Cimarex Energy Co.
600 N. Marienfeld St. ♦ Suite 600 ♦ Midland, TX 79701 ♦ (432) 620-1938 ♦ Fax (432) 620-1940
A subsidiary of Cimarex Energy Co. • A NYSE Listed Company • "XEC"

April 4th 2018

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

Re: Request for Oil Allowable Exception
Coriander AOC 1-12 State 1H – 30-025-43736
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 Coriander AOC 1-12 State 1H 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

Schlumberger

CIMAREX

Cimarex Coriander AOC 1-12 State 1H final survey Survey Geodetic Report

(Def Survey)

Report Date:	September 11, 2017 - 08:53 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	179.990 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Coriander AOC 1-12 State 1H / Cimarex Coriander AOC 1-12 State 1H	**TVD Reference Datum:**	RKB
Well:	Cimarex Coriander AOC 1-12 State 1H	**TVD Reference Elevation:**	3773.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3749.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.896 °
Survey Name:	Cimarex Coriander AOC 1-12 State 1H final survey	**Total Gravity Field Strength:**	998.4398mgn (9.80665 Based)
Survey Date:	July 31, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	242.498 ° / 9872.125 ft / 6.676 / 1.030	**Total Magnetic Field Strength:**	48202.480 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.148 °
Location Lat / Long:	N 32° 20' 23.96944", W 103° 37' 18.06606"	**Declination Date:**	August 30, 2017
Location Grid N/E Y/X:	N 488151.100 ftUS, E 761124.500 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.3807 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996441	**Grid Convergence Used:**	0.3807 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	6.5152 °
		Local Coord Referenced To:	Structure Reference Point

