235.01	0.45	681143.19	686507.40	N 32 52 12.99 W 103 35 24.84
16488.00		89.21			178.96	5373.67	-5376.46	-233.18	0.24	681049.22	686509.22	N 32 52 12.06 W 103 35 24.82
16582.00		89.69			178.50	5467.66	-5470.43	-231.10	0.71	680955.25	686511.31	N 32 52 11.13 W 103 35 24.81
16677.00		89.28			179.68	5562.66	-5565.42	-229.59	1.26	680860.27	686512.82	N 32 52 10.19 W 103 35 24.80
16771.00		89.80			179.88	5657.65	-5660.40	-228.16	1.35	680766.29	686514.25	N 32 52 9.26 W 103 35 24.79
16866.00		89.28			178.57	5751.61	-5754.33	-225.61	1.53	680671.36	686516.80	N 32 52 8.33 W 103 35 24.59
16960.00		89.24			178.36	5845.53	-5848.23	-222.51	0.69	680577.47	686519.87	N 32 52 7.40 W 103 35 24.54
17054.00		89.04			177.17	5939.43	-5942.09	-218.44	0.77	680483.61	686522.79	N 32 52 6.47 W 103 35 24.50
17149.00		88.25			176.22	6034.33	-6036.96	-214.62	1.13	680388.74	686525.54	N 32 52 5.53 W 103 35 24.46
17243.00		88.42			179.64	6128.29	-6130.96	-212.87	1.52	680294.80	686528.23	N 32 52 4.60 W 103 35 24.45
17338.00		88.52			180.73	6222.25	-6225.87	-213.17	1.15	680199.84	686529.45	N 32 52 3.66 W 103 35 24.46
17432.00		88.14			181.44	6317.16	-6319.83	-214.95	0.86	680105.90	686532.18	N 32 52 2.73 W 103 35 24.49
17526.00		88.08			181.16	6411.06	-6413.73	-217.00	0.30	680011.98	686535.93	N 32 52 1.80 W 103 35 24.52
17621.00		88.21			181.43	6505.96	-6508.66	-219.23	0.32	679917.06	686539.23	N 32 52 0.86 W 103 35 24.55
17715.00		88.73			180.62	6599.86	-6602.61	-220.91	1.02	679823.11	686542.97	N 32 51 59.83 W 103 35 24.58
17809.00		88.36			180.76	6693.83	-6696.57	-222.04	0.40	679729.15	686546.70	N 32 51 58.00 W 103 35 24.60
17904.00		88.06			180.08	6788.76	-6791.54	-222.74	0.77	679634.19	686549.43	N 32 51 56.06 W 103 35 24.62
17998.00		87.69			179.59	6882.73	-6885.49	-222.47	1.16	679540.24	686552.16	N 32 51 54.13 W 103 35 24.62
18093.00		87.97			180.03	6977.66	-6980.42	-222.15	0.55	679445.31	686554.97	N 32 51 52.20 W 103 35 24.63
18187.00		87.59			179.08	7071.58	-7074.35	-222.33	0.45	679351.39	686557.70	N 32 51 50.26 W 103 35 24.64
18281.00		87.87			178.54	7165.50	-7168.27	-221.33	1.80	679257.47	686560.43	N 32 51 48.34 W 103 35 24.63
18376.00		87.80			177.48	7260.41	-7263.14	-218.03	1.12	679162.60	686563.18	N 32 51 46.41 W 103 35 24.60
18470.00		87.06			177.56	7354.81	-7357.58	-213.96	0.17	679068.77	686565.91	N 32 51 44.48 W 103 35 24.56
18565.00		87.66			177.16	7449.14	-7451.80	-209.59	0.42	678973.95	686568.64	N 32 51 42.55 W 103 35 24.52
18659.00		87.76			177.30	7543.00	-7545.67	-205.05	0.18	678880.14	686571.38	N 32 51 40.62 W 103 35 24.48
18753.00		87.93			177.58	7636.88	-7639.45	-200.86	0.35	678786.30	686574.11	N 32 51 38.69 W 103 35 24.43
18847.00		87.69			178.15	7730.78	-7733.32	-197.36	0.66	678692.44	686576.84	N 32 51 36.76 W 103 35 24.38
18942.00		87.80			178.98	7825.70	-7828.21	-194.98	0.88	678597.55	686579.57	N 32 51 34.83 W 103 35 24.33
19036.00		87.94			180.14	7919.63	-7922.15	-194.26	1.24	678503.62	686582.30	N 32 51 32.90 W 103 35 24.28
19130.00		87.56			181.14	8013.53	-8016.07	-195.31	1.14	678409.70	686585.03	N 32 51 30.97 W 103 35 24.23
19224.00		87.90			181.17	8107.41	-8109.97	-197.20	0.27	678315.80	686587.76	N 32 51 29.04 W 103 35 24.18
19318.00		87.76			181.38	8201.30	-8203.86	-199.29	0.36	678221.89	686590.49	N 32 51 27.11 W 103 35 24.13
19413.00		87.66			180.35	8296.19	-8298.79	-200.73	1.09	678128.98	686593.22	N 32 51 25.18 W 103 35 24.08
19507.00		87.14			179.14	8390.09	-8392.69	-200.31	1.40	678035.06	686595.95	N 32 51 23.25 W 103 35 24.03
19601.00		86.31			178.88	8483.93	-8486.53	-198.69	0.24	677941.15	686598.68	N 32 51 21.32 W 103 35 23.98
19696.00		86.25			179.10	8578.73	-8581.31	-197.02	0.93	677847.22	686601.41	N 32 51 19.39 W 103 35 23.93
19790.00		86.18			179.69	8672.52	-8675.10	-196.03	0.63	677753.29	686604.14	N 32 51 17.46 W 103 35 23.88
19884.00		86.04			179.39	8766.30	-8768.88	-195.27	0.35	677659.36	686606.87	N 32 51 15.53 W 103 35 23.83
19954.00		86.25			179.52	8836.15	-8838.72	-194.61	0.35	677565.43	686609.60	N 32 51 13.60 W 103 35 23.78
19993.00		86.25			179.52	8875.06	-8877.63	-194.28	0.00	677471.50	686612.33	N 32 51 11.67 W 103 35 23.73
TD, project to bit												

