

Borehole:		Well:		Field:		Structure:	
Original Borehole		Cimarex Corlander AOC 1-12 State 3H		NM Lea County (NAD 83)		Cimarex Corlander AOC 1-12 State 3H	
Core Log & Magnetics Parameters				Surface Location		Well Identifiers	
Model: HDGM 2018				NAD83 New Mexico State Plane, Eastern Zone, US Feet		Cimarex Corlander AOC	
Dip: 66.108°				Lat: N 32 29 34.66		TVD Ref: R0827782 above MSL	
Date: 21-Sep-2018				Northing: 482209.471US		Plot: 1-12 State 3H	
MagDec: 6.794°				Easting: 780984.171US		Final Survey - Cimarex Corlander AOC 1-12 State 3H MWD 08-19431R (Surcon Corrected)	
FB: 42080.883mT				Scale Fact: 0.99996434			
Gravity FB: 986.433mgals (1.80853 Gauss)							

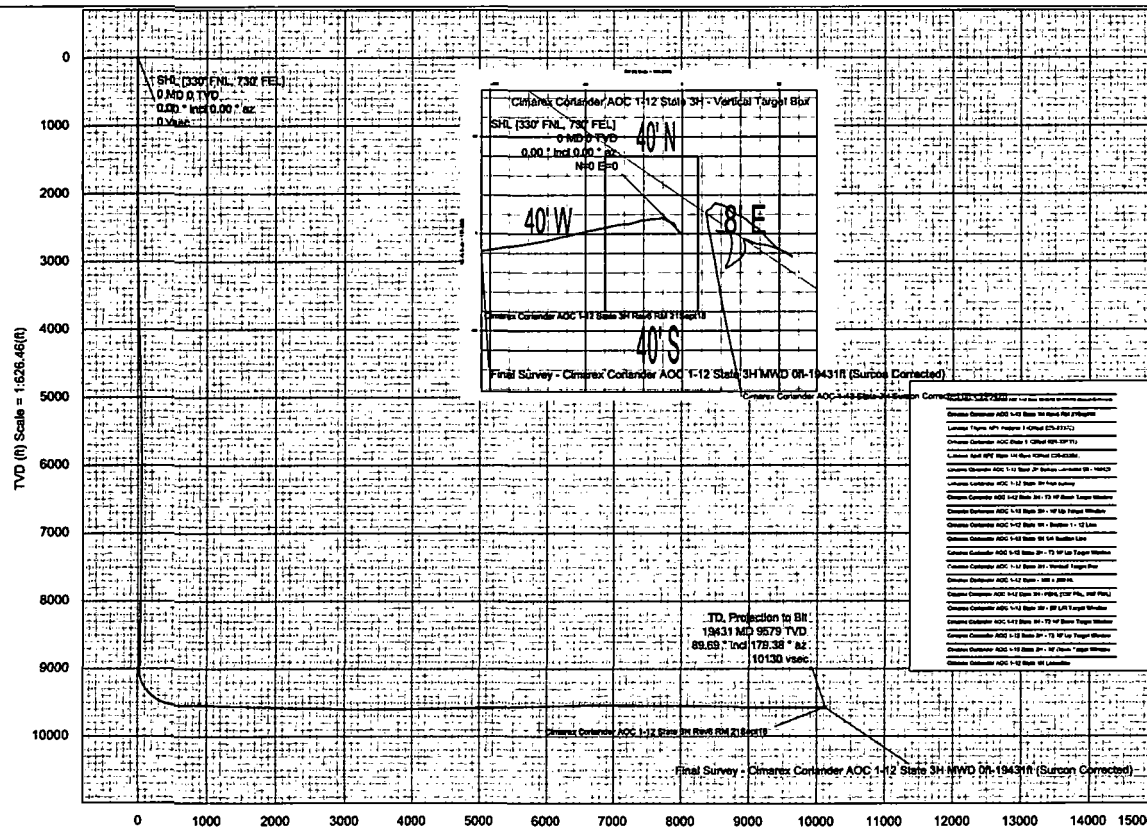
Critical Points							
Critical Point	MD	DNCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)
SHL (330° FNL, 730° FEL)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TD, Projection to BR	19431.00	89.69	179.38	9579.10	10129.92	-10131.36	-190.68



