

COG Operating L L C

Lea County, NM (NAD27 NME)

Sec. 27, T 25 S. , R 33 E

Dominator 25 Fed #608H

HOBBS OCD

MAY 10 2019

RECEIVED

Wellbore #1

Design: Wellbore #1

Standard Survey Report

09 October, 2018

Survey Report

Company: COG Operating L L C Project: Lea County, NM (NAD27 NME) Site: Sec. 27, T 25 S. , R 33 E Well: Dominator 25 Fed #608H Wellbore: Wellbore #1 Design: Wellbore #1	Local Co-ordinate Reference: Well Dominator 25 Fed #608H TVD Reference: KB=30' @ 3368.89usft (Nabors 894) MD Reference: KB=30' @ 3368.89usft (Nabors 894) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000.1	
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Project	Lea County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Sec. 27, T 25 S. , R 33 E		
Site Position:		Northing:	403,912.50 usft
From:	Map	