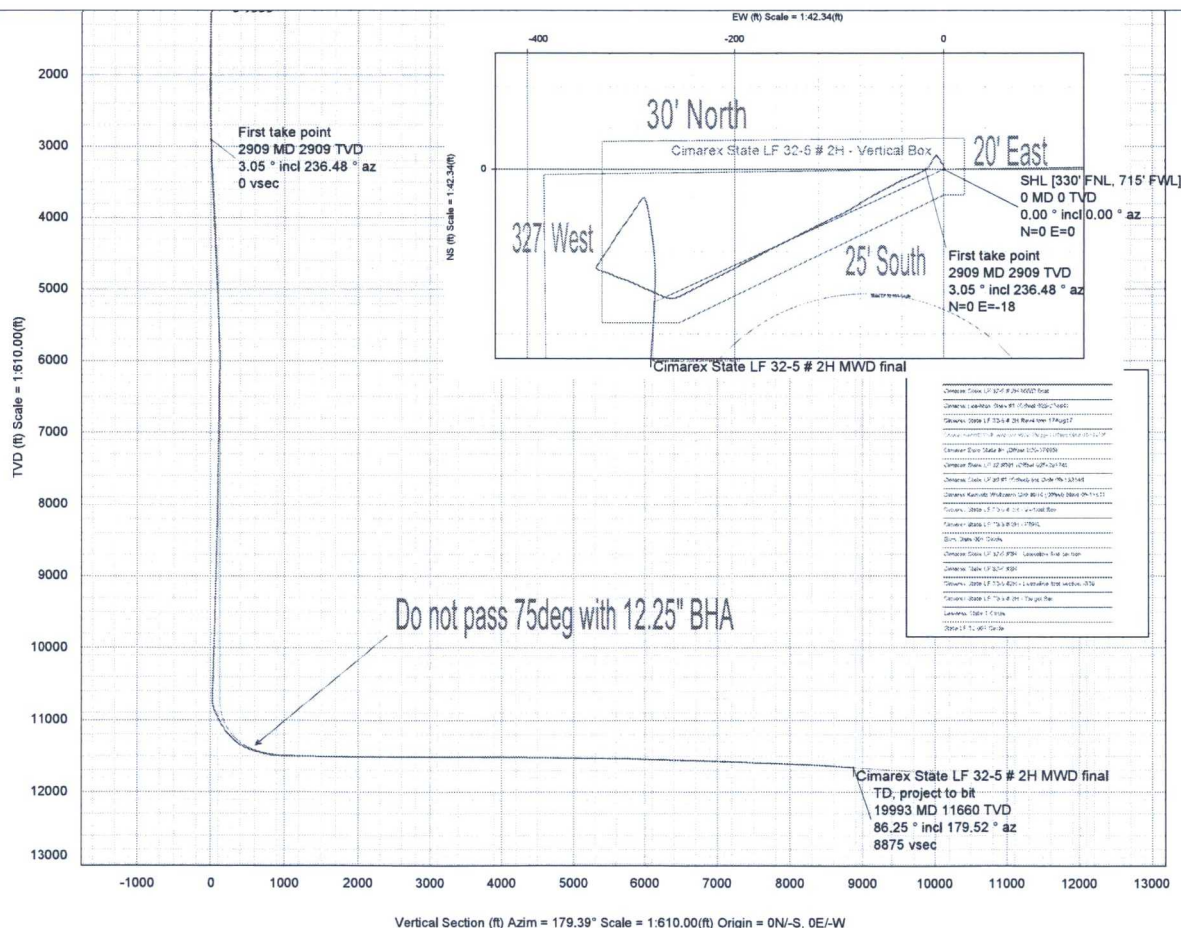
Survey Type: Def Survey
Survey Error Model: ISCSA Rev 0 *** 3-D 95.000% Confidence 2.795 sigma