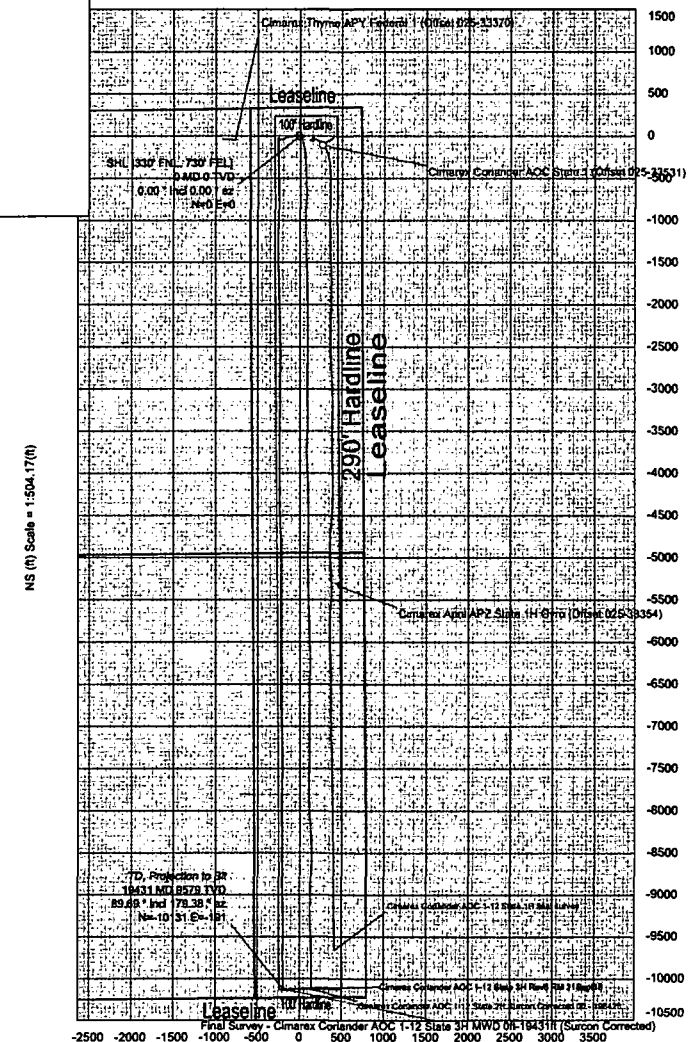
Grid
True
Mag

Grid North
Tot Corr (M-G 6.414°)
Mag Dec (6.794°)
Grid Conv (0.580°)

CONTROLLED	
Drawn by	Field Engineer - Cimarex Corlander AOC 1-12 State 3H
Checked by	Geophysicist - Cimarex Corlander AOC 1-12 State 3H
Drawn number	001
Date	10-Sep-2018
Scale	1:1
Drawn by	
Checked by	
Drawn number	
Date	



Vertical Section (ft) Azim = 179.63° Scale = 1:826.46(ft) Origin = 0N/-S, 0E/-W



EW (ft) Scale = 1:504.17(ft)

Final Survey - Cimarex Coriander AOC 1-12 State 3H MWD 0ft-19431ft (Surcon Corrected) (Def Survey)