HOBBS OCD

APR 10 2018

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [390' FNL, 590' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	488151.10	761124.50	N 32 20 23.97	W 103 37 18.07
	184.00	0.71	295.36	184.00	-0.49	0.49	-1.03	0.39	488151.59	761123.47	N 32 20 23.97	W 103 37 18.08
	307.00	0.62	293.24	306.99	-1.08	1.08	-2.33	0.08	488152.18	761122.17	N 32 20 23.98	W 103 37 18.09
	398.00	0.80	290.33	397.98	-1.49	1.49	-3.38	0.20	488152.59	761121.12	N 32 20 23.98	W 103 37 18.11
	488.00	0.71	285.13	487.97	-1.86	1.86	-4.51	0.13	488152.96	761119.99	N 32 20 23.99	W 103 37 18.12
	579.00	0.62	297.96	578.97	-2.24	2.23	-5.49	0.19	488153.33	761119.02	N 32 20 23.99	W 103 37 18.13
	670.00	0.71	285.62	669.96	-2.62	2.62	-6.46	0.19	488153.72	761118.04	N 32 20 24.00	W 103 37 18.14
	760.00	0.49	266.14	759.96	-2.74	2.74	-7.38	0.33	488153.84	761117.12	N 32 20 24.00	W 103 37 18.15
	851.00	0.49	264.55	850.95	-2.68	2.68	-8.16	0.01	488153.78	761116.34	N 32 20 24.00	W 103 37 18.16
	942.00	0.40	257.15	941.95	-2.57	2.57	-8.86	0.12	488153.67	761115.64	N 32 20 24.00	W 103 37 18.17
	1037.00	0.31	247.06	1036.95	-2.40	2.40	-9.42	0.12	488153.50	761115.08	N 32 20 23.99	W 103 37 18.18
	1131.00	0.22	268.74	1130.95	-2.29	2.29	-9.83	0.14	488153.39	761114.67	N 32 20 23.99	W 103 37 18.18
	1209.00	0.40	279.76	1208.95	-2.34	2.34	-10.25	0.24	488153.44	761114.25	N 32 20 23.99	W 103 37 18.19
	1321.00	0.49	271.12	1320.94	-2.41	2.41	-11.11	0.10	488153.51	761113.39	N 32 20 23.99	W 103 37 18.20
	1416.00	0.80	239.52	1415.94	-2.09	2.08	-12.09	0.49	488153.18	761112.41	N 32 20 23.99	W 103 37 18.21
	1510.00	0.62	250.45	1509.93	-1.58	1.58	-13.14	0.24	488152.68	761111.36	N 32 20 23.99	W 103 37 18.22
	1604.00	0.71	262.53	1603.92	-1.34	1.33	-14.19	0.18	488152.43	761110.31	N 32 20 23.98	W 103 37 18.23
	1793.00	0.71	265.83	1792.91	-1.10	1.10	-16.52	0.02	488152.20	761107.98	N 32 20 23.98	W 103 37 18.26
	1884.00	1.02	263.85	1883.90	-0.97	0.97	-17.89	0.34	488152.07	761106.61	N 32 20 23.98	W 103 37 18.27
	1978.00	1.10	263.63	1977.88	-0.78	0.78	-19.62	0.09	488151.88	761104.88	N 32 20 23.98	W 103 37 18.29
	2073.00	1.02	267.64	2072.86	-0.65	0.64	-21.37	0.11	488151.74	761103.13	N 32 20 23.98	W 103 37 18.32
	2167.00	0.62	309.55	2166.86	-0.94	0.93	-22.60	0.74	488152.03	761101.90	N 32 20 23.98	W 103 37 18.33
	2261.00	0.49	353.75	2260.85	-1.66	1.66	-23.03	0.46	488152.76	761101.47	N 32 20 23.99	W 103 37 18.33
	2355.00	0.62	358.73	2354.85	-2.57	2.56	-23.09	0.15	488153.66	761101.41	N 32 20 24.00	W 103 37 18.33
	2449.00	0.80	5.82	2448.84	-3.73	3.73	-23.03	0.21	488154.83	761101.47	N 32 20 24.01	W 103 37 18.33
	2544.00	0.80	9.23	2543.83	-5.04	5.04	-22.86	0.05	488156.14	761101.64	N 32 20 24.02	W 103 37 18.33
	2638.00	0.80	0.93	2637.82	-6.35	6.34	-22.74	0.12	488157.44	761101.76	N 32 20 24.03	W 103 37 18.33
	2732.00	0.90	8.04	2731.81	-7.73	7.73	-22.63	0.15	488158.83	761101.87	N 32 20 24.05	W 103 37 18.33
	2825.00	1.02	1.86	2824.80	-9.29	9.28	-22.50	0.17	488160.38	761102.00	N 32 20 24.06	W 103 37 18.33
	2921.00	1.10	5.82	2920.78	-11.06	11.05	-22.38	0.11	488162.15	761102.12	N 32 20 24.08	W 103 37 18.33
	3014.00	1.10	41.22	3013.77	-12.62	12.61	-21.70	0.72	488163.71	761102.80	N 32 20 24.10	W 103 37 18.32
	3109.00	1.50	85.64	3108.74	-13.40	13.39	-19.86	1.11	488164.49	761104.64	N 32 20 24.10	W 103 37 18.30
	3205.00	1.41	79.43	3204.71	-13.71	13.70	-17.45	0.19	488164.80	761107.06	N 32 20 24.11	W 103 37 18.27
	3296.00	1.41	86.26	3295.69	-13.99	13.98	-15.23	0.18	488165.08	761109.27	N 32 20 24.11	W 103 37 18.24
	3392.00	1.50	81.15	3391.65	-14.26	14.25	-12.81	0.16	488165.35	761111.69	N 32 20 24.11	W 103 37 18.21
	3488.00	1.59	78.85	3487.62	-14.71	14.70	-10.26	0.11	488165.80	761114.24	N 32 20 24.12	W 103 37 18.18
	3581.00	0.88	96.26	3580.60	-14.88	14.88	-8.28	0.86	488165.98	761116.22	N 32 20 24.12	W 103 37 18.16
