



CONCHO

COG Operating L L C

Lea County, NM (NAD27 NME)

Sec. 30, T 24 S. , R 35 E

Fascinator Fed Com 706H

Wellbore #1

Design: Wellbore #1

Standard Survey Report

29 January, 2019

HOBBS OCD
OCT 07 2019
RECEIVED



INTEGRITY
DIRECTIONAL



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Project Lea County, NM (NAD27 NME)

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site Sec. 30, T 24 S., R 35 E

Site Position: **Map** **Northing:** 435,904.80 usft **Latitude:** 32.19505
From: **Map** **Easting:** 785,685.20 usft **Longitude:** -103.40981
Position Uncertainty: 0.00 usft **Slot Radius:** 13-3/16 " **Grid Convergence:** 0.49 °

Well Fascinator Fed Com 706H, ACTIVE

Well Position **+N/-S** 0.00 usft **Northing:** 435,893.90 usft **Latitude:** 32.19505
+E/-W 0.00 usft **Easting:** 784,505.49 usft **Longitude:** -103.41363
Position Uncertainty 0.00 usft **Wellhead Elevation:** 0.00 usft **Ground Level:** 3,371.99 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/9/2018	6.70	59.88	47,949

Design Wellbore #1

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.57

Survey Program Date 1/29/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	11,726.00	Keeper Gyros (Wellbore #1)	Keeper	Standard Wireline Keeper ver 1.0.2
11,934.00	22,708.00	MWD Surveys (Wellbore #1)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.80	98.60	100.00	-0.10	0.69	0.11	0.80	0.80	0.00
125.00	0.75	89.05	124.99	-0.13	1.03	0.14	0.55	-0.20	-38.20
150.00	0.73	89.91	149.99	-0.12	1.35	0.14	0.09	-0.08	3.44
175.00	0.70	85.41	174.99	-0.11	1.66	0.12	0.25	-0.12	-18.00
200.00	0.81	94.64	199.99	-0.11	1.99	0.13	0.65	0.44	36.92
225.00	0.84	93.47	224.99	-0.14	2.35	0.16	0.14	0.12	-4.68
250.00	0.82	97.82	249.98	-0.18	2.71	0.20	0.26	-0.08	17.40
275.00	0.82	95.13	274.98	-0.22	3.06	0.24	0.15	0.00	-10.76
300.00	0.85	95.27	299.98	-0.25	3.43	0.27	0.12	0.12	0.56



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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
325.00	0.74	93.81	324.98	-0.28	3.77	0.30	0.45	-0.44	-5.84
350.00	0.80	91.88	349.97	-0.29	4.11	0.32	0.26	0.24	-7.72
375.00	0.81	91.40	374.97	-0.30	4.46	0.34	0.05	0.04	-1.92
400.00	0.64	85.44	399.97	-0.30	4.77	0.33	0.74	-0.68	-23.84
425.00	0.45	69.71	424.97	-0.25	5.01	0.29	0.96	-0.76	-62.92
450.00	0.39	47.34	449.97	-0.16	5.16	0.20	0.69	-0.24	-89.48
475.00	0.41	28.01	474.97	-0.02	5.27	0.06	0.54	0.08	-77.32
500.00	0.38	32.79	499.97	0.13	5.35	-0.09	0.18	-0.12	19.12
525.00	0.40	23.08	524.97	0.28	5.43	-0.23	0.28	0.08	-38.84
550.00	0.39	22.81	549.96	0.43	5.50	-0.39	0.04	-0.04	-1.08
575.00	0.41	28.51	574.96	0.59	5.57	-0.55	0.18	0.08	22.80
600.00	0.41	26.89	599.96	0.75	5.66	-0.71	0.05	0.00	-6.48
625.00	0.41	22.44	624.96	0.91	5.73	-0.87	0.13	0.00	-17.80
650.00	0.42	21.11	649.96	1.08	5.80	-1.04	0.06	0.04	-5.32
675.00	0.40	17.58	674.96	1.25	5.86	-1.21	0.13	-0.08	-14.12
700.00	0.39	19.59	699.96	1.41	5.91	-1.37	0.07	-0.04	8.04
725.00	0.41	357.85	724.96	1.58	5.94	-1.54	0.61	0.08	-86.96
750.00	0.70	315.92	749.96	1.78	5.83	-1.74	1.92	1.16	-167.72
775.00	1.14	301.53	774.96	2.02	5.51	-1.98	1.97	1.76	-57.56
800.00	1.26	296.47	799.95	2.27	5.05	-2.24	0.64	0.48	-20.24
825.00	1.39	295.80	824.94	2.53	4.53	-2.49	0.52	0.52	-2.68
850.00	1.48	296.52	849.94	2.80	3.97	-2.77	0.37	0.36	2.88
875.00	1.39	294.96	874.93	3.08	3.41	-3.05	0.39	-0.36	-6.24
900.00	1.43	294.47	899.92	3.33	2.85	-3.31	0.17	0.16	-1.96
925.00	1.41	295.91	924.91	3.60	2.29	-3.58	0.16	-0.08	5.76
950.00	1.47	296.04	949.90	3.87	1.72	-3.86	0.24	0.24	0.52
975.00	1.40	295.54	974.90	4.14	1.16	-4.14	0.28	-0.28	-2.00
1,000.00	1.32	296.68	999.89	4.41	0.63	-4.40	0.34	-0.32	4.56
1,025.00	1.27	296.44	1,024.88	4.66	0.12	-4.66	0.20	-0.20	-0.96
1,050.00	1.08	296.27	1,049.88	4.89	-0.34	-4.89	0.76	-0.76	-0.68
1,075.00	1.13	297.78	1,074.87	5.11	-0.77	-5.11	0.23	0.20	6.04
1,100.00	0.97	300.75	1,099.87	5.33	-1.17	-5.34	0.68	-0.64	11.88
1,125.00	0.99	301.38	1,124.87	5.55	-1.53	-5.56	0.09	0.08	2.52
1,150.00	0.86	301.87	1,149.86	5.76	-1.88	-5.77	0.52	-0.52	1.96
1,175.00	1.01	303.24	1,174.86	5.98	-2.22	-6.00	0.61	0.60	5.48
1,200.00	0.98	302.25	1,199.86	6.22	-2.59	-6.23	0.14	-0.12	-3.96
1,225.00	0.96	300.32	1,224.85	6.44	-2.95	-6.46	0.15	-0.08	-7.72
1,250.00	1.04	301.34	1,249.85	6.66	-3.32	-6.68	0.33	0.32	4.08
1,275.00	0.96	300.66	1,274.84	6.88	-3.70	-6.91	0.32	-0.32	-2.72
1,300.00	0.95	288.23	1,299.84	7.06	-4.07	-7.09	0.83	-0.04	-49.72
1,325.00	1.21	282.74	1,324.84	7.18	-4.53	-7.21	1.12	1.04	-21.96
1,350.00	1.29	280.83	1,349.83	7.29	-5.06	-7.33	0.36	0.32	-7.64
1,375.00	1.19	277.53	1,374.82	7.38	-5.59	-7.42	0.49	-0.40	-13.20



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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,400.00	1.29	280.23	1,399.82	7.46	-6.13	-7.51	0.46	0.40	10.80
1,425.00	1.32	278.70	1,424.81	7.55	-6.69	-7.60	0.18	0.12	-6.12
1,450.00	1.27	274.54	1,449.81	7.62	-7.25	-7.67	0.43	-0.20	-16.64
1,475.00	1.31	273.72	1,474.80	7.66	-7.81	-7.72	0.18	0.16	-3.28
1,500.00	1.39	275.55	1,499.79	7.71	-8.40	-7.77	0.36	0.32	7.32
1,525.00	1.32	273.11	1,524.79	7.75	-8.99	-7.82	0.36	-0.28	-9.76
1,550.00	1.35	273.22	1,549.78	7.78	-9.57	-7.86	0.12	0.12	0.44
1,575.00	1.37	272.21	1,574.77	7.81	-10.16	-7.89	0.12	0.08	-4.04
1,600.00	1.43	272.48	1,599.76	7.84	-10.77	-7.92	0.24	0.24	1.08
1,625.00	1.33	272.39	1,624.76	7.86	-11.38	-7.95	0.40	-0.40	-0.36
1,650.00	1.35	272.50	1,649.75	7.89	-11.96	-7.98	0.08	0.08	0.44
1,675.00	1.49	275.47	1,674.74	7.93	-12.58	-8.03	0.63	0.56	11.88
1,700.00	1.39	273.52	1,699.73	7.98	-13.20	-8.08	0.45	-0.40	-7.80
1,725.00	1.41	273.47	1,724.73	8.02	-13.81	-8.12	0.08	0.08	-0.20
1,750.00	1.38	271.42	1,749.72	8.05	-14.42	-8.15	0.23	-0.12	-8.20
1,775.00	1.39	272.88	1,774.71	8.07	-15.02	-8.18	0.15	0.04	5.84
1,800.00	1.39	272.03	1,799.71	8.09	-15.63	-8.21	0.08	0.00	-3.40
1,825.00	1.41	272.54	1,824.70	8.12	-16.24	-8.24	0.09	0.08	2.04
1,850.00	1.41	272.57	1,849.69	8.15	-16.86	-8.27	0.00	0.00	0.12
1,875.00	1.41	273.09	1,874.68	8.18	-17.47	-8.31	0.05	0.00	2.08
1,900.00	1.43	272.16	1,899.67	8.20	-18.09	-8.34	0.12	0.08	-3.72
1,925.00	1.37	273.15	1,924.67	8.23	-18.70	-8.37	0.26	-0.24	3.96
1,950.00	1.05	271.30	1,949.66	8.25	-19.23	-8.40	1.29	-1.28	-7.40
1,975.00	0.56	260.60	1,974.66	8.24	-19.58	-8.39	2.04	-1.96	-42.80
2,000.00	0.21	235.69	1,999.66	8.19	-19.73	-8.34	1.52	-1.40	-99.64
2,025.00	0.13	185.82	2,024.66	8.14	-19.77	-8.29	0.64	-0.32	-199.48
2,050.00	0.15	194.84	2,049.66	8.08	-19.79	-8.23	0.12	0.08	36.08
2,075.00	0.14	180.80	2,074.66	8.02	-19.79	-8.17	0.15	-0.04	-56.16
2,100.00	0.17	188.01	2,099.66	7.95	-19.80	-8.10	0.14	0.12	28.84
2,125.00	0.13	171.82	2,124.66	7.89	-19.80	-8.03	0.23	-0.16	-64.76
2,150.00	0.13	173.86	2,149.66	7.83	-19.79	-7.98	0.02	0.00	8.16
2,175.00	0.16	146.35	2,174.66	7.77	-19.77	-7.92	0.30	0.12	-110.04
2,200.00	0.20	123.24	2,199.66	7.72	-19.72	-7.87	0.33	0.16	-92.44
2,225.00	0.20	121.48	2,224.66	7.67	-19.64	-7.82	0.02	0.00	-7.04
2,250.00	0.25	120.15	2,249.66	7.62	-19.56	-7.77	0.20	0.20	-5.32
2,275.00	0.26	115.28	2,274.66	7.57	-19.46	-7.72	0.10	0.04	-19.48
2,300.00	0.30	114.55	2,299.66	7.52	-19.35	-7.67	0.16	0.16	-2.92
2,325.00	0.27	108.95	2,324.66	7.47	-19.23	-7.62	0.16	-0.12	-22.40
2,350.00	0.23	112.01	2,349.66	7.43	-19.13	-7.58	0.17	-0.16	12.24
2,375.00	0.28	110.04	2,374.66	7.39	-19.03	-7.54	0.20	0.20	-7.88
2,400.00	0.31	111.34	2,399.66	7.35	-18.91	-7.49	0.12	0.12	5.20
2,425.00	0.35	105.78	2,424.66	7.30	-18.77	-7.45	0.20	0.16	-22.24
2,450.00	0.33	106.19	2,449.66	7.26	-18.63	-7.40	0.08	-0.08	1.64