Report Date: October 10, 2018 - 02:50 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Coriander AOC 1-12 State 3H / Cimarex Coriander AOC 1-12 State 3H
Well: Cimarex Coriander AOC 1-12 State 3H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Final Survey - Cimarex Coriander AOC 1-12 State 3H MWD 0ft-19431ft (Surcon Corrected)
Survey Date: August 06, 2018
Tort / AHD / DDI / ERD Ratio: 212.897 ° / 10444.671 ft / 6.653 / 1.087
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 20' 24.5555", W 103° 37' 19.69801"
Location Grid N/E Y/X: N 488209.400 RUS, E 760984.100 RUS
CRS Grid Convergence Angle: 0.3805 °
Grid Scale Factor: 0.99996434
Version / Patch: 2.10.720.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.630 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3778.000 ft above MSL
Seabed / Ground Elevation: 3752.000 ft above MSL
Magnetic Declination: 6.794 °
Total Gravity Field Strength: 998.4394mgm (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48080.088 nT
Magnetic Dip Angle: 60.108 °
Declination Date: September 21, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.3805 °
Total Corr Mag North->Grid North: 6.4138 °
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 [330' FNL, 730' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	488209.40	760984.10	N 32 20 24.56	W 103 37 19.70
	170.00	0.41	288.60	170.00	-0.20	0.19	-0.58	0.24	488209.59	760983.52	N 32 20 24.56	W 103 37 19.70
	239.00	0.59	323.13	239.00	-0.56	0.56	-1.02	0.50	488209.96	760983.08	N 32 20 24.56	W 103 37 19.71
	300.00	0.57	298.21	299.99	-0.96	0.95	-1.48	0.41	488210.35	760982.62	N 32 20 24.57	W 103 37 19.72
	390.00	0.41	336.85	389.99	-1.47	1.46	-2.00	0.40	488210.86	760982.10	N 32 20 24.57	W 103 37 19.72
	572.00	0.57	319.53	571.98	-2.77	2.75	-2.84	0.12	488212.15	760981.26	N 32 20 24.58	W 103 37 19.73
	754.00	0.61	344.62	753.97	-4.39	4.37	-3.69	0.14	488213.77	760980.41	N 32 20 24.60	W 103 37 19.74
	845.00	0.52	320.93	844.97	-5.18	5.16	-4.08	0.27	488214.56	760980.02	N 32 20 24.61	W 103 37 19.75
	940.00	0.80	294.10	939.96	-5.79	5.76	-4.95	0.43	488215.16	760979.15	N 32 20 24.61	W 103 37 19.76
	1034.00	0.72	283.98	1033.96	-6.21	6.17	-6.13	0.17	488215.57	760977.97	N 32 20 24.62	W 103 37 19.77
	1129.00	0.48	303.94	1128.95	-6.59	6.54	-7.04	0.33	488215.94	760977.06	N 32 20 24.62	W 103 37 19.78
	1200.00	0.51	300.00	1199.95	-6.91	6.86	-7.56	0.06	488216.26	760976.54	N 32 20 24.62	W 103 37 19.79
	1315.00	0.82	297.89	1314.94	-7.56	7.50	-8.73	0.27	488216.90	760975.37	N 32 20 24.63	W 103 37 19.80
	1409.00	0.77	297.84	1408.93	-8.18	8.11	-9.88	0.05	488217.51	760974.22	N 32 20 24.64	W 103 37 19.81
	1504.00	0.86	245.24	1503.92	-8.19	8.11	-11.09	0.76	488217.51	760973.01	N 32 20 24.64	W 103 37 19.83
	1599.00	0.97	273.12	1598.91	-7.94	7.86	-12.54	0.48	488217.26	760971.56	N 32 20 24.63	W 103 37 19.84
	1693.00	0.86	266.46	1692.90	-7.95	7.86	-14.04	0.16	488217.26	760970.06	N 32 20 24.63	W 103 37 19.86
	1788.00	0.85	261.05	1787.89	-7.80	7.71	-15.45	0.09	488217.10	760968.65	N 32 20 24.63	W 103 37 19.88
	1883.00	0.91	258.73	1882.88	-7.56	7.45	-16.88	0.07	488216.85	760967.22	N 32 20 24.63	W 103 37 19.89
	1977.00	0.95	263.90	1976.86	-7.34	7.22	-18.39	0.10	488216.62	760965.71	N 32 20 24.63	W 103 37 19.91
	2072.00	1.09	268.06	2071.85	-7.23	7.11	-20.08	0.17	488216.50	760964.02	N 32 20 24.63	W 103 37 19.93
	2167.00	1.42	253.29	2166.83	-6.88	6.74	-22.11	0.48	488216.14	760961.99	N 32 20 24.62	W 103 37 19.96
	2261.00	1.49	251.16	2260.80	-6.16	6.01	-24.38	0.09	488215.41	760959.72	N 32 20 24.62	W 103 37 19.98
	2356.00	1.22	255.67	2355.77	-5.53	5.36	-26.53	0.31	488214.76	760957.57	N 32 20 24.61	W 103 37 20.01