	3677.00	0.80	136.05	3676.59	-14.31	14.31	-7.09	0.60	488165.41	761117.41	N 32 20 24.11	W 103 37 18.15
	3770.00	0.80	139.36	3769.58	-13.35	13.35	-6.21	0.05	488164.45	761118.29	N 32 20 24.10	W 103 37 18.14
	3864.00	0.71	145.75	3863.57	-12.37	12.37	-5.46	0.13	488163.47	761119.04	N 32 20 24.09	W 103 37 18.13
	3958.00	0.80	149.14	3957.56	-11.33	11.33	-4.79	0.11	488162.43	761119.71	N 32 20 24.08	W 103 37 18.12
	4054.00	1.28	137.95	4053.55	-9.96	9.96	-3.73	0.54	488161.06	761120.77	N 32 20 24.07	W 103 37 18.11
	4146.00	2.12	136.14	4145.51	-7.97	7.97	-1.86	0.91	488159.07	761122.64	N 32 20 24.05	W 103 37 18.09
	4239.00	2.12	146.63	4238.44	-5.29	5.29	0.27	0.42	488156.39	761124.77	N 32 20 24.02	W 103 37 18.06
	4332.00	1.41	194.93	4331.40	-2.75	2.75	0.93	1.70	488153.85	761125.43	N 32 20 24.00	W 103 37 18.06
	4427.00	1.02	240.45	4426.38	-1.20	1.20	-0.11	1.06	488152.30	761124.39	N 32 20 23.98	W 103 37 18.07
	4523.00	1.02	195.94	4522.37	0.04	-0.04	-1.09	0.80	488151.06	761123.41	N 32 20 23.97	W 103 37 18.08
	4617.00	1.28	164.83	4616.35	1.86	-1.86	-1.04	0.71	488149.24	761123.46	N 32 20 23.95	W 103 37 18.08
	4712.00	1.41	150.73	4711.32	3.90	-3.90	-0.19	0.37	488147.20	761124.31	N 32 20 23.93	W 103 37 18.07
	4803.00	1.19	148.13	4802.30	5.68	-5.68	0.85	0.25	488145.42	761125.35	N 32 20 23.91	W 103 37 18.06
	4897.00	1.19	140.55	4896.28	7.27	-7.26	1.99	0.17	488143.84	761126.49	N 32 20 23.90	W 103 37 18.04
	4988.00	1.41	140.02	4987.26	8.85	-8.85	3.31	0.24	488142.25	761127.81	N 32 20 23.88	W 103 37 18.03
	5082.00	1.59	136.85	5081.23	10.69	-10.69	4.94	0.21	488140.41	761129.44	N 32 20 23.86	W 103 37 18.01
	5177.00	0.71	17.25	5176.21	11.09	-11.09	6.02	2.14	488140.01	761130.52	N 32 20 23.86	W 103 37 18.00
	5271.00	0.80	21.74	5270.21	9.92	-9.92	6.43	0.11	488141.18	761130.93	N 32 20 23.87	W 103 37 17.99
	5365.00	0.88	10.55	5364.20	8.61	-8.60	6.81	0.19	488142.50	761131.31	N 32 20 23.88	W 103 37 17.99
	5460.00	1.19	32.14	5459.18	7.05	-7.05	7.47	0.52	488144.05	761131.97	N 32 20 23.90	W 103 37 17.98
	5554.00	1.02	37.83	5553.16	5.57	-5.56	8.50	0.22	488145.54	761133.00	N 32 20 23.91	W 103 37 17.97
	5648.00	0.88	37.65	5647.15	4.33	-4.33	9.45	0.15	488146.77	761133.95	N 32 20 23.93	W 103 37 17.96
	5742.00	0.80	51.84	5741.14	3.36	-3.36	10.41	0.24	488147.74	761134.91	N 32 20 23.94	W 103 37 17.94
	5837.00	0.88	61.62	5836.13	2.60	-2.60	11.57	0.17	488148.50	761136.07	N 32 20 23.94	W 103 37 17.93
	5931.00	1.02	47.35	5930.12	1.69	-1.69	12.82	0.29	488149.41	761137.32	N 32 20 23.95	W 103 37 17.92
	6026.00	1.10	38.75	6025.10	0.41	-0.40	14.02	0.19	488150.70	761138.52	N 32 20 23.96	W 103 37 17.90
	6120.00	1.28	18.13	6119.08	-1.29	1.30	14.91	0.49	488152.40	761139.41	N 32 20 23.98	W 103 37 17.89
	6215.00	1.41	15.13	6214.05	-3.43	3.43	15.54	0.16	488154.53	761140.04	N 32 20 24.00	W 103 37 17.88
	6309.00	1.81	17.56	6308.02	-5.96	5.96	16.29	0.43	488157.06	761140.79	N 32 20 24.03	W 103 37 17.88
	6403.00	1.59	18.44	6401.98	-8.61	8.62	17.15	0.24	488159.72	761141.65	N 32 20 24.05	W 103 37 17.87
	6498.00	1.68	17.73	6496.94	-11.19	11.19	18.00	0.10	488162.29	761142.49	N 32 20 24.08	W 103 37 17.86
	6592.00	1.81	7.33	6590.89	-13.98	13.98	18.60	0.36	488165.08	761143.10	N 32 20 24.11	W 103 37 17.85
	6686.00	1.81	11.83	6684.85	-16.90	16.90	19.10	0.15	488168.00	761143.60	N 32 20 24.14	W 103 37 17.84
	6781.00	1.50	0.36	6779.81	-19.61	19.62	19.41	0.48	488170.72	761143.91	N 32 20 24.16	W 103 37 17.84
	6875.00	1.59	1.86	6873.77	-22.15	22.15	19.46	0.10	488173.25	761143.96	N 32 20 24.19	W 103 37 17.84
	6969.00	1.50	357.36	6967.74	-24.68	24.68	19.45	0.16	488175.78	761143.95	N 32 20 24.21	W 103 37 17.84
	7064.00	1.02	338.72	7062.72	-26.71	26.71	19.09	0.66	488177.81	761143.58	N 32 20 24.23	W 103 37 17.84
	7158.00	0.49	318.93	7156.71	-27.79	27.80	18.52	0.62	488178.89	761143.02	N 32 20 24.24	W 103 37 17.85
	7253.00	0.40	299.15	7251.70	-28.26	28.26	17.96	0.19	488179.36	761142.46	N 32 20 24.25	W 103 37 17.85