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2,475.00	0.37	105.26	2,474.65	7.22	-18.48	-7.36	0.16	0.16	-3.72
2,500.00	0.35	98.69	2,499.65	7.19	-18.33	-7.33	0.18	-0.08	-26.28
2,525.00	0.38	103.59	2,524.65	7.16	-18.17	-7.30	0.17	0.12	19.60
2,550.00	0.35	103.07	2,549.65	7.12	-18.02	-7.26	0.12	-0.12	-2.08
2,575.00	0.31	110.30	2,574.65	7.08	-17.88	-7.22	0.23	-0.16	28.92
2,600.00	0.47	102.26	2,599.65	7.04	-17.72	-7.17	0.67	0.64	-32.16
2,625.00	0.49	106.11	2,624.65	6.98	-17.51	-7.12	0.15	0.08	15.40
2,650.00	0.54	103.92	2,649.65	6.93	-17.30	-7.06	0.21	0.20	-8.76
2,675.00	0.50	105.12	2,674.65	6.87	-17.08	-7.00	0.17	-0.16	4.80
2,700.00	0.50	111.41	2,699.65	6.80	-16.87	-6.93	0.22	0.00	25.16
2,725.00	0.53	109.94	2,724.65	6.72	-16.66	-6.85	0.13	0.12	-5.88
2,750.00	0.54	104.50	2,749.65	6.65	-16.44	-6.78	0.21	0.04	-21.76
2,775.00	0.50	109.30	2,774.65	6.59	-16.22	-6.71	0.24	-0.16	19.20
2,800.00	0.49	143.71	2,799.64	6.46	-16.05	-6.59	1.17	-0.04	137.64
2,825.00	0.63	160.93	2,824.64	6.25	-15.94	-6.37	0.87	0.56	68.88
2,850.00	0.67	167.87	2,849.64	5.98	-15.87	-6.10	0.35	0.16	27.76
2,875.00	0.72	173.48	2,874.64	5.68	-15.82	-5.80	0.34	0.20	22.44
2,900.00	0.72	177.09	2,899.64	5.36	-15.79	-5.48	0.18	0.00	14.44
2,925.00	0.75	176.20	2,924.64	5.04	-15.78	-5.16	0.13	0.12	-3.56
2,950.00	0.72	175.57	2,949.63	4.72	-15.75	-4.84	0.12	-0.12	-2.52
2,975.00	0.75	175.59	2,974.63	4.40	-15.73	-4.52	0.12	0.12	0.08
3,000.00	0.74	174.69	2,999.63	4.08	-15.70	-4.20	0.06	-0.04	-3.60
3,025.00	0.73	177.79	3,024.63	3.76	-15.68	-3.88	0.16	-0.04	12.40
3,050.00	0.72	176.93	3,049.63	3.44	-15.66	-3.56	0.06	-0.04	-3.44
3,075.00	0.80	191.45	3,074.62	3.12	-15.69	-3.24	0.83	0.32	58.08
3,100.00	1.05	200.30	3,099.62	2.73	-15.80	-2.85	1.15	1.00	35.40
3,125.00	1.08	209.70	3,124.62	2.31	-16.00	-2.43	0.71	0.12	37.60
3,150.00	1.25	217.34	3,149.61	1.89	-16.28	-2.01	0.92	0.68	30.56
3,175.00	1.33	219.28	3,174.60	1.45	-16.63	-1.57	0.36	0.32	7.76
3,200.00	1.29	219.22	3,199.60	1.01	-16.99	-1.13	0.16	-0.16	-0.24
3,225.00	1.35	218.33	3,224.59	0.56	-17.35	-0.69	0.25	0.24	-3.56
3,250.00	1.28	221.80	3,249.58	0.12	-17.72	-0.25	0.42	-0.28	13.88
3,275.00	1.20	245.93	3,274.58	-0.20	-18.15	0.06	2.10	-0.32	96.52
3,300.00	1.21	274.10	3,299.57	-0.29	-18.65	0.14	2.35	0.04	112.68
3,325.00	1.32	287.56	3,324.57	-0.18	-19.19	0.03	1.26	0.44	53.84
3,350.00	1.32	291.28	3,349.56	0.01	-19.73	-0.16	0.34	0.00	14.88
3,375.00	1.33	292.36	3,374.55	0.23	-20.27	-0.38	0.11	0.04	4.32
3,400.00	1.37	292.75	3,399.55	0.45	-20.81	-0.61	0.16	0.16	1.56
3,425.00	1.32	292.90	3,424.54	0.68	-21.35	-0.84	0.20	-0.20	0.60
3,450.00	1.14	307.78	3,449.53	0.94	-21.81	-1.11	1.46	-0.72	59.52
3,475.00	1.03	338.25	3,474.53	1.31	-22.09	-1.47	2.32	-0.44	121.88
3,500.00	1.19	9.09	3,499.53	1.77	-22.14	-1.94	2.44	0.64	123.36
3,525.00	1.25	26.05	3,524.52	2.27	-21.98	-2.44	1.46	0.24	67.84
3,550.00	1.07	49.87	3,549.52	2.67	-21.68	-2.83	2.04	-0.72	95.28



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,575.00	1.08	83.05	3,574.51	2.85	-21.27	-3.01	2.46	0.04	132.72
3,600.00	1.23	103.54	3,599.51	2.81	-20.77	-2.97	1.75	0.60	81.96
3,625.00	1.28	109.50	3,624.50	2.66	-20.25	-2.81	0.56	0.20	23.84
3,650.00	1.26	110.46	3,649.49	2.47	-19.73	-2.62	0.12	-0.08	3.84
3,675.00	1.21	112.20	3,674.49	2.27	-19.22	-2.42	0.25	-0.20	6.96
3,700.00	1.27	112.63	3,699.48	2.06	-18.72	-2.21	0.24	0.24	1.72
3,725.00	1.17	114.01	3,724.48	1.85	-18.23	-1.99	0.42	-0.40	5.52
3,750.00	0.55	115.68	3,749.47	1.70	-17.89	-1.83	2.48	-2.48	6.68
3,775.00	0.20	106.16	3,774.47	1.63	-17.74	-1.77	1.42	-1.40	-38.08
3,800.00	0.12	116.23	3,799.47	1.61	-17.68	-1.74	0.34	-0.32	40.28
3,825.00	0.12	105.72	3,824.47	1.59	-17.63	-1.73	0.09	0.00	-42.04
3,850.00	0.11	89.74	3,849.47	1.59	-17.58	-1.72	0.13	-0.04	-63.92
3,875.00	0.10	98.69	3,874.47	1.58	-17.53	-1.71	0.08	-0.04	35.80
3,900.00	0.10	96.49	3,899.47	1.58	-17.49	-1.71	0.02	0.00	-8.80
3,925.00	0.13	114.33	3,924.47	1.56	-17.44	-1.69	0.19	0.12	71.36
3,950.00	0.04	69.01	3,949.47	1.55	-17.41	-1.69	0.42	-0.36	-181.28
3,975.00	0.42	128.60	3,974.47	1.50	-17.33	-1.63	1.60	1.52	238.36
4,000.00	0.12	102.65	3,999.47	1.44	-17.23	-1.57	1.27	-1.20	-103.80
4,025.00	0.13	119.63	4,024.47	1.42	-17.18	-1.55	0.15	0.04	67.92
4,050.00	0.18	103.92	4,049.47	1.39	-17.12	-1.52	0.26	0.20	-62.84
4,075.00	0.23	98.33	4,074.47	1.38	-17.03	-1.51	0.22	0.20	-22.36
4,100.00	0.14	116.67	4,099.47	1.36	-16.96	-1.48	0.43	-0.36	73.36
4,125.00	0.21	110.39	4,124.47	1.33	-16.89	-1.45	0.29	0.28	-25.12
4,150.00	0.21	110.52	4,149.47	1.29	-16.80	-1.42	0.00	0.00	0.52
4,175.00	0.23	120.01	4,174.47	1.25	-16.71	-1.38	0.17	0.08	37.96
4,200.00	0.23	132.80	4,199.47	1.19	-16.63	-1.32	0.20	0.00	51.16
4,225.00	0.27	129.92	4,224.47	1.12	-16.55	-1.25	0.17	0.16	-11.52
4,250.00	0.28	144.38	4,249.47	1.03	-16.47	-1.16	0.28	0.04	57.84
4,275.00	0.30	137.41	4,274.47	0.94	-16.39	-1.06	0.16	0.08	-27.88
4,300.00	0.33	135.57	4,299.47	0.84	-16.30	-0.96	0.13	0.12	-7.36
4,325.00	0.39	152.23	4,324.47	0.71	-16.21	-0.83	0.48	0.24	66.64
4,350.00	0.37	157.69	4,349.47	0.56	-16.14	-0.68	0.17	-0.08	21.84
4,375.00	0.44	150.57	4,374.47	0.40	-16.06	-0.52	0.34	0.28	-28.48
4,400.00	0.42	148.05	4,399.47	0.24	-15.96	-0.36	0.11	-0.08	-10.08
4,425.00	0.51	140.08	4,424.47	0.08	-15.84	-0.20	0.44	0.36	-31.88
4,450.00	0.60	139.50	4,449.47	-0.11	-15.69	-0.01	0.36	0.36	-2.32
4,475.00	0.78	127.31	4,474.46	-0.31	-15.47	0.19	0.93	0.72	-48.76
4,500.00	1.02	122.72	4,499.46	-0.53	-15.14	0.42	1.00	0.96	-18.36
4,525.00	1.33	126.79	4,524.46	-0.83	-14.72	0.72	1.28	1.24	16.28
4,550.00	1.51	125.90	4,549.45	-1.19	-14.22	1.09	0.73	0.72	-3.56
4,575.00	1.76	130.85	4,574.44	-1.64	-13.67	1.54	1.15	1.00	19.80
4,600.00	1.90	137.44	4,599.42	-2.20	-13.10	2.10	1.01	0.56	26.36
4,625.00	1.96	146.29	4,624.41	-2.86	-12.58	2.76	1.21	0.24	35.40