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
1	Act Stns	25.000	25.000	1/98.425	30.000	30.000	NAL_MWDP_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex State LF 32-5 # 2H MWD final
1	Act Stns	25.000	25.000		30.000	30.000	NAL_MWDP_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex State LF 32-5 # 2H MWD final
1	Act Stns	25.000	19993.000		30.000	30.000	NAL_MWDP_PLUS_0.5_DEG	Original Borehole / Cimarex State LF 32-5 # 2H MWD final

Borehole: Original Borehole		Well: Cimarex State LF 32-5 # 2H		Field: NM Lea County (NAD 83)		Structure: Cimarex State LF 32-5 # 2H	
Gravity & Magnetic Parameters		Surface Location		NAD83 New Mexico State Plane, Eastern Zone, US Feet		Miscellaneous	
Model: HDGM 2017	Dip: 60.844°	Date: 20-Sep-2017	Lat: N 32 53 5.24	North: 686425.5RUS	Grid Conv: 0.404°	Cimarex State LF	TVD Ref: RKB(4152ft above MSL)
MagDec: 6.702°	FS: 48316.547nT	Gravity FS: 998.512mgm (9.80665 Based)	Lon: W 103 35 21.44	East: 769742.4RUS	Scale Fact: 0.99996863	Slot: 32-5 # 2H	Plan: Cimarex State LF 32-5 # 2H MWD final

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [330' FNL, 715' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First take point	2909.00	3.05	236.48	2908.65	0.10	-0.29	-17.58	1.76
TD, project to bit	19993.00	86.25	179.52	11659.52	8875.06	-8877.63	-194.28	0.00