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 ° ' ")
	7348.00	0.40	331.76	7346.70	-28.71	28.72	17.51	0.24	488179.82	761142.01	N 32 20 24.25	W 103 37 17.86
	7442.00	0.49	320.26	7440.70	-29.31	29.31	17.10	0.13	488180.41	761141.60	N 32 20 24.26	W 103 37 17.86
	7537.00	0.49	325.85	7535.70	-29.96	29.96	16.61	0.05	488181.06	761141.11	N 32 20 24.26	W 103 37 17.87
	7631.00	0.40	337.22	7629.69	-30.60	30.60	16.26	0.13	488181.70	761140.76	N 32 20 24.27	W 103 37 17.87
	7725.00	0.22	327.13	7723.69	-31.05	31.05	16.04	0.20	488182.15	761140.54	N 32 20 24.28	W 103 37 17.88
	7820.00	0.40	307.65	7818.69	-31.41	31.41	15.68	0.22	488182.51	761140.17	N 32 20 24.28	W 103 37 17.88
	7914.00	0.40	326.56	7912.69	-31.88	31.88	15.23	0.14	488182.98	761139.73	N 32 20 24.28	W 103 37 17.89
	8008.00	0.31	315.45	8006.69	-32.33	32.34	14.88	0.12	488183.44	761139.37	N 32 20 24.29	W 103 37 17.89
	8103.00	0.40	279.63	8101.68	-32.57	32.58	14.37	0.25	488183.67	761138.87	N 32 20 24.29	W 103 37 17.90
	8197.00	0.62	268.12	8195.68	-32.61	32.61	13.54	0.26	488183.71	761138.04	N 32 20 24.29	W 103 37 17.91
	8292.00	0.62	275.35	8290.68	-32.64	32.65	12.51	0.08	488183.74	761137.01	N 32 20 24.29	W 103 37 17.92
	8386.00	0.49	263.63	8384.67	-32.65	32.65	11.61	0.18	488183.75	761136.10	N 32 20 24.29	W 103 37 17.93
	8481.00	0.71	263.06	8479.67	-32.53	32.53	10.62	0.23	488183.63	761135.12	N 32 20 24.29	W 103 37 17.94
	8575.00	0.49	242.96	8573.66	-32.28	32.28	9.68	0.32	488183.38	761134.18	N 32 20 24.29	W 103 37 17.95
	8670.00	0.80	260.15	8668.65	-31.98	31.98	8.67	0.38	488183.08	761133.17	N 32 20 24.29	W 103 37 17.96
	8764.00	0.71	247.06	8762.65	-31.64	31.64	7.48	0.21	488182.74	761131.98	N 32 20 24.28	W 103 37 17.98
	8859.00	0.62	249.22	8857.64	-31.23	31.23	6.46	0.10	488182.33	761130.96	N 32 20 24.28	W 103 37 17.99
	8894.00	0.88	268.96	8892.64	-31.16	31.16	6.01	1.04	488182.26	761130.51	N 32 20 24.28	W 103 37 17.99
	8979.00	1.76	140.21	8977.62	-30.14	30.14	6.20	2.84	488181.24	761130.70	N 32 20 24.27	W 103 37 17.99
	9011.00	6.01	119.43	9009.54	-28.94	28.94	7.97	13.78	488180.04	761132.47	N 32 20 24.26	W 103 37 17.97
	9042.00	10.75	112.43	9040.21	-27.04	27.04	12.06	15.61	488178.14	761136.56	N 32 20 24.24	W 103 37 17.92
	9074.00	14.34	110.90	9071.44	-24.48	24.49	18.52	11.27	488175.59	761143.02	N 32 20 24.21	W 103 37 17.85
	9105.00	17.35	110.59	9101.26	-21.49	21.49	26.44	9.71	488172.59	761150.94	N 32 20 24.18	W 103 37 17.76
	9137.00	19.92	110.37	9131.58	-17.91	17.91	36.02	8.03	488169.01	761160.52	N 32 20 24.14	W 103 37 17.64
	9168.00	23.13	110.02	9160.41	-13.98	13.99	46.69	10.36	488165.09	761171.19	N 32 20 24.10	W 103 37 17.52
	9200.00	25.60	118.19	9189.57	-8.56	8.57	58.69	13.04	488159.67	761183.19	N 32 20 24.05	W 103 37 17.38
	9231.00	28.85	123.54	9217.13	-1.26	1.27	70.84	13.12	488152.37	761195.33	N 32 20 23.98	W 103 37 17.24
	9263.00	32.60	126.83	9244.64	8.18	-8.17	84.18	12.84	488142.94	761208.67	N 32 20 23.88	W 103 37 17.09
	9294.00	36.97	129.49	9270.09	19.12	-19.11	98.06	14.92	488132.00	761222.56	N 32 20 23.77	W 103 37 16.92
	9326.00	40.62	133.29	9295.03	32.39	-32.37	113.08	13.61	488118.73	761237.57	N 32 20 23.64	W 103 37 16.75
	9357.00	43.61	137.67	9318.03	47.23	-47.20	127.63	13.52	488103.90	761252.12	N 32 20 23.49	W 103 37 16.58
	9388.00	44.90	143.46	9340.24	63.93	-63.90	141.35	13.68	488087.20	761265.84	N 32 20 23.33	W 103 37 16.42
	9420.00	46.23	149.31	9362.66	82.95	-82.92	153.98	13.70	488068.18	761278.47	N 32 20 23.14	W 103 37 16.28
	9451.00	47.82	154.76	9383.80	102.98	-102.95	164.59	13.84	488048.16	761289.09	N 32 20 22.94	W 103 37 16.16
	9483.00	51.54	158.81	9404.50	125.40	-125.37	174.18	15.10	488025.74	761298.68	N 32 20 22.72	W 103 37 16.05
	9514.00	55.43	162.27	9422.95	148.89	-148.85	182.46	15.42	488002.25	761306.95	N 32 20 22.48	W 103 37 15.95
	9546.00	58.63	164.88	9440.36	174.64	-174.60	190.04	12.12	487976.50	761314.53	N 32 20 22.23	W 103 37 15.86