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,650.00	2.03	152.88	4,649.40	-3.61	-12.14	3.51	0.96	0.28	26.36
4,675.00	2.11	160.35	4,674.38	-4.43	-11.78	4.34	1.12	0.32	29.88
4,700.00	1.97	175.13	4,699.36	-5.29	-11.59	5.21	2.17	-0.56	59.12
4,725.00	1.87	182.81	4,724.35	-6.13	-11.57	6.04	1.10	-0.40	30.72
4,750.00	1.85	184.22	4,749.34	-6.94	-11.62	6.85	0.20	-0.08	5.64
4,775.00	1.49	188.70	4,774.33	-7.66	-11.70	7.58	1.53	-1.44	17.92
4,800.00	0.82	195.59	4,799.32	-8.16	-11.80	8.07	2.73	-2.68	27.56
4,825.00	0.36	201.31	4,824.32	-8.40	-11.88	8.31	1.85	-1.84	22.88
4,850.00	0.22	205.85	4,849.32	-8.52	-11.93	8.43	0.57	-0.56	18.16
4,875.00	0.23	202.59	4,874.32	-8.61	-11.97	8.52	0.06	0.04	-13.04
4,900.00	0.23	183.27	4,899.32	-8.71	-11.99	8.61	0.31	0.00	-77.28
4,925.00	0.24	167.74	4,924.32	-8.81	-11.98	8.72	0.26	0.04	-62.12
4,950.00	0.50	135.64	4,949.32	-8.94	-11.89	8.85	1.29	1.04	-128.40
4,975.00	0.69	133.07	4,974.32	-9.12	-11.71	9.03	0.77	0.76	-10.28
5,000.00	0.92	125.80	4,999.31	-9.34	-11.43	9.25	1.00	0.92	-29.08
5,025.00	1.08	122.61	5,024.31	-9.58	-11.07	9.50	0.68	0.64	-12.76
5,050.00	1.41	117.13	5,049.30	-9.85	-10.60	9.77	1.40	1.32	-21.92
5,075.00	1.49	116.76	5,074.30	-10.14	-10.04	10.06	0.32	0.32	-1.48
5,100.00	1.61	113.29	5,099.29	-10.42	-9.42	10.35	0.61	0.48	-13.88
5,125.00	1.73	112.91	5,124.28	-10.71	-8.75	10.64	0.48	0.48	-1.52
5,150.00	1.75	112.95	5,149.26	-11.00	-8.05	10.94	0.08	0.08	0.16
5,175.00	1.71	113.57	5,174.25	-11.30	-7.36	11.24	0.18	-0.16	2.48
5,200.00	1.69	112.65	5,199.24	-11.59	-6.68	11.54	0.14	-0.08	-3.68
5,225.00	1.65	114.12	5,224.23	-11.88	-6.01	11.83	0.23	-0.16	5.88
5,250.00	1.57	124.03	5,249.22	-12.22	-5.40	12.18	1.16	-0.32	39.64
5,275.00	0.66	153.30	5,274.22	-12.54	-5.05	12.50	4.18	-3.64	117.08
5,300.00	0.58	203.24	5,299.22	-12.78	-5.03	12.75	2.11	-0.32	199.76
5,325.00	0.61	208.35	5,324.21	-13.02	-5.15	12.98	0.24	0.12	20.44
5,350.00	0.64	208.47	5,349.21	-13.26	-5.28	13.22	0.12	0.12	0.48
5,375.00	0.72	208.27	5,374.21	-13.52	-5.42	13.48	0.32	0.32	-0.80
5,400.00	0.72	209.84	5,399.21	-13.79	-5.57	13.75	0.08	0.00	6.28
5,425.00	0.65	213.09	5,424.21	-14.05	-5.73	14.00	0.32	-0.28	13.00
5,450.00	0.60	208.07	5,449.21	-14.28	-5.87	14.24	0.30	-0.20	-20.08
5,475.00	0.65	208.21	5,474.20	-14.52	-5.99	14.48	0.20	0.20	0.56
5,500.00	0.62	207.52	5,499.20	-14.77	-6.12	14.72	0.12	-0.12	-2.76
5,525.00	0.74	211.50	5,524.20	-15.03	-6.27	14.98	0.52	0.48	15.92
5,550.00	0.86	235.92	5,549.20	-15.27	-6.51	15.22	1.43	0.48	97.68
5,575.00	0.91	235.16	5,574.20	-15.49	-6.83	15.43	0.21	0.20	-3.04
5,600.00	0.96	246.67	5,599.19	-15.68	-7.18	15.63	0.78	0.20	46.04
5,625.00	1.15	266.16	5,624.19	-15.78	-7.63	15.72	1.61	0.76	77.96
5,650.00	1.31	282.40	5,649.18	-15.74	-8.16	15.68	1.53	0.64	64.96
5,675.00	1.63	294.97	5,674.17	-15.53	-8.76	15.46	1.81	1.28	50.28
5,700.00	1.77	302.13	5,699.16	-15.17	-9.41	15.10	1.02	0.56	28.64



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,725.00	1.92	303.74	5,724.15	-14.73	-10.08	14.66	0.63	0.60	6.44
5,750.00	1.93	302.63	5,749.14	-14.27	-10.79	14.19	0.15	0.04	-4.44
5,775.00	1.98	301.38	5,774.12	-13.82	-11.51	13.73	0.26	0.20	-5.00
5,800.00	1.88	302.19	5,799.11	-13.38	-12.22	13.29	0.41	-0.40	3.24
5,825.00	1.93	304.16	5,824.09	-12.92	-12.92	12.83	0.33	0.20	7.88
5,850.00	1.98	302.77	5,849.08	-12.45	-13.63	12.35	0.28	0.20	-5.56
5,875.00	1.92	304.61	5,874.06	-11.98	-14.34	11.87	0.35	-0.24	7.36
5,900.00	1.99	304.05	5,899.05	-11.50	-15.04	11.39	0.29	0.28	-2.24
5,925.00	1.92	304.23	5,924.04	-11.02	-15.75	10.90	0.28	-0.28	0.72
5,950.00	1.87	304.14	5,949.02	-10.56	-16.43	10.43	0.20	-0.20	-0.36
5,975.00	2.06	303.03	5,974.01	-10.08	-17.15	9.95	0.78	0.76	-4.44
6,000.00	1.95	306.02	5,998.99	-9.59	-17.87	9.45	0.61	-0.44	11.96
6,025.00	1.57	321.52	6,023.98	-9.07	-18.43	8.93	2.42	-1.52	62.00
6,050.00	1.44	331.28	6,048.97	-8.53	-18.79	8.38	1.15	-0.52	39.04
6,075.00	1.39	336.23	6,073.96	-7.97	-19.06	7.83	0.53	-0.20	19.80
6,100.00	1.37	337.57	6,098.96	-7.42	-19.30	7.27	0.15	-0.08	5.36
6,125.00	1.40	339.86	6,123.95	-6.86	-19.52	6.71	0.25	0.12	9.16
6,150.00	1.36	338.65	6,148.94	-6.29	-19.73	6.14	0.20	-0.16	-4.84
6,175.00	1.40	340.56	6,173.94	-5.73	-19.94	5.58	0.24	0.16	7.64
6,200.00	1.42	339.98	6,198.93	-5.15	-20.15	5.00	0.10	0.08	-2.32
6,225.00	1.40	341.26	6,223.92	-4.57	-20.35	4.42	0.15	-0.08	5.12
6,250.00	1.40	337.23	6,248.91	-4.00	-20.57	3.84	0.39	0.00	-16.12
6,275.00	1.39	338.90	6,273.90	-3.44	-20.80	3.28	0.17	-0.04	6.68
6,300.00	1.09	355.14	6,298.90	-2.92	-20.93	2.76	1.84	-1.20	64.96
6,325.00	0.83	23.81	6,323.90	-2.51	-20.87	2.35	2.15	-1.04	114.68
6,350.00	1.04	57.52	6,348.89	-2.23	-20.61	2.07	2.31	0.84	134.84
6,375.00	1.17	58.77	6,373.89	-1.97	-20.20	1.82	0.53	0.52	5.00
6,400.00	1.23	62.80	6,398.88	-1.72	-19.74	1.57	0.41	0.24	16.12
6,425.00	1.13	63.07	6,423.88	-1.48	-19.28	1.34	0.40	-0.40	1.08
6,450.00	1.13	59.09	6,448.87	-1.24	-18.85	1.10	0.31	0.00	-15.92
6,475.00	1.21	62.41	6,473.87	-0.99	-18.41	0.86	0.42	0.32	13.28
6,500.00	1.17	63.44	6,498.86	-0.76	-17.94	0.62	0.18	-0.16	4.12
6,525.00	1.09	61.94	6,523.86	-0.53	-17.51	0.40	0.34	-0.32	-6.00
6,550.00	1.18	60.98	6,548.85	-0.30	-17.07	0.17	0.37	0.36	-3.84
6,575.00	1.22	59.33	6,573.85	-0.04	-16.62	-0.09	0.21	0.16	-6.60
6,600.00	1.26	62.15	6,598.84	0.23	-16.14	-0.35	0.29	0.16	11.28
6,625.00	1.21	62.53	6,623.83	0.48	-15.67	-0.60	0.20	-0.20	1.52
6,650.00	1.20	62.60	6,648.83	0.72	-15.20	-0.84	0.04	-0.04	0.28
6,675.00	1.27	58.78	6,673.82	0.99	-14.73	-1.10	0.43	0.28	-15.28
6,700.00	1.24	60.34	6,698.82	1.26	-14.26	-1.37	0.18	-0.12	6.24
6,725.00	1.29	61.66	6,723.81	1.53	-13.78	-1.63	0.23	0.20	5.28
6,750.00	1.31	60.52	6,748.80	1.80	-13.28	-1.91	0.13	0.08	-4.56
6,775.00	1.28	59.53	6,773.80	2.09	-12.79	-2.18	0.15	-0.12	-3.96
6,800.00	1.34	60.45	6,798.79	2.37	-12.30	-2.47	0.25	0.24	3.68