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 ° ' ")
	2450.00	1.28	267.26	2449.75	-5.24	5.08	-28.55	0.28	488214.46	760955.55	N 32 20 24.61	W 103 37 20.03
	2545.00	2.08	266.39	2544.71	-5.10	4.90	-31.33	0.84	488214.30	760952.77	N 32 20 24.61	W 103 37 20.06
	2640.00	3.52	266.90	2639.59	-4.36	4.13	-35.89	1.59	488213.53	760948.21	N 32 20 24.60	W 103 37 20.12
	2734.00	4.96	258.34	2733.33	-2.93	2.66	-42.68	1.54	488212.06	760941.42	N 32 20 24.58	W 103 37 20.20
	2829.00	5.40	258.43	2827.94	-1.26	0.93	-51.08	0.46	488210.33	760933.02	N 32 20 24.57	W 103 37 20.29
	2924.00	4.99	257.64	2922.55	0.47	-0.85	-59.50	0.44	488208.55	760924.61	N 32 20 24.55	W 103 37 20.39
	3018.00	5.58	256.41	3016.15	2.36	-2.80	-67.93	0.64	488206.80	760916.17	N 32 20 24.53	W 103 37 20.49
	3113.00	6.37	261.20	3110.64	4.19	-4.69	-77.63	0.98	488204.71	760906.47	N 32 20 24.51	W 103 37 20.60
	3208.00	6.14	261.36	3205.07	5.69	-6.26	-87.86	0.24	488203.14	760896.24	N 32 20 24.50	W 103 37 20.72
	3302.00	5.99	260.28	3298.54	7.21	-7.85	-97.66	0.20	488201.55	760886.44	N 32 20 24.48	W 103 37 20.84
	3398.00	5.79	263.02	3392.05	8.56	-9.25	-107.21	0.37	488200.15	760876.90	N 32 20 24.47	W 103 37 20.95
	3491.00	5.74	262.98	3486.57	9.66	-10.41	-116.68	0.05	488198.99	760867.43	N 32 20 24.46	W 103 37 21.06
	3585.00	5.70	263.88	3580.10	10.67	-11.49	-125.98	0.10	488197.92	760858.12	N 32 20 24.45	W 103 37 21.17
	3680.00	5.18	268.73	3674.67	11.21	-12.08	-134.96	0.73	488197.32	760849.14	N 32 20 24.44	W 103 37 21.27
	3775.00	5.25	259.89	3769.28	12.01	-12.94	-143.53	0.85	488196.46	760840.58	N 32 20 24.44	W 103 37 21.37
	3869.00	5.69	256.27	3862.85	13.82	-14.80	-152.29	0.59	488194.60	760831.82	N 32 20 24.42	W 103 37 21.47
	3964.00	5.24	251.91	3957.42	16.23	-17.27	-160.99	0.64	488192.13	760823.12	N 32 20 24.40	W 103 37 21.58
	4058.00	4.32	247.06	4051.09	18.89	-19.98	-168.33	1.07	488189.42	760815.78	N 32 20 24.37	W 103 37 21.66
	4153.00	3.97	235.30	4145.85	22.12	-23.25	-174.33	0.97	488186.15	760809.78	N 32 20 24.34	W 103 37 21.73
	4248.00	3.68	229.73	4240.63	25.93	-27.09	-179.36	0.50	488182.31	760804.75	N 32 20 24.30	W 103 37 21.79
	4342.00	3.69	236.71	4334.44	29.51	-30.70	-184.19	0.48	488178.70	760799.92	N 32 20 24.26	W 103 37 21.85
	4437.00	4.20	240.05	4429.22	32.89	-34.11	-189.76	0.59	488175.29	760794.35	N 32 20 24.23	W 103 37 21.91
	4531.00	4.93	253.66	4522.92	35.70	-36.97	-196.62	1.38	488172.43	760787.49	N 32 20 24.20	W 103 37 21.99
	4626.00	4.60	255.47	4617.59	37.75	-39.07	-204.22	0.38	488170.33	760779.89	N 32 20 24.18	W 103 37 22.08
	4721.00	4.08	259.08	4712.32	39.30	-40.67	-211.23	0.62	488168.73	760772.88	N 32 20 24.17	W 103 37 22.16
	4815.00	3.74	258.00	4806.10	40.53	-41.94	-217.51	0.37	488167.46	760766.60	N 32 20 24.15	W 103 37 22.24
	4887.00	4.75	260.12	4877.90	41.50	-42.94	-222.74	1.42	488166.46	760761.37	N 32 20 24.15	W 103 37 22.30
	5082.00	4.01	257.72	5072.33	44.24	-45.78	-237.36	0.39	488163.63	760746.75	N 32 20 24.12	W 103 37 22.47
	5176.00	3.15	254.22	5166.15	45.61	-47.18	-243.06	0.94	488162.22	760741.05	N 32 20 24.10	W 103 37 22.53