	9577.00	62.70	167.77	9455.55	200.89	-200.85	196.41	15.44	487950.25	761320.91	N 32 20 21.97	W 103 37 15.79
	9609.00	64.99	169.92	9469.66	229.07	-229.03	201.96	9.36	487922.08	761326.46	N 32 20 21.69	W 103 37 15.73
	9640.00	68.07	172.25	9482.00	257.15	-257.12	206.36	12.09	487893.99	761330.85	N 32 20 21.41	W 103 37 15.68
	9672.00	71.55	174.12	9493.05	286.97	-286.93	209.92	12.18	487864.18	761334.41	N 32 20 21.12	W 103 37 15.64
	9703.00	75.92	174.95	9501.73	316.59	-316.55	212.75	14.33	487834.56	761337.24	N 32 20 20.82	W 103 37 15.61
	9735.00	80.74	175.24	9508.20	347.80	-347.77	215.43	15.09	487803.35	761339.92	N 32 20 20.51	W 103 37 15.58
	9766.00	83.45	176.98	9512.46	378.43	-378.40	217.51	10.36	487772.72	761342.00	N 32 20 20.21	W 103 37 15.56
	9829.00	86.07	181.00	9518.22	441.14	-441.11	218.61	7.59	487710.01	761343.10	N 32 20 19.59	W 103 37 15.55
	9865.00	86.42	181.31	9520.57	477.06	-477.02	217.89	1.30	487674.10	761342.38	N 32 20 19.24	W 103 37 15.56
	9982.00	87.32	181.52	9526.96	593.85	-593.81	215.00	0.79	487557.31	761339.49	N 32 20 18.08	W 103 37 15.61
	10076.00	86.87	179.12	9531.73	687.72	-687.68	214.48	2.59	487463.45	761338.97	N 32 20 17.15	W 103 37 15.62
	10170.00	87.08	178.85	9536.69	781.57	-781.53	216.14	0.36	487369.60	761340.63	N 32 20 16.22	W 103 37 15.61
	10264.00	86.77	178.44	9541.73	875.41	-875.37	218.36	0.55	487275.76	761342.85	N 32 20 15.29	W 103 37 15.59
	10359.00	86.49	179.10	9547.31	970.22	-970.19	220.40	0.75	487180.95	761344.89	N 32 20 14.36	W 103 37 15.57
	10453.00	86.59	178.94	9552.99	1064.04	-1064.00	222.00	0.20	487087.14	761346.49	N 32 20 13.43	W 103 37 15.56
	10548.00	86.77	179.54	9558.49	1158.87	-1158.83	223.26	0.66	486992.31	761347.75	N 32 20 12.49	W 103 37 15.55
	10642.00	86.70	179.44	9563.84	1252.71	-1252.68	224.09	0.13	486898.47	761348.59	N 32 20 11.56	W 103 37 15.55
	10736.00	86.73	178.88	9569.23	1346.55	-1346.51	225.47	0.60	486804.64	761349.96	N 32 20 10.63	W 103 37 15.54
	10830.00	86.90	177.90	9574.45	1440.37	-1440.33	228.11	1.06	486710.83	761352.60	N 32 20 9.70	W 103 37 15.52
	10925.00	88.04	178.29	9578.65	1535.22	-1535.18	231.26	1.27	486615.98	761355.75	N 32 20 8.76	W 103 37 15.49
	11019.00	88.24	179.37	9581.70	1629.15	-1629.11	233.18	1.17	486522.05	761357.67	N 32 20 7.83	W 103 37 15.47
	11113.00	88.93	180.85	9584.02	1723.12	-1723.08	233.00	1.74	486428.09	761357.49	N 32 20 6.90	W 103 37 15.48
	11208.00	89.76	180.62	9585.10	1818.10	-1818.06	231.78	0.91	486333.11	761356.27	N 32 20 5.96	W 103 37 15.51
	11302.00	89.55	180.82	9585.67	1912.09	-1912.05	230.60	0.31	486239.12	761355.09	N 32 20 5.03	W 103 37 15.53
	11397.00	89.90	180.88	9586.13	2007.08	-2007.04	229.19	0.37	486144.13	761353.68	N 32 20 4.10	W 103 37 15.55
	11491.00	90.21	180.88	9586.04	2101.07	-2101.03	227.75	0.33	486050.15	761352.24	N 32 20 3.17	W 103 37 15.57
	11585.00	90.76	180.67	9585.24	2195.06	-2195.02	226.48	0.63	485956.16	761350.97	N 32 20 2.24	W 103 37 15.60
	11680.00	90.76	180.74	9583.98	2290.04	-2290.00	225.31	0.07	485861.18	761349.80	N 32 20 1.30	W 103 37 15.62
	11774.00	91.10	179.91	9582.45	2384.03	-2383.99	224.77	0.95	485767.20	761349.26	N 32 20 0.37	W 103 37 15.63
	11869.00	90.93	178.77	9580.77	2479.00	-2478.97	225.87	1.21	485672.23	761350.36	N 32 19 59.43	W 103 37 15.63
	11963.00	90.69	178.50	9579.44	2572.97	-2572.93	228.11	0.38	485578.27	761352.60	N 32 19 58.50	W 103 37 15.61
	12057.00	90.89	178.00	9578.15	2666.92	-2666.88	230.98	0.57	485484.32	761355.47	N 32 19 57.57	W 103 37 15.58
	12152.00	90.89	178.15	9576.67	2761.85	-2761.81	234.17	0.16	485389.39	761358.66	N 32 19 56.63	W 103 37 15.55
	12246.00	90.69	177.55	9575.37	2855.78	-2855.74	237.69	0.67	485295.47	761362.18	N 32 19 55.70	W 103 37 15.52
	12340.00	90.89	177.61	9574.08	2949.68	-2949.64	241.66	0.22	485201.57	761366.15	N 32 19 54.77	W 103 37 15.48
	12435.00	89.14	178.88	9574.05	3044.63	-3044.59	244.57	2.28	485106.62	761369.06	N 32 19 53.83	W 103 37 15.45