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,825.00	1.35	59.96	6,823.79	2.66	-11.79	-2.75	0.06	0.04	-1.96
6,850.00	1.30	60.76	6,848.78	2.95	-11.28	-3.04	0.21	-0.20	3.20
6,875.00	1.27	62.06	6,873.77	3.22	-10.79	-3.30	0.17	-0.12	5.20
6,900.00	1.34	61.27	6,898.77	3.49	-10.29	-3.57	0.29	0.28	-3.16
6,925.00	1.26	62.23	6,923.76	3.76	-9.79	-3.83	0.33	-0.32	3.84
6,950.00	1.17	68.47	6,948.75	3.98	-9.31	-4.05	0.64	-0.36	24.96
6,975.00	0.83	75.16	6,973.75	4.12	-8.90	-4.19	1.44	-1.36	26.76
7,000.00	0.66	77.18	6,998.75	4.20	-8.58	-4.26	0.69	-0.68	8.08
7,025.00	0.51	81.32	7,023.75	4.25	-8.33	-4.31	0.62	-0.60	16.56
7,050.00	0.42	90.38	7,048.75	4.26	-8.13	-4.32	0.46	-0.36	36.24
7,075.00	0.44	96.47	7,073.74	4.25	-7.94	-4.31	0.20	0.08	24.36
7,100.00	0.34	102.37	7,098.74	4.22	-7.78	-4.28	0.43	-0.40	23.60
7,125.00	0.31	111.38	7,123.74	4.18	-7.64	-4.24	0.24	-0.12	36.04
7,150.00	0.31	137.44	7,148.74	4.11	-7.53	-4.17	0.56	0.00	104.24
7,175.00	0.56	167.46	7,173.74	3.94	-7.46	-4.00	1.32	1.00	120.08
7,200.00	0.60	168.91	7,198.74	3.69	-7.41	-3.75	0.17	0.16	5.80
7,225.00	0.55	164.30	7,223.74	3.45	-7.35	-3.50	0.27	-0.20	-18.44
7,250.00	0.63	170.92	7,248.74	3.20	-7.30	-3.25	0.42	0.32	26.48
7,275.00	0.74	172.57	7,273.74	2.90	-7.25	-2.96	0.45	0.44	6.60
7,300.00	0.79	174.29	7,298.73	2.57	-7.22	-2.62	0.22	0.20	6.88
7,325.00	0.70	172.22	7,323.73	2.25	-7.18	-2.30	0.38	-0.36	-8.28
7,350.00	0.69	179.06	7,348.73	1.95	-7.15	-2.00	0.33	-0.04	27.36
7,375.00	0.71	172.88	7,373.73	1.64	-7.13	-1.70	0.31	0.08	-24.72
7,400.00	0.73	170.30	7,398.73	1.33	-7.09	-1.38	0.15	0.08	-10.32
7,425.00	0.73	171.41	7,423.73	1.02	-7.04	-1.07	0.06	0.00	4.44
7,450.00	0.77	170.63	7,448.72	0.69	-6.99	-0.75	0.17	0.16	-3.12
7,475.00	0.76	166.99	7,473.72	0.37	-6.92	-0.42	0.20	-0.04	-14.56
7,500.00	0.75	170.85	7,498.72	0.04	-6.86	-0.09	0.21	-0.04	15.44
7,525.00	0.79	169.31	7,523.72	-0.29	-6.80	0.24	0.18	0.16	-6.16
7,550.00	0.82	166.43	7,548.71	-0.63	-6.73	0.58	0.20	0.12	-11.52
7,575.00	0.78	165.34	7,573.71	-0.97	-6.64	0.92	0.17	-0.16	-4.36
7,600.00	0.76	161.89	7,598.71	-1.29	-6.55	1.24	0.20	-0.08	-13.80
7,625.00	0.82	162.67	7,623.71	-1.62	-6.44	1.57	0.24	0.24	3.12
7,650.00	0.81	163.07	7,648.70	-1.96	-6.34	1.91	0.05	-0.04	1.60
7,675.00	0.79	158.70	7,673.70	-2.29	-6.22	2.24	0.26	-0.08	-17.48
7,700.00	0.84	163.61	7,698.70	-2.63	-6.11	2.58	0.34	0.20	19.64
7,725.00	0.79	154.78	7,723.70	-2.96	-5.98	2.91	0.54	-0.20	-35.32
7,750.00	0.88	156.08	7,748.69	-3.29	-5.83	3.25	0.37	0.36	5.20
7,775.00	0.73	156.26	7,773.69	-3.61	-5.69	3.57	0.60	-0.60	0.72
7,800.00	0.89	160.84	7,798.69	-3.94	-5.56	3.90	0.69	0.64	18.32
7,825.00	0.80	163.31	7,823.69	-4.29	-5.45	4.25	0.39	-0.36	9.88
7,850.00	0.84	164.59	7,848.68	-4.63	-5.35	4.59	0.18	0.16	5.12
7,875.00	0.83	164.49	7,873.68	-4.99	-5.25	4.95	0.04	-0.04	-0.40



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,900.00	0.83	164.18	7,898.68	-5.33	-5.15	5.30	0.02	0.00	-1.24
7,925.00	0.82	170.95	7,923.68	-5.69	-5.08	5.65	0.39	-0.04	27.08
7,950.00	0.71	176.64	7,948.67	-6.02	-5.04	5.98	0.53	-0.44	22.76
7,975.00	0.75	178.75	7,973.67	-6.33	-5.03	6.30	0.19	0.16	8.44
8,000.00	0.77	175.36	7,998.67	-6.67	-5.01	6.63	0.20	0.08	-13.56
8,025.00	0.79	176.14	8,023.67	-7.01	-4.98	6.97	0.09	0.08	3.12
8,050.00	0.73	178.34	8,048.67	-7.34	-4.97	7.30	0.27	-0.24	8.80
8,075.00	0.83	175.78	8,073.66	-7.68	-4.95	7.64	0.42	0.40	-10.24
8,100.00	0.75	177.48	8,098.66	-8.02	-4.93	7.98	0.33	-0.32	6.80
8,125.00	0.82	175.10	8,123.66	-8.36	-4.91	8.32	0.31	0.28	-9.52
8,150.00	0.77	176.99	8,148.66	-8.71	-4.88	8.67	0.23	-0.20	7.56
8,175.00	0.69	174.52	8,173.65	-9.03	-4.86	8.99	0.34	-0.32	-9.88
8,200.00	0.76	173.49	8,198.65	-9.34	-4.83	9.30	0.28	0.28	-4.12
8,225.00	0.74	175.31	8,223.65	-9.67	-4.79	9.63	0.12	-0.08	7.28
8,250.00	0.71	166.80	8,248.65	-9.98	-4.75	9.94	0.45	-0.12	-34.04
8,275.00	0.69	161.48	8,273.65	-10.27	-4.66	10.24	0.27	-0.08	-21.28
8,300.00	0.67	163.11	8,298.64	-10.55	-4.57	10.52	0.11	-0.08	6.52
8,325.00	0.59	163.18	8,323.64	-10.82	-4.49	10.78	0.32	-0.32	0.28
8,350.00	0.65	166.68	8,348.64	-11.08	-4.42	11.04	0.28	0.24	14.00
8,375.00	0.63	165.07	8,373.64	-11.35	-4.35	11.32	0.11	-0.08	-6.44
8,400.00	0.48	174.81	8,398.64	-11.59	-4.31	11.55	0.71	-0.60	38.96
8,425.00	0.31	174.68	8,423.64	-11.76	-4.29	11.72	0.68	-0.68	-0.52
8,450.00	0.30	202.71	8,448.64	-11.88	-4.31	11.85	0.59	-0.04	112.12
8,475.00	0.27	208.12	8,473.64	-12.00	-4.37	11.96	0.16	-0.12	21.64
8,500.00	0.30	192.63	8,498.64	-12.11	-4.41	12.08	0.33	0.12	-61.96
8,525.00	0.27	191.62	8,523.64	-12.23	-4.43	12.20	0.12	-0.12	-4.04
8,550.00	0.20	217.72	8,548.64	-12.33	-4.47	12.29	0.50	-0.28	104.40
8,575.00	0.20	284.52	8,573.64	-12.35	-4.54	12.32	0.88	0.00	267.20
8,600.00	0.37	320.67	8,598.64	-12.28	-4.64	12.24	0.96	0.68	144.60
8,625.00	0.45	321.84	8,623.63	-12.14	-4.75	12.10	0.32	0.32	4.68
8,650.00	0.51	328.88	8,648.63	-11.96	-4.87	11.93	0.34	0.24	28.16
8,675.00	0.50	326.11	8,673.63	-11.78	-4.98	11.74	0.11	-0.04	-11.08
8,700.00	0.47	335.44	8,698.63	-11.60	-5.09	11.56	0.34	-0.12	37.32
8,725.00	0.56	332.65	8,723.63	-11.39	-5.19	11.35	0.37	0.36	-11.16
8,750.00	0.57	331.95	8,748.63	-11.18	-5.30	11.13	0.05	0.04	-2.80
8,775.00	0.57	332.76	8,773.63	-10.96	-5.42	10.91	0.03	0.00	3.24
8,800.00	0.54	338.55	8,798.63	-10.73	-5.52	10.69	0.25	-0.12	23.16
8,825.00	0.52	344.23	8,823.63	-10.52	-5.59	10.47	0.22	-0.08	22.72
8,850.00	0.57	342.71	8,848.63	-10.29	-5.66	10.25	0.21	0.20	-6.08
8,875.00	0.53	343.08	8,873.62	-10.06	-5.73	10.02	0.16	-0.16	1.48
8,900.00	0.54	350.72	8,898.62	-9.83	-5.78	9.79	0.29	0.04	30.56
8,925.00	0.55	348.02	8,923.62	-9.60	-5.82	9.55	0.11	0.04	-10.80
8,950.00	0.52	342.15	8,948.62	-9.37	-5.88	9.33	0.25	-0.12	-23.48