	5271.00	3.35	252.17	5260.99	47.13	-48.74	-248.21	0.24	488160.67	760735.90	N 32 20 24.09	W 103 37 22.59
	5365.00	2.25	246.59	5354.88	48.68	-50.31	-252.52	1.20	488159.09	760731.59	N 32 20 24.07	W 103 37 22.65
	5460.00	2.01	249.01	5449.81	50.00	-51.65	-255.79	0.27	488157.75	760728.32	N 32 20 24.06	W 103 37 22.68
	5555.00	1.71	228.74	5544.77	51.51	-53.18	-258.41	0.76	488156.22	760725.70	N 32 20 24.05	W 103 37 22.71
	5649.00	1.68	216.93	5638.72	53.52	-55.21	-260.29	0.37	488154.20	760723.82	N 32 20 24.03	W 103 37 22.74
	5743.00	1.11	224.75	5732.70	55.26	-56.95	-261.76	0.64	488152.45	760722.35	N 32 20 24.01	W 103 37 22.75
	5838.00	0.58	205.33	5827.69	56.35	-58.04	-262.61	0.63	488151.36	760721.50	N 32 20 24.00	W 103 37 22.76
	5932.00	0.41	88.38	5921.68	56.77	-58.46	-262.48	0.90	488150.94	760721.63	N 32 20 23.99	W 103 37 22.76
	6027.00	1.19	64.12	6016.67	56.33	-58.02	-261.25	0.88	488151.38	760722.86	N 32 20 24.00	W 103 37 22.75
	6122.00	1.09	64.07	6111.66	55.52	-57.20	-259.55	0.11	488152.20	760724.56	N 32 20 24.01	W 103 37 22.73
	6216.00	1.10	56.47	6205.64	54.64	-56.31	-257.99	0.15	488153.09	760726.11	N 32 20 24.02	W 103 37 22.71
	6311.00	1.11	56.18	6300.62	53.63	-55.29	-256.47	0.01	488154.11	760727.64	N 32 20 24.03	W 103 37 22.69
	6405.00	1.18	58.17	6394.60	52.63	-54.27	-254.89	0.09	488155.13	760729.22	N 32 20 24.04	W 103 37 22.67
	6500.00	1.18	59.22	6489.58	51.62	-53.26	-253.22	0.02	488156.14	760730.89	N 32 20 24.05	W 103 37 22.65
	6594.00	1.23	59.72	6583.56	50.63	-52.25	-251.52	0.05	488157.15	760732.59	N 32 20 24.06	W 103 37 22.63
	6689.00	1.00	60.31	6678.54	49.71	-51.33	-249.92	0.24	488158.07	760734.19	N 32 20 24.06	W 103 37 22.61
	6783.00	0.91	63.67	6772.53	48.99	-50.59	-248.53	0.11	488158.81	760735.57	N 32 20 24.07	W 103 37 22.60
	6878.00	0.76	66.57	6867.52	48.41	-50.01	-247.28	0.16	488159.39	760736.83	N 32 20 24.08	W 103 37 22.58
	6972.00	0.66	51.82	6961.51	47.83	-49.42	-246.28	0.22	488159.98	760737.83	N 32 20 24.08	W 103 37 22.57
	7067.00	0.90	53.29	7056.50	47.06	-48.64	-245.25	0.25	488160.76	760738.85	N 32 20 24.09	W 103 37 22.56
	7256.00	0.59	74.32	7245.49	45.92	-47.49	-243.13	0.22	488161.91	760740.98	N 32 20 24.10	W 103 37 22.54
	7350.00	0.80	341.29	7339.48	45.17	-46.74	-242.87	1.08	488162.66	760741.24	N 32 20 24.11	W 103 37 22.53
	7445.00	0.99	335.57	7434.47	43.79	-45.36	-243.42	0.22	488164.04	760740.88	N 32 20 24.12	W 103 37 22.54
	7540.00	0.94	320.95	7529.46	42.43	-44.01	-244.26	0.26	488165.39	760739.85	N 32 20 24.14	W 103 37 22.55
	7634.00	0.73	335.58	7623.45	41.28	-42.87	-244.99	0.32	488166.54	760739.12	N 32 20 24.15	W 103 37 22.56
	7729.00	0.86	321.23	7718.44	40.17	-41.76	-245.68	0.25	488167.64	760738.42	N 32 20 24.16	W 103 37 22.56
	7824.00	0.92	329.50	7813.43	38.95	-40.55	-246.52	0.15	488168.86	760737.59	N 32 20 24.17	W 103 37 22.57
	7918.00	0.86	321.57	7907.42	37.75	-39.34	-247.34	0.15	488170.06	760736.77	N 32 20 24.18	W 103 37 22.58
	8013.00	1.04	310.25	8002.40	36.62	-38.23	-248.44	0.27	488171.17	760735.67	N 32 20 24.19	W 103 37 22.60