	12529.00	88.49	180.27	9576.00	3138.61	-3138.57	245.27	1.63	485012.65	761369.76	N 32 19 52.90	W 103 37 15.45
	12624.00	88.97	181.43	9578.10	3233.57	-3233.53	243.86	1.32	484917.69	761368.35	N 32 19 51.96	W 103 37 15.47
	12718.00	90.83	181.15	9578.27	3327.54	-3327.50	241.74	2.00	484823.72	761366.23	N 32 19 51.03	W 103 37 15.51
	12813.00	90.17	181.16	9577.44	3422.52	-3422.48	239.83	0.69	484728.75	761364.32	N 32 19 50.09	W 103 37 15.54
	12908.00	91.07	180.46	9576.41	3517.50	-3517.46	238.49	1.20	484633.77	761362.98	N 32 19 49.15	W 103 37 15.56
	13002.00	91.55	179.68	9574.26	3611.48	-3611.44	238.37	0.97	484539.80	761362.86	N 32 19 48.22	W 103 37 15.57
	13097.00	91.96	178.50	9571.35	3706.42	-3706.38	239.88	1.31	484444.86	761364.37	N 32 19 47.28	W 103 37 15.56
	13191.00	91.79	178.33	9568.28	3800.33	-3800.29	242.48	0.26	484350.95	761366.97	N 32 19 46.35	W 103 37 15.53
	13285.00	89.90	178.03	9566.89	3894.27	-3894.23	245.46	2.04	484257.02	761369.95	N 32 19 45.42	W 103 37 15.51
	13380.00	89.83	178.56	9567.11	3989.23	-3989.19	248.29	0.56	484162.06	761372.78	N 32 19 44.48	W 103 37 15.48
	13474.00	89.35	179.77	9567.79	4083.22	-4083.17	249.66	1.38	484068.08	761374.15	N 32 19 43.55	W 103 37 15.47
	13569.00	89.45	180.11	9568.78	4178.21	-4178.17	249.76	0.37	483973.09	761374.25	N 32 19 42.61	W 103 37 15.48
	13663.00	89.04	182.50	9570.02	4272.17	-4272.13	247.62	2.58	483879.13	761372.11	N 32 19 41.68	W 103 37 15.51
	13757.00	89.38	182.92	9571.32	4366.06	-4366.01	243.17	0.57	483785.25	761367.67	N 32 19 40.75	W 103 37 15.57
	13852.00	89.18	183.90	9572.51	4460.88	-4460.84	237.52	1.05	483690.43	761362.02	N 32 19 39.81	W 103 37 15.64
	13946.00	89.14	184.37	9573.89	4554.62	-4554.58	230.75	0.50	483596.69	761355.24	N 32 19 38.89	W 103 37 15.73
	14040.00	91.72	182.94	9573.18	4648.42	-4648.38	224.76	3.14	483502.90	761349.25	N 32 19 37.96	W 103 37 15.81
	14134.00	92.48	180.87	9569.74	4742.30	-4742.26	221.63	2.34	483409.02	761346.12	N 32 19 37.03	W 103 37 15.85
	14229.00	91.38	179.65	9566.54	4837.24	-4837.20	221.20	1.73	483314.08	761345.69	N 32 19 36.09	W 103 37 15.86
	14323.00	90.14	178.54	9565.29	4931.21	-4931.18	222.69	1.77	483220.11	761347.18	N 32 19 35.16	W 103 37 15.85
	14418.00	89.69	177.42	9565.43	5026.15	-5026.11	226.03	1.27	483125.17	761350.53	N 32 19 34.22	W 103 37 15.82
	14512.00	89.52	177.37	9566.08	5120.06	-5120.02	230.31	0.19	483031.28	761354.80	N 32 19 33.29	W 103 37 15.78
	14607.00	90.52	179.37	9566.05	5215.01	-5214.97	233.01	2.35	482936.33	761357.50	N 32 19 32.35	W 103 37 15.75
	14692.00	91.17	178.60	9564.79	5299.99	-5299.95	234.51	1.19	482851.35	761359.01	N 32 19 31.51	W 103 37 15.74
	14786.00	92.10	181.39	9562.11	5393.94	-5393.90	234.52	3.13	482757.40	761359.01	N 32 19 30.58	W 103 37 15.75
	14880.00	90.58	184.07	9559.91	5487.79	-5487.75	230.05	3.28	482663.55	761354.54	N 32 19 29.65	W 103 37 15.81
	14975.00	90.48	183.23	9559.03	5582.60	-5582.56	224.00	0.89	482568.75	761348.49	N 32 19 28.72	W 103 37 15.89
	15069.00	89.69	182.22	9558.89	5676.49	-5676.45	219.53	1.36	482474.86	761344.02	N 32 19 27.79	W 103 37 15.95
	15164.00	89.66	180.87	9559.43	5771.45	-5771.41	216.97	1.42	482379.91	761341.46	N 32 19 26.85	W 103 37 15.98
	15258.00	89.62	179.10	9560.02	5865.44	-5865.40	216.99	1.88	482285.92	761341.49	N 32 19 25.92	W 103 37 15.99
	15353.00	89.21	178.83	9560.99	5960.42	-5960.38	218.71	0.52	482190.94	761343.20	N 32 19 24.98	W 103 37 15.98
	15447.00	89.59	178.39	9561.98	6054.39	-6054.35	220.99	0.62	482096.98	761345.48	N 32 19 24.05	W 103 37 15.96
	15541.00	89.17	177.55	9563.00	6148.32	-6148.29	224.32	1.00	482003.05	761348.81	N 32 19 23.12	W 103 37 15.93
	15636.00	88.62	178.20	9564.83	6243.24	-6243.20	227.84	0.90	481908.13	761352.33	N 32 19 22.18	W 103 37 15.89
	15730.00	89.04	179.48	9566.75	6337.20	-6337.16	229.74	1.43	481814.18	761354.24	N 32 19 21.25	W 103 37 15.88
	15824.00	90.89	180.13	9566.80	6431.20	-6431.16	230.06	2.09	481720.19	761354.56	N 32 19 20.32	W 103 37 15.88