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,975.00	0.57	351.05	8,973.62	-9.14	-5.94	9.10	0.39	0.20	35.60
9,000.00	0.55	348.79	8,998.62	-8.90	-5.98	8.86	0.12	-0.08	-9.04
9,025.00	0.55	342.48	9,023.62	-8.67	-6.04	8.62	0.24	0.00	-25.24
9,050.00	0.59	347.34	9,048.62	-8.43	-6.11	8.38	0.25	0.16	19.44
9,075.00	0.51	344.90	9,073.62	-8.20	-6.16	8.15	0.33	-0.32	-9.76
9,100.00	0.57	352.83	9,098.61	-7.97	-6.21	7.92	0.38	0.24	31.72
9,125.00	0.57	347.94	9,123.61	-7.72	-6.25	7.67	0.19	0.00	-19.56
9,150.00	0.65	349.16	9,148.61	-7.46	-6.30	7.41	0.32	0.32	4.88
9,175.00	0.56	350.22	9,173.61	-7.20	-6.35	7.15	0.36	-0.36	4.24
9,200.00	0.56	350.49	9,198.61	-6.96	-6.39	6.91	0.01	0.00	1.08
9,225.00	0.66	341.26	9,223.61	-6.70	-6.46	6.65	0.56	0.40	-36.92
9,250.00	0.86	310.34	9,248.61	-6.44	-6.65	6.39	1.79	0.80	-123.68
9,275.00	1.09	300.04	9,273.60	-6.20	-6.99	6.15	1.15	0.92	-41.20
9,300.00	1.09	300.25	9,298.60	-5.97	-7.41	5.91	0.02	0.00	0.84
9,325.00	1.21	294.90	9,323.59	-5.73	-7.85	5.67	0.64	0.48	-21.40
9,350.00	1.25	296.05	9,348.59	-5.50	-8.33	5.44	0.19	0.16	4.60
9,375.00	1.23	298.32	9,373.58	-5.26	-8.82	5.19	0.21	-0.08	9.08
9,400.00	1.26	297.29	9,398.57	-5.00	-9.30	4.93	0.15	0.12	-4.12
9,425.00	1.30	298.36	9,423.57	-4.74	-9.79	4.67	0.19	0.16	4.28
9,450.00	1.30	295.02	9,448.56	-4.49	-10.30	4.41	0.30	0.00	-13.36
9,475.00	1.24	299.57	9,473.56	-4.23	-10.79	4.15	0.47	-0.24	18.20
9,500.00	1.21	301.64	9,498.55	-3.96	-11.25	3.88	0.21	-0.12	8.28
9,525.00	1.27	304.54	9,523.54	-3.67	-11.70	3.58	0.35	0.24	11.60
9,550.00	1.24	307.45	9,548.54	-3.35	-12.14	3.25	0.28	-0.12	11.64
9,575.00	1.17	308.23	9,573.53	-3.02	-12.56	2.93	0.29	-0.28	3.12
9,600.00	1.15	309.86	9,598.53	-2.70	-12.95	2.61	0.15	-0.08	6.52
9,625.00	1.17	312.01	9,623.52	-2.37	-13.34	2.27	0.19	0.08	8.60
9,650.00	1.14	313.83	9,648.52	-2.03	-13.70	1.93	0.19	-0.12	7.28
9,675.00	1.14	315.19	9,673.51	-1.68	-14.06	1.57	0.11	0.00	5.44
9,700.00	1.19	315.38	9,698.51	-1.32	-14.42	1.21	0.20	0.20	0.76
9,725.00	1.13	314.85	9,723.50	-0.96	-14.77	0.85	0.24	-0.24	-2.12
9,750.00	1.12	318.18	9,748.50	-0.60	-15.11	0.49	0.26	-0.04	13.32
9,775.00	1.18	315.19	9,773.49	-0.24	-15.46	0.12	0.34	0.24	-11.96
9,800.00	1.20	319.34	9,798.49	0.14	-15.81	-0.26	0.35	0.08	16.60
9,825.00	1.15	318.93	9,823.48	0.53	-16.14	-0.65	0.20	-0.20	-1.64
9,850.00	1.22	319.86	9,848.48	0.92	-16.48	-1.05	0.29	0.28	3.72
9,875.00	1.16	318.79	9,873.47	1.32	-16.82	-1.44	0.26	-0.24	-4.28
9,900.00	1.21	320.46	9,898.47	1.71	-17.15	-1.84	0.24	0.20	6.68
9,925.00	1.27	323.19	9,923.46	2.13	-17.49	-2.27	0.34	0.24	10.92
9,950.00	1.30	324.97	9,948.45	2.59	-17.82	-2.72	0.20	0.12	7.12
9,975.00	1.22	322.49	9,973.45	3.03	-18.14	-3.17	0.39	-0.32	-9.92
10,000.00	1.21	323.94	9,998.44	3.46	-18.46	-3.60	0.13	-0.04	5.80
10,025.00	1.23	325.05	10,023.44	3.89	-18.77	-4.03	0.12	0.08	4.44
10,050.00	1.23	322.76	10,048.43	4.32	-19.08	-4.47	0.20	0.00	-9.16



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S. , R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,075.00	1.24	323.17	10,073.42	4.75	-19.41	-4.90	0.05	0.04	1.64
10,100.00	1.19	328.02	10,098.42	5.19	-19.71	-5.34	0.46	-0.20	19.40
10,125.00	1.16	324.48	10,123.41	5.62	-19.99	-5.77	0.31	-0.12	-14.16
10,150.00	1.03	321.94	10,148.41	6.00	-20.28	-6.15	0.55	-0.52	-10.16
10,175.00	0.99	320.88	10,173.41	6.34	-20.55	-6.50	0.18	-0.16	-4.24
10,200.00	0.97	318.94	10,198.40	6.67	-20.83	-6.83	0.15	-0.08	-7.76
10,225.00	0.91	306.96	10,223.40	6.95	-21.12	-7.11	0.82	-0.24	-47.92
10,250.00	0.90	300.29	10,248.40	7.17	-21.45	-7.33	0.42	-0.04	-26.68
10,275.00	0.91	300.93	10,273.39	7.37	-21.79	-7.53	0.06	0.04	2.56
10,300.00	0.80	301.58	10,298.39	7.56	-22.11	-7.73	0.44	-0.44	2.60
10,325.00	0.73	294.29	10,323.39	7.72	-22.41	-7.89	0.48	-0.28	-29.16
10,350.00	0.60	288.67	10,348.39	7.83	-22.67	-8.00	0.58	-0.52	-22.48
10,375.00	0.47	280.09	10,373.38	7.89	-22.90	-8.06	0.61	-0.52	-34.32
10,400.00	0.29	185.23	10,398.38	7.84	-23.01	-8.02	2.29	-0.72	-379.44
10,425.00	0.42	173.05	10,423.38	7.69	-23.00	-7.86	0.60	0.52	-48.72
10,450.00	0.50	160.14	10,448.38	7.49	-22.95	-7.67	0.52	0.32	-51.64
10,475.00	0.74	153.51	10,473.38	7.25	-22.84	-7.42	1.00	0.96	-26.52
10,500.00	0.94	147.24	10,498.38	6.93	-22.66	-7.10	0.88	0.80	-25.08
10,525.00	1.10	146.29	10,523.37	6.56	-22.42	-6.73	0.64	0.64	-3.80
10,550.00	1.27	142.87	10,548.37	6.14	-22.12	-6.30	0.74	0.68	-13.68
10,575.00	1.28	144.76	10,573.36	5.69	-21.79	-5.85	0.17	0.04	7.56
10,600.00	1.43	145.07	10,598.36	5.20	-21.45	-5.37	0.60	0.60	1.24
10,625.00	1.63	145.49	10,623.35	4.66	-21.07	-4.82	0.80	0.80	1.68
10,650.00	1.72	144.01	10,648.34	4.06	-20.65	-4.22	0.40	0.36	-5.92
10,675.00	1.87	141.82	10,673.32	3.44	-20.17	-3.59	0.66	0.60	-8.76
10,700.00	2.10	140.87	10,698.31	2.76	-19.63	-2.91	0.93	0.92	-3.80
10,725.00	2.13	141.56	10,723.29	2.04	-19.05	-2.18	0.16	0.12	2.76
10,750.00	2.19	138.85	10,748.27	1.32	-18.45	-1.46	0.47	0.24	-10.84
10,775.00	2.30	138.02	10,773.25	0.58	-17.80	-0.72	0.46	0.44	-3.32
10,800.00	2.45	135.76	10,798.23	-0.17	-17.09	0.04	0.71	0.60	-9.04
10,825.00	2.49	136.34	10,823.21	-0.95	-16.35	0.82	0.19	0.16	2.32
10,850.00	2.67	135.59	10,848.18	-1.76	-15.56	1.64	0.73	0.72	-3.00
10,875.00	2.86	133.67	10,873.16	-2.60	-14.70	2.49	0.85	0.76	-7.68
10,900.00	2.91	134.42	10,898.12	-3.48	-13.80	3.37	0.25	0.20	3.00
10,925.00	3.13	135.16	10,923.09	-4.41	-12.87	4.31	0.89	0.88	2.96
10,950.00	3.28	135.86	10,948.05	-5.40	-11.89	5.31	0.62	0.60	2.80
10,975.00	3.35	135.17	10,973.01	-6.43	-10.87	6.35	0.32	0.28	-2.76
11,000.00	3.42	135.64	10,997.96	-7.49	-9.84	7.41	0.30	0.28	1.88
11,025.00	3.40	137.07	11,022.92	-8.56	-8.81	8.49	0.35	-0.08	5.72
11,050.00	3.23	138.61	11,047.88	-9.63	-7.84	9.57	0.77	-0.68	6.16
11,075.00	3.19	141.20	11,072.84	-10.70	-6.94	10.65	0.60	-0.16	10.36
11,100.00	3.15	143.66	11,097.80	-11.80	-6.10	11.75	0.57	-0.16	9.84
11,125.00	2.99	147.34	11,122.77	-12.90	-5.34	12.86	1.02	-0.64	14.72