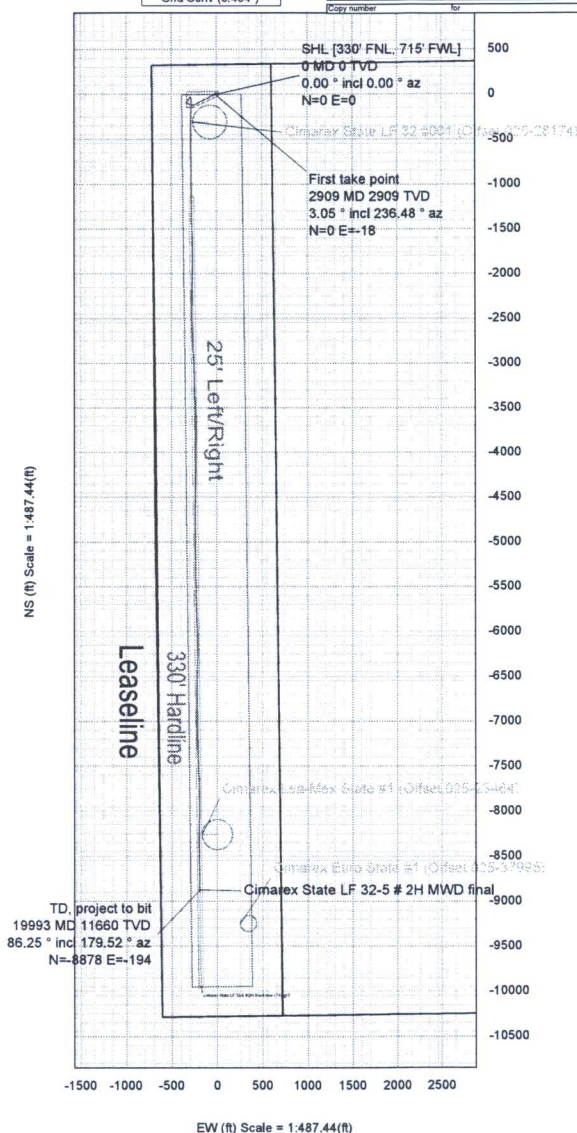


Grid
True
Mag

Grid North
Tot Corr (M→G 6.298°)
Mag Dec (6.702°)
Grid Conv (0.404°)

CONTROLLED

Print ref	Cimarex State LF 32-5 # 2H MWD final
Drawing ref	
Copy number	of 3
Date	12-Nov-2017
1 Client	
2 Client	
3 Office	
4 Office	
Copy number	for



Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

November 15, 2017

Cimarex Energy Co.

Re:

32, 16S, 34E, Lea NM
N 32.88479 W -103.58479

CLIENT: Cimarex Energy Co.
WELL: State LF 32 5 2H
FIELD: Vacuum; Upper Penn Northwest

RIG: H&P 393
COUNTY: Lea
API NO: 30-025-43626
JOB NO: 17MLD1978

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Ali Mehio FE	State LF 32 5 2H Original Hole	10674.00 Ft to 19954.00 Ft	October 9, 2017 to November 2, 2017	SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Dan Harvick
Field Service Manager

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:
32, 16S, 34E, Lea NM
N 32.88479 W -103.58479

I, Ali Mehio certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of October 09, 2017 through November 02, 2017, conduct or supervise the taking of the SlimPulse surveys from a depth of 10674.00 feet to a depth of 19954.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Co. for the State LF 32 S 2H Well (Original Hole) API No. 30-025-43626 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By *Ali Mehio*
Ali Mehio
FE

Subscribed and Sworn to before me this 20th day of November (month) 2017 (yr)

My Commission expires:

12-20-2020

J. Allemand
Notary Public
Adams County Colorado
(County State)

(signature)
JENNIFER ALLEMAND
Notary Public
State of Colorado
Notary ID # 20164047962
My Commission Expires 12-20-2020

Sharp, Karen, EMNRD

From: Amithy Crawford <acrawford@cimarex.com>
Sent: Tuesday, April 3, 2018 12:30 PM
To: Sharp, Karen, EMNRD
Subject: State LF 32-5 2H
Attachments: State LF 32 5 2H Gas Capture Plan.pdf

Karen,

While drilling the State LF 32-5 2H lateral, at approximately 19993' the decision was made to make a bit trip due to slow ROP. While tripping back in hole with a new bit and bottom hole assembly tight hole was encountered at 18980'. After spending over 10 days, unsuccessfully trying to stabilize the wellbore to continue drilling operations, the decision was made to call TD and run casing. During the 5.5" casing running operation, the casing became differentially stuck around 14614'. Cimarex was able to free the casing by decreasing the mud weight to 9.2 ppg and get the casing down to 18167' before encountering severe wellbore stability issues. Cimarex pulled back out to 17806' to regain circulation and planned to cement the 5.5" casing at approximately 17806'. This left the casing approximately 2187' off of bottom. The cased wellbore is isolated from the uncased wellbore by the 5.5" casing cement job. There is no production anticipated from below the bottom perforation at 17686'

Please see attached Gas Capture plan.

Thank you,

Amithy Crawford
600 N. Marienfeld St. Suite 600
Midland, TX 79701
Direct Phone: 432-620-1909