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 ° ' ")
	15919.00	91.14	179.88	9565.12	6526.18	-6526.14	230.06	0.37	481625.21	761354.55	N 32 19 19.38	W 103 37 15.89
	16013.00	90.21	179.15	9564.01	6620.17	-6620.13	230.85	1.26	481531.22	761355.34	N 32 19 18.45	W 103 37 15.89
	16107.00	90.17	180.13	9563.70	6714.17	-6714.13	231.44	1.04	481437.23	761355.93	N 32 19 17.52	W 103 37 15.89
	16202.00	90.45	179.16	9563.19	6809.16	-6809.12	232.03	1.06	481342.24	761356.52	N 32 19 16.58	W 103 37 15.89
	16296.00	90.03	179.47	9562.79	6903.15	-6903.11	233.15	0.56	481248.25	761357.65	N 32 19 15.65	W 103 37 15.88
	16390.00	90.24	181.58	9562.57	6997.14	-6997.10	232.29	2.26	481154.26	761356.78	N 32 19 14.72	W 103 37 15.90
	16485.00	90.55	178.31	9561.92	7092.13	-7092.09	232.38	3.46	481059.28	761356.88	N 32 19 13.78	W 103 37 15.91
	16582.00	89.62	178.03	9561.77	7189.08	-7189.04	235.48	1.00	480962.33	761359.97	N 32 19 12.82	W 103 37 15.88
	16677.00	88.90	179.09	9563.00	7284.04	-7284.00	237.87	1.35	480867.38	761362.36	N 32 19 11.88	W 103 37 15.86
	16771.00	89.00	179.21	9564.72	7378.01	-7377.97	239.26	0.17	480773.41	761363.75	N 32 19 10.95	W 103 37 15.85
	16865.00	88.80	178.89	9566.53	7471.98	-7471.94	240.82	0.40	480679.44	761365.31	N 32 19 10.02	W 103 37 15.84
	16960.00	88.69	178.28	9568.61	7566.93	-7566.89	243.17	0.65	480584.50	761367.66	N 32 19 9.08	W 103 37 15.82
	17054.00	91.03	178.73	9568.84	7660.89	-7660.85	245.62	2.53	480490.54	761370.11	N 32 19 8.15	W 103 37 15.80
	17149.00	90.79	179.72	9567.33	7755.87	-7755.83	246.90	1.07	480395.56	761371.39	N 32 19 7.21	W 103 37 15.79
	17243.00	90.89	179.02	9565.95	7849.85	-7849.81	247.94	0.75	480301.58	761372.43	N 32 19 6.28	W 103 37 15.78
	17338.00	90.76	178.73	9564.58	7944.83	-7944.78	249.80	0.33	480206.62	761374.29	N 32 19 5.34	W 103 37 15.77
	17432.00	91.31	180.83	9562.89	8038.80	-8038.76	250.16	2.31	480112.64	761374.65	N 32 19 4.41	W 103 37 15.77
	17526.00	90.93	179.07	9561.05	8132.78	-8132.74	250.25	1.92	480018.67	761374.74	N 32 19 3.48	W 103 37 15.78
	17621.00	90.89	178.26	9559.54	8227.74	-8227.70	252.46	0.85	479923.71	761376.95	N 32 19 2.54	W 103 37 15.76
	17715.00	89.62	177.45	9559.12	8321.68	-8321.63	255.98	1.60	479829.78	761380.47	N 32 19 1.61	W 103 37 15.73
	17809.00	90.00	178.82	9559.43	8415.62	-8415.58	259.04	1.51	479735.84	761383.53	N 32 19 0.68	W 103 37 15.70
	17903.00	89.86	180.06	9559.55	8509.62	-8509.57	259.95	1.33	479641.85	761384.44	N 32 18 59.75	W 103 37 15.70
	17997.00	89.55	179.16	9560.03	8603.61	-8603.57	260.59	1.01	479547.86	761385.08	N 32 18 58.82	W 103 37 15.70
	18092.00	90.14	178.97	9560.29	8698.60	-8698.55	262.14	0.65	479452.87	761386.63	N 32 18 57.88	W 103 37 15.68
	18186.00	90.03	179.12	9560.15	8792.59	-8792.54	263.71	0.20	479358.89	761388.20	N 32 18 56.95	W 103 37 15.67
	18280.00	89.59	178.86	9560.46	8886.57	-8886.53	265.37	0.54	479264.91	761389.86	N 32 18 56.02	W 103 37 15.66
	18374.00	89.59	178.99	9561.13	8980.55	-8980.51	267.13	0.14	479170.93	761391.62	N 32 18 55.09	W 103 37 15.65
	18468.00	90.38	179.33	9561.16	9074.54	-9074.50	268.51	0.91	479076.95	761393.00	N 32 18 54.16	W 103 37 15.64
	18563.00	89.93	179.17	9560.90	9169.53	-9169.49	269.75	0.50	478981.96	761394.24	N 32 18 53.22	W 103 37 15.63
	18657.00	90.45	178.92	9560.59	9263.52	-9263.47	271.32	0.61	478887.98	761395.81	N 32 18 52.29	W 103 37 15.62
	18752.00	92.07	178.03	9558.50	9358.46	-9358.41	273.85	1.95	478793.04	761398.34	N 32 18 51.35	W 103 37 15.60
	18846.00	89.76	178.55	9557.00	9452.40	-9452.35	276.65	2.52	478699.10	761401.14	N 32 18 50.42	W 103 37 15.57
	18940.00	90.07	180.36	9557.14	9546.39	-9546.34	277.55	1.95	478605.12	761402.03	N 32 18 49.49	W 103 37 15.57
	18965.00	89.83	181.12	9557.16	9571.39	-9571.34	277.22	3.19	478580.12	761401.71	N 32 18 49.25	W 103 37 15.58
TD, project to bit	19004.00	89.83	181.12	9557.28	9610.38	-9610.33	276.46	0.00	478541.13	761400.95	N 32 18 48.86	W 103 37 15.59