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,150.00	2.60	154.05	11,147.74	-13.96	-4.74	13.92	2.03	-1.56	26.84
11,175.00	2.42	161.95	11,172.71	-14.97	-4.32	14.94	1.56	-0.72	31.60
11,200.00	2.27	168.97	11,197.69	-15.96	-4.07	15.93	1.30	-0.60	28.08
11,225.00	2.13	174.27	11,222.67	-16.91	-3.93	16.88	0.99	-0.56	21.20
11,250.00	2.00	184.95	11,247.66	-17.80	-3.92	17.77	1.62	-0.52	42.72
11,275.00	1.87	192.27	11,272.64	-18.64	-4.04	18.61	1.12	-0.52	29.28
11,300.00	1.80	201.43	11,297.63	-19.40	-4.27	19.37	1.20	-0.28	36.64
11,325.00	1.34	218.39	11,322.62	-20.00	-4.60	19.96	2.60	-1.84	67.84
11,350.00	1.25	233.46	11,347.61	-20.39	-5.00	20.35	1.40	-0.36	60.28
11,375.00	1.40	260.02	11,372.61	-20.60	-5.52	20.56	2.50	0.60	106.24
11,400.00	1.61	274.04	11,397.60	-20.63	-6.17	20.58	1.69	0.84	56.08
11,425.00	1.80	279.20	11,422.59	-20.54	-6.91	20.49	0.98	0.76	20.64
11,450.00	2.00	280.54	11,447.57	-20.40	-7.72	20.34	0.82	0.80	5.36
11,475.00	2.16	281.62	11,472.56	-20.23	-8.61	20.16	0.66	0.64	4.32
11,500.00	2.21	282.02	11,497.54	-20.03	-9.55	19.96	0.21	0.20	1.60
11,525.00	2.20	283.29	11,522.52	-19.82	-10.48	19.74	0.20	-0.04	5.08
11,550.00	2.15	283.83	11,547.50	-19.60	-11.41	19.51	0.22	-0.20	2.16
11,575.00	2.11	285.15	11,572.49	-19.37	-12.31	19.27	0.25	-0.16	5.28
11,600.00	2.10	282.65	11,597.47	-19.14	-13.20	19.04	0.37	-0.04	-10.00
11,625.00	2.22	280.17	11,622.45	-18.96	-14.12	18.85	0.61	0.48	-9.92
11,650.00	2.27	280.89	11,647.43	-18.78	-15.08	18.67	0.23	0.20	2.88
11,675.00	2.60	278.81	11,672.41	-18.60	-16.13	18.48	1.37	1.32	-8.32
11,700.00	2.98	276.62	11,697.38	-18.44	-17.34	18.31	1.58	1.52	-8.76
11,725.00	3.30	273.09	11,722.34	-18.32	-18.70	18.18	1.49	1.28	-14.12
11,726.00	3.18	275.02	11,723.34	-18.32	-18.76	18.18	16.22	-12.00	193.00
11,934.00	4.05	298.42	11,930.94	-14.32	-30.96	14.08	0.81	0.42	11.25
First MWD Survey @ 11934'MD									
11,966.00	3.59	297.12	11,962.86	-13.32	-32.85	13.08	1.46	-1.44	-4.06
12,060.00	3.11	300.08	12,056.70	-10.71	-37.68	10.42	0.54	-0.51	3.15
12,122.00	2.33	303.00	12,118.63	-9.18	-40.19	8.87	1.28	-1.26	4.71
12,154.00	2.00	302.58	12,150.61	-8.52	-41.20	8.21	1.03	-1.03	-1.31
12,185.00	1.43	292.56	12,181.60	-8.08	-42.02	7.76	2.07	-1.84	-32.32
12,217.00	0.55	192.28	12,213.59	-8.08	-42.42	7.76	5.07	-2.75	-313.38
12,248.00	1.45	174.34	12,244.59	-8.61	-42.41	8.29	3.04	2.90	-57.87
12,279.00	2.36	161.49	12,275.57	-9.61	-42.17	9.29	3.22	2.94	-41.45
12,310.00	2.76	159.86	12,306.54	-10.92	-41.71	10.60	1.31	1.29	-5.26
12,341.00	5.04	168.33	12,337.47	-12.95	-41.18	12.64	7.57	7.35	27.32
12,373.00	10.41	182.47	12,369.17	-17.22	-41.02	16.91	17.68	16.78	44.19
12,404.00	16.30	183.89	12,399.31	-24.36	-41.43	24.05	19.03	19.00	4.58
12,435.00	19.82	183.88	12,428.78	-33.95	-42.09	33.63	11.35	11.35	-0.03
12,467.00	23.13	184.20	12,458.56	-45.63	-42.91	45.31	10.35	10.34	1.00
12,498.00	26.04	180.61	12,486.75	-58.51	-43.43	58.18	10.55	9.39	-11.58
12,528.00	29.59	179.16	12,513.28	-72.51	-43.39	72.18	12.05	11.83	-4.83



Survey Report



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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,560.00	33.23	181.34	12,540.58	-89.18	-43.48	88.85	11.91	11.38	6.81
12,591.00	36.84	182.36	12,565.96	-106.96	-44.06	106.63	11.80	11.65	3.29
12,612.81	39.28	183.08	12,583.13	-120.39	-44.70	120.05	11.37	11.18	3.30
North 330' Crossing Point @ 12612.81'MD									
12,623.00	40.42	183.39	12,590.96	-126.91	-45.07	126.57	11.37	11.20	3.05
12,654.00	42.98	183.78	12,614.10	-147.49	-46.36	147.14	8.30	8.26	1.26
12,686.00	46.90	181.72	12,636.75	-170.06	-47.43	169.70	13.07	12.25	-6.44
12,717.00	50.71	180.12	12,657.16	-193.38	-47.80	193.01	12.89	12.29	-5.16
12,748.00	55.16	180.12	12,675.84	-218.11	-47.85	217.74	14.35	14.35	0.00
12,779.00	59.33	180.25	12,692.61	-244.18	-47.94	243.81	13.46	13.45	0.42
12,811.00	63.04	179.50	12,708.03	-272.21	-47.87	271.84	11.77	11.59	-2.34
12,842.00	65.96	179.38	12,721.38	-300.18	-47.60	299.82	9.43	9.42	-0.39
12,873.00	68.03	177.95	12,733.49	-328.71	-46.93	328.34	7.91	6.68	-4.61
12,904.00	70.13	176.76	12,744.56	-357.63	-45.59	357.28	7.66	6.77	-3.84
12,936.00	74.25	175.51	12,754.35	-388.02	-43.53	387.68	13.40	12.88	-3.91
12,967.00	76.91	176.95	12,762.06	-417.98	-41.56	417.65	9.69	8.58	4.65
12,999.00	79.03	177.41	12,768.73	-449.23	-40.02	448.92	6.77	6.63	1.44
13,030.00	83.09	177.90	12,773.55	-479.83	-38.77	479.52	13.19	13.10	1.58
13,062.00	87.39	179.19	12,776.21	-511.70	-37.96	511.40	14.02	13.44	4.03
13,094.00	89.52	181.09	12,777.07	-543.68	-38.04	543.38	8.92	6.66	5.94
13,123.00	89.83	181.23	12,777.23	-572.68	-38.63	572.37	1.17	1.07	0.48
13,218.00	89.64	180.69	12,777.67	-667.66	-40.22	667.34	0.60	-0.20	-0.57
13,313.00	89.50	179.97	12,778.38	-762.66	-40.77	762.33	0.77	-0.15	-0.76
13,407.00	88.68	179.67	12,779.88	-856.64	-40.47	856.31	0.93	-0.87	-0.32
13,502.00	89.38	180.10	12,781.49	-951.63	-40.28	951.30	0.86	0.74	0.45
13,597.00	90.14	180.48	12,781.88	-1,046.62	-40.76	1,046.29	0.89	0.80	0.40
13,692.00	89.61	178.88	12,782.09	-1,141.62	-40.23	1,141.28	1.77	-0.56	-1.68
13,787.00	90.62	178.78	12,781.90	-1,236.60	-38.29	1,236.27	1.07	1.06	-0.11
13,890.00	88.96	178.61	12,782.28	-1,339.57	-35.95	1,339.26	1.62	-1.61	-0.17
13,984.00	88.94	177.45	12,784.00	-1,433.49	-32.72	1,433.21	1.23	-0.02	-1.23
14,078.00	88.91	177.20	12,785.76	-1,527.38	-28.33	1,527.12	0.27	-0.03	-0.27
14,173.00	88.85	176.84	12,787.62	-1,622.23	-23.39	1,622.01	0.38	-0.06	-0.38
14,267.00	89.30	177.60	12,789.14	-1,716.10	-18.83	1,715.91	0.94	0.48	0.81
14,361.00	89.66	177.61	12,789.99	-1,810.02	-14.91	1,809.85	0.38	0.38	0.01
14,456.00	88.15	177.79	12,791.81	-1,904.92	-11.09	1,904.78	1.60	-1.59	0.19
14,551.00	87.53	177.08	12,795.39	-1,999.76	-6.85	1,999.65	0.99	-0.65	-0.75
14,644.00	88.82	176.92	12,798.35	-2,092.58	-1.98	2,092.51	1.40	1.39	-0.17
14,738.00	88.60	178.02	12,800.47	-2,186.46	2.17	2,186.42	1.19	-0.23	1.17
14,832.00	89.86	179.08	12,801.73	-2,280.42	4.55	2,280.39	1.75	1.34	1.13
14,925.00	90.64	179.26	12,801.32	-2,373.41	5.89	2,373.39	0.86	0.84	0.19
15,020.00	91.29	179.07	12,799.72	-2,468.39	7.28	2,468.37	0.71	0.68	-0.20
15,114.00	89.80	180.58	12,798.83	-2,562.38	7.56	2,562.36	2.26	-1.59	1.61
15,208.00	90.76	180.55	12,798.37	-2,656.37	6.64	2,656.35	1.02	1.02	-0.03
15,303.00	89.66	182.01	12,798.02	-2,751.34	4.52	2,751.30	1.92	-1.16	1.54



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S., R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,397.00	88.18	179.51	12,799.79	-2,845.31	3.27	2,845.25	3.09	-1.57	-2.66
15,492.00	89.02	178.95	12,802.11	-2,940.27	4.54	2,940.22	1.06	0.88	-0.59
15,585.00	89.94	178.24	12,802.96	-3,033.24	6.82	3,033.20	1.25	0.99	-0.76
15,679.00	91.29	178.70	12,801.95	-3,127.19	9.33	3,127.18	1.52	1.44	0.49
15,764.00	92.44	178.71	12,799.18	-3,212.13	11.25	3,212.12	1.35	1.35	0.01
15,859.00	91.82	178.35	12,795.65	-3,307.03	13.69	3,307.04	0.75	-0.65	-0.38
15,953.00	90.22	178.41	12,793.98	-3,400.97	16.35	3,401.00	1.70	-1.70	0.06
16,047.00	88.29	178.52	12,795.20	-3,494.93	18.86	3,494.97	2.06	-2.05	0.12
16,142.00	87.09	177.92	12,799.03	-3,589.80	21.81	3,589.86	1.41	-1.26	-0.63
16,235.00	87.34	178.64	12,803.55	-3,682.65	24.60	3,682.73	0.82	0.27	0.77
16,327.00	88.57	178.12	12,806.83	-3,774.55	27.20	3,774.65	1.45	1.34	-0.57
16,420.00	86.81	178.33	12,810.58	-3,867.43	30.08	3,867.55	1.91	-1.89	0.23
16,515.00	85.85	179.07	12,816.66	-3,962.21	32.23	3,962.34	1.27	-1.01	0.78
16,608.00	86.50	179.13	12,822.87	-4,054.99	33.69	4,055.13	0.70	0.70	0.06
16,703.00	87.20	180.82	12,828.09	-4,149.84	33.73	4,149.98	1.92	0.74	1.78
16,797.00	88.54	181.48	12,831.58	-4,243.75	31.84	4,243.87	1.59	1.43	0.70
16,891.00	90.70	181.92	12,832.20	-4,337.70	29.05	4,337.80	2.35	2.30	0.47
16,985.00	89.52	182.27	12,832.02	-4,431.64	25.62	4,431.71	1.31	-1.26	0.37
17,079.00	89.66	180.22	12,832.70	-4,525.61	23.58	4,525.66	2.19	0.15	-2.18
17,174.00	90.73	180.09	12,832.37	-4,620.61	23.32	4,620.65	1.13	1.13	-0.14
17,268.00	89.89	179.98	12,831.86	-4,714.61	23.26	4,714.65	0.90	-0.89	-0.12
17,363.00	88.99	179.58	12,832.79	-4,809.60	23.63	4,809.64	1.04	-0.95	-0.42
17,457.00	91.09	180.38	12,832.73	-4,903.59	23.66	4,903.63	2.39	2.23	0.85
17,552.00	88.24	176.78	12,833.28	-4,998.54	26.01	4,998.59	4.83	-3.00	-3.79
17,647.00	90.28	175.49	12,834.51	-5,093.31	32.41	5,093.41	2.54	2.15	-1.36
17,741.00	89.55	173.15	12,834.65	-5,186.84	41.72	5,187.00	2.61	-0.78	-2.49
17,835.00	89.44	174.66	12,835.48	-5,280.30	51.70	5,280.54	1.61	-0.12	1.61
17,929.00	89.13	175.61	12,836.65	-5,373.95	59.67	5,374.25	1.06	-0.33	1.01
18,023.00	91.34	178.13	12,836.26	-5,467.80	64.80	5,468.13	3.57	2.35	2.68
18,117.00	87.40	178.25	12,837.30	-5,561.73	67.77	5,562.08	4.19	-4.19	0.13
18,211.00	87.59	178.94	12,841.41	-5,655.61	70.07	5,655.98	0.76	0.20	0.73
18,305.00	90.22	178.22	12,843.20	-5,749.55	72.40	5,749.94	2.90	2.80	-0.77
18,400.00	88.68	177.64	12,844.11	-5,844.48	75.83	5,844.89	1.73	-1.62	-0.61
18,493.00	91.96	180.24	12,843.59	-5,937.45	77.55	5,937.86	4.50	3.53	2.80
18,587.00	89.27	180.05	12,842.59	-6,031.43	77.31	6,031.84	2.87	-2.86	-0.20
18,680.00	86.69	180.35	12,845.86	-6,124.37	76.99	6,124.77	2.79	-2.77	0.32
18,775.00	85.96	180.99	12,851.95	-6,219.16	75.88	6,219.56	1.02	-0.77	0.67
18,868.00	86.08	181.70	12,858.41	-6,311.91	73.70	6,312.29	0.77	0.13	0.76
18,962.00	86.44	181.65	12,864.54	-6,405.67	70.96	6,406.02	0.39	0.38	-0.05
19,056.00	85.04	180.36	12,871.52	-6,499.39	69.32	6,499.73	2.02	-1.49	-1.37
19,150.00	90.14	182.82	12,875.47	-6,593.24	66.71	6,593.55	6.02	5.43	2.62
19,244.00	89.58	181.89	12,875.70	-6,687.15	62.85	6,687.44	1.15	-0.60	-0.99
19,339.00	86.19	179.87	12,879.21	-6,782.06	61.39	6,782.33	4.15	-3.57	-2.13



Survey Report



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Design: Wellbore #1

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MD Reference: KB=30' @ 3401.99usft (N 894)
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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,432.00	85.94	179.54	12,885.59	-6,874.84	61.86	6,875.11	0.44	-0.27	-0.35
19,528.00	84.84	178.89	12,893.31	-6,970.52	63.17	6,970.80	1.33	-1.15	-0.68
19,622.00	85.82	178.83	12,900.96	-7,064.19	65.04	7,064.48	1.04	1.04	-0.06
19,716.00	85.71	178.60	12,907.90	-7,157.91	67.14	7,158.21	0.27	-0.12	-0.24
19,811.00	83.57	177.64	12,916.78	-7,252.43	70.24	7,252.76	2.47	-2.25	-1.01
19,905.00	85.32	178.58	12,925.88	-7,345.94	73.33	7,346.28	2.11	1.86	1.00
20,000.00	87.70	177.54	12,931.66	-7,440.70	76.54	7,441.06	2.73	2.51	-1.09
20,094.00	88.63	176.19	12,934.67	-7,534.50	81.68	7,534.91	1.74	0.99	-1.44
20,187.00	90.84	177.38	12,935.10	-7,627.35	86.89	7,627.79	2.70	2.38	1.28
20,281.00	90.98	179.99	12,933.61	-7,721.31	89.05	7,721.76	2.78	0.15	2.78
20,376.00	90.36	180.94	12,932.49	-7,816.29	88.28	7,816.74	1.19	-0.65	1.00
20,470.00	87.54	179.68	12,934.22	-7,910.27	87.77	7,910.70	3.29	-3.00	-1.34
20,565.00	91.34	180.28	12,935.15	-8,005.24	87.80	8,005.68	4.05	4.00	0.63
20,660.00	91.68	180.00	12,932.64	-8,100.21	87.57	8,100.64	0.46	0.36	-0.29
20,755.00	91.20	180.23	12,930.25	-8,195.18	87.38	8,195.61	0.56	-0.51	0.24
20,820.00	91.29	180.53	12,928.84	-8,260.16	86.95	8,260.58	0.48	0.14	0.46
20,915.00	90.56	180.71	12,927.31	-8,355.14	85.92	8,355.55	0.79	-0.77	0.19
21,009.00	91.79	181.60	12,925.38	-8,449.10	84.02	8,449.50	1.62	1.31	0.95
21,104.00	91.23	180.70	12,922.88	-8,544.05	82.12	8,544.43	1.12	-0.59	-0.95
21,198.00	90.03	180.50	12,921.84	-8,638.04	81.13	8,638.40	1.29	-1.28	-0.21
21,292.00	90.34	180.56	12,921.54	-8,732.03	80.27	8,732.39	0.34	0.33	0.06
21,387.00	89.86	179.57	12,921.37	-8,827.03	80.16	8,827.38	1.16	-0.51	-1.04
21,482.00	90.00	179.64	12,921.49	-8,922.03	80.81	8,922.38	0.16	0.15	0.07
21,575.00	89.78	179.15	12,921.67	-9,015.02	81.79	9,015.38	0.58	-0.24	-0.53
21,670.00	88.60	178.50	12,923.01	-9,109.99	83.74	9,110.36	1.42	-1.24	-0.68
21,764.00	89.16	178.82	12,924.85	-9,203.95	85.94	9,204.33	0.69	0.60	0.34
21,859.00	89.89	178.73	12,925.64	-9,298.92	87.97	9,299.32	0.77	0.77	-0.09
21,954.00	89.16	177.64	12,926.42	-9,393.87	90.98	9,394.29	1.38	-0.77	-1.15
22,049.00	90.95	177.30	12,926.33	-9,488.77	95.17	9,489.22	1.92	1.88	-0.36
22,143.00	89.16	176.42	12,926.24	-9,582.62	100.32	9,583.11	2.12	-1.90	-0.94
22,238.00	90.17	177.27	12,926.80	-9,677.48	105.55	9,678.00	1.39	1.06	0.89
22,332.00	90.28	176.88	12,926.43	-9,771.35	110.35	9,771.91	0.43	0.12	-0.41
22,427.00	88.63	176.27	12,927.33	-9,866.18	116.02	9,866.77	1.85	-1.74	-0.64
22,522.00	89.16	176.32	12,929.17	-9,960.96	122.16	9,961.60	0.56	0.56	0.05
22,578.70	89.74	176.03	12,929.71	-10,017.53	125.94	10,018.20	1.14	1.02	-0.51
South 330' Crossing Point @ 22578.70'MD									
22,612.00	90.08	175.86	12,929.76	-10,050.75	128.30	10,051.43	1.14	1.02	-0.51
Final MWD Survey @ 22612'MD									
22,708.00	90.09	175.86	12,929.62	-10,146.50	135.23	10,147.23	0.01	0.01	0.00
Projection to TD @ 22708'MD									



Survey Report



Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 30, T 24 S. , R 35 E
Well: Fascinator Fed Com 706H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Fascinator Fed Com 706H
TVD Reference: KB=30' @ 3401.99usft (N 894)
MD Reference: KB=30' @ 3401.99usft (N 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,934.00	11,930.94	-14.32	-30.96	First MWD Survey @ 11934'MD
12,612.81	12,583.13	-120.39	-44.70	North 330' Crossing Point @ 12612.81'MD
22,578.70	12,929.71	-10,017.53	125.94	South 330' Crossing Point @ 22578.70'MD
22,612.00	12,929.76	-10,050.75	128.30	Final MWD Survey @ 22612'MD
22,708.00	12,929.62	-10,146.50	135.23	Projection to TD @ 22708'MD

Checked By: _____	Approved By: _____	Date: _____
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Fascinator Federal Com #706H

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	1512	397425	332178
2	1512	401524	386946
3	1512	403367	381528
4	1512	401655	354438
5	1512	411508	402150
6	1512	400647	463386
7	1512	413761	435918
8	1512	407704	429870
9	1512	400020	421932
10	1512	404966	589134
11	1512	401204	429072
12	1512	399977	480144
13	1512	411595	537264
14	1512	385209	413532
15	1512	404960	424704
16	1680	387833	423150
17	1512	390302	413280
18	1512	406976	417228
19	1512	408716	412524
20	1512	375349	368130
21	1512	386430	425754
22	1512	399992	402066
23	1512	409720	420378
24	1512	393171	408702
25	1512	385507	429408
26	1512	405777	468972
27	1512	395532	341838
28	1512	396388	407106
29	1512	399353	354102
30	1512	393390	354816
31	1512	403182	362586
32	1512	400723	345534
33	1512	398995	357252
34	1512	404858	409164
35	1512	411689	349902
36	1512	415751	398202
37	1512	423026	352506
38	1512	401078	325584
39	1512	401888	335832
40	1512	399965	326676
41	1512	403795	335076
42	1512	403975	340116
43	1512	400015	336294
44	1512	396793	323526
45	2646	391217	329994
46	1512	400764	333648
47	1512	410341	329574
48	1512	404741	330918
49	1512	397833	330120
Totals	72366	19,253,162	15,473,808