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	24.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex Coriander AOC 1-12 State 1H final survey
	1	24.000	24.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / Cimarex Coriander AOC 1-12 State 1H final survey
	1	24.000	19004.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Cimarex Coriander AOC 1-12 State 1H final

Schlumberger **Cimarex** Final PvA CIMAREX

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Coriander AOC 1-12 State 1H	NM Lea County (NAD 83)	Cimarex Coriander AOC 1-12 State 1H

Gravity & Magnetic Parameters						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2017	Dip:	60.148°	Date:	30-Aug-2017	Lat:	N 32 20 23.97	Northing:	488161.19US	Grid Conv:	0.3807°	Slot:	Cimarex Coriander AOC 1-12 State 1H	TVD Ref:	RKB(3773ft above MSL)
MagDec:	6.896°	FS:	48202.48nT	Gravity FS:	998.44mgn (9.80665 Based)	Lon:	W 103 37 18.07	Easting:	761124.5ftUS	Scale Fact:	0.99996441	Plan:	Cimarex Coriander AOC 1-12 State 1H final survey		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [390' FNL, 590' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TD, project to bit	19004.00	89.83	181.12	9557.28	9610.38	-9610.33	276.46	0.00

Grid
True Mag
Grid North
Tot Corr (M->G 6.515°)
Mag Dec (6.896°)
Grid Conv (0.381°)

CONTROLLED

Plan ref	Cimarex Coriander AOC 1-12 State 1H final survey	
Drawing ref		
Copy number	sd 3	
Date	11-Sep-2017	
1	Client	
2	Client	
3	Office	
4	Office	
Copy number	for