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	22,583	10	5	22,373	65	5	22,215	24	5	22,016	25	5	21,818	24	5
	22,573	23	5	22,353	19	5	22,190	30	5	21,991	25	5	21,793	22	5
	22,550	22	5	22,334	19	5	22,160	20	5	21,966	24	5	21,771	28	5
	22,528	23	5	22,315	19	5	22,140	25	5	21,942	25	5	21,743	25	5
	22,505	22	4	22,296	19	4	22,115		4	21,917	25	4	21,718	25	4
	22,483	23	4	22,277	19	4	22,091	25	4	21,892	25	4	21,693	24	4
	22,460	22	4	22,258	19	4	22,066	25	4	21,867	25	4	21,669	25	4
	22,438		4	22,239		4	22,041		4	21,842		4	21,644		4
	Plug to Plug	82	36	Plug to Plug	73	36	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	87	36
	Frac Plug	22,610	Total Shots	Frac Plug	22,388	Total Shots	Frac Plug	22,227	Total Shots	Frac Plug	22,029	Total Shots	Frac Plug	21,830	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	21,619	25	5	21,420	25	5	21,222	25	5	21,023	25	5	20,825	25	5
	21,594	25	5	21,396	25	5	21,197	25	5	20,999	29	5	20,803	28	5
	21,569	47	5	21,371	25	5	21,172	24	5	20,970	21	5	20,775	25	5
	21,522	38	4	21,346	25	5	21,148	25	5	20,949	25	5	20,750	24	5
	21,484	39	4	21,321	25	4	21,123	25	4	20,924	25	4	20,726	25	4
	21,445		4	21,296	24	4	21,098	25	4	20,899	24	4	20,701	22	4
				21,272	25	4	21,073	25	4	20,875	25	4	20,679	28	4
				21,247		4	21,048		4	20,850		4	20,651		4
	Plug to Plug	109	27	Plug to Plug	87	36	Plug to Plug	84	36	Plug to Plug	87	36	Plug to Plug	87	36
	Frac Plug	21,631	Total Shots	Frac Plug	21,433	Total Shots	Frac Plug	21,232	Total Shots	Frac Plug	21,036	Total Shots	Frac Plug	20,837	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	20,626	25	5	20,428	30	5	20,229	25	5	20,031	25	5	19,832	25	5
	20,602	25	5	20,402	24	5	20,204	24	5	20,008	27	5	19,807	24	5
	20,577	25	5	20,378	25	5	20,180	25	5	19,981	28	5	19,783	25	5
	20,552	25	5	20,353	24	5	20,155	25	5	19,953	22	5	19,758	22	5
	20,527	25	4	20,329	25	4	20,130	25	4	19,931	25	4	19,736	28	4
	20,502	25	4	20,304	20	4	20,105	25	4	19,906	24	4	19,708	28	4
	20,477	19	4	20,284	30	4	20,080	24	4	19,882	25	4	19,680	22	4
	20,458		4	20,254		4	20,056		4	19,857		4	19,658		4
	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	90	36	Plug to Plug	87	36
	Frac Plug	20,639	Total Shots	Frac Plug	20,440	Total Shots	Frac Plug	20,242	Total Shots	Frac Plug	20,043	Total Shots	Frac Plug	19,845	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	19,634	24	5	19,435	-126	5	19,237	24	5	19,038	25	5	18,836	28	5
	19,309	-275	5	19,410	25	5	19,212	25	5	19,013	25	5	18,815	25	5
	19,584	25	5	19,385	24	5	19,187	25	5	18,988	24	5	18,790	25	5
	19,559	25	5	19,361	25	5	19,162	25	5	18,964	30	5	18,765	25	5
	19,534	24	4	19,336	25	4	19,137	28	4	18,934	20	4	18,740	25	4
	19,510	25	4	19,311	25	4	19,109	21	4	18,914	25	4	18,715	24	4
	19,485	20	4	19,286	25	4	19,088	25	4	18,889	25	4	18,691	24	4
	19,465		4	19,261		4	19,063		4	18,864		4	18,667		4
	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	86	36	Plug to Plug	87	36
	Frac Plug	19,646	Total Shots	Frac Plug	19,448	Total Shots	Frac Plug	19,249	Total Shots	Frac Plug	19,050	Total Shots	Frac Plug	18,852	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	18,641	26	5	18,442	25	5	18,244	25	5	18,045	25	5	17,840	30	5
	18,616	25	5	18,418	25	5	18,219	25	5	18,021	25	5	17,822	22	5
	18,591	24	5	18,393	25	5	18,194	25	5	17,996	25	5	17,800	28	5
	18,567	25	5	18,368	25	5	18,169	22	5	17,971	25	5	17,772	24	5
	18,542	25	4	18,343	25	4	18,147	27	4	17,946	20	4	17,748	25	4
	18,517	20	4	18,318	24	4	18,120	25	4	17,926	30	4	17,723	25	4
	18,497	30	4	18,294	25	4	18,095	25	4	17,896	26	4	17,698	25	4
	18,467		4	18,269		4	18,070		4	17,870		4	17,673		4
	Plug to Plug	85	36	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	95	36	Plug to Plug	82	36
	Frac Plug	18,652	Total Shots	Frac Plug	18,455	Total Shots	Frac Plug	18,256	Total Shots	Frac Plug	18,066	Total Shots	Frac Plug	17,854	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	17,638	35	5	17,450	25	5	17,238	38	5	17,053	24	5	16,854	25	5
	17,623	24	5	17,425	25	5	17,224	22	5	17,028	25	5	16,829	25	5
	17,599	25	5	17,400	25	5	17,202	25	5	17,003	25	5	16,804	24	5
	17,574	25	5	17,375	21	5	17,177	25	5	16,978	21	5	16,780	25	5
	17,549	25	4	17,354	28	4	17,152	28	4	16,957	28	4	16,755	25	4
	17,524	25	4	17,328	25	4	17,124	22	4	16,929	25	4	16,730	25	4
	17,499	24	4	17,301	25	4	17,102	25	4	16,904	25	4	16,705	21	4
	17,475		4	17,276		4	17,077		4	16,879		4	16,684		4
	Plug to Plug	76	36	Plug to Plug	87	36	Plug to Plug	73	36	Plug to Plug	87	36	Plug to Plug	88	36
	Frac Plug	17,650	Total Shots	Frac Plug	17,462	Total Shots	Frac Plug	17,250	Total Shots	Frac Plug	17,065	Total Shots	Frac Plug	16,868	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	16,656	28	5	16,454	28	5	16,259	24	5	16,060	25	5	15,861	5	5
	16,631	25	5	16,432	25	5	16,234	25	5	16,035	25	5	15,837	25	5
	16,606	25	5	16,407	24	5	16,209	25	5	16,010	30	5	15,812	25	5
	16,581	25	5	16,383	25	5	16,184	25	5	15,980	19	5	15,787	29	5
	16,556	25	4	16,358	25	4	16,159	25	4	15,961	25	4	15,758	21	4
	16,531	24	4	16,333	25	4	16,134	24	4	15,936	25	4	15,737	24	4
	16,507	25	4	16,308	25	4	16,110	25	4	15,911	45	4	15,713	25	4
	16,482		4	16,283		4	16,085		4	15,886		4	15,688		4
	Plug to Plug	87	36	Plug to Plug	86	36	Plug to Plug	87	36	Plug to Plug	92	36	Plug to Plug	87	36
	Frac Plug	16,668	Total Shots	Frac Plug	16,469	Total Shots	Frac Plug	16,271	Total Shots	Frac Plug	16,072	Total Shots	Frac Plug	15,874	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	15,663	25	5	15,464	25	5	15,260	31	5	15,067	25	5	14,869	25	5
	15,636	23	5	15,440	25	5	15,241	25	5	15,042	20	5	14,844	26	5
	15,613	25	5	15,415	25	5	15,216	24	5	15,022	29	5	14,818	24	5
	15,588	24	5	15,390	25	5	15,192	25	5	14,993	29	5	14,794	25	5
	15,564	25	4	15,365	25	4	15,167	29	4	14,964	21	4	14,769	24	4
	15,539	25	4	15,340	25	4	15,138	21	4	14,943	27	4	14,745	25	4
	15,514	25	4	15,315	24	4	15,117	25	4	14,916	22	4	14,720	22	4
	15,489		4	15,291		4	15,092		4	14,894		4	14,698		4
	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	80	36	Plug to Plug	87	36	Plug to Plug	87	36
	Frac Plug	15,675	Total Shots	Frac Plug	15,477	Total Shots	Frac Plug	15,272	Total Shots	Frac Plug	15,080	Total Shots	Frac Plug	14,881	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	14,670	28	5	14,465	31	5	14,273	25	5	14,087	12	5	13,876	25	5
	14,645	24	5	14,447	25	5	14,242	19	5	14,050	26	5	13,851	25	5
	14,621	25	5	14,422	25	5	14,223	25	5	14,024	24	5	13,826	24	5
	14,596	25	5	14,397	25	5	14,198	24	5	14,000	25	5	13,802	25	5
	14,571	25	4	14,372	24	4	14,174	25	4	13,975	24	4	13,777	25	4
	14,546	25	4	14,348	25	4	14,149	25	4	13,951	25	4	13,752	25	4
	14,521	25	4	14,323	25	4	14,124	25	4	13,926	25	4	13,727	25	4
	14,496		4	14,298		4	14,099		4	13,901		4	13,702		4
	Plug to Plug	87	36	Plug to Plug	87	36	Plug to Plug	88	36	Plug to Plug	87	36	Plug to Plug	86	36
	Frac Plug	14,683	Total Shots	Frac Plug	14,484	Total Shots	Frac Plug	14,286	Total Shots	Frac Plug	14,087	Total Shots	Frac Plug	13,888	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots	Stage 50	Distance Between Perfs	Shots
	13,674	28	5	13,479	25	5	13,280	25	5	13,082	25	5		12908	
	13,653	25	5	13,450	21	5	13,256	28	5	13,057	25	5			
	13,628	25	5	13,429	24	5	13,228	22	5	13,032	25	5			
	13,603	25	5	13,405	25	5	13,206	25	5	13,007	24	5			
	13,578	25	4	13,380	25	4	13,181	25	4	12,983	25	4			
	13,553	24	4	13,355	25	4	13,156	24	4	12,958	25	4			
	13,529	25	4	13,330	25	4	13,132	25	4	12,933	25	4			
	13,504		4	13,305		4	13,107		4	12,908		4			
	Plug to Plug	87	36	Plug to Plug	86	36	Plug to Plug	87	36	Plug to Plug	85	36	Plug to Plug	0	0
	Frac Plug	13,690	Total Shots	Frac Plug	13,491	Total Shots	Frac Plug	13,293	Total Shots	Frac Plug	13,092	Total Shots	Frac Plug		Total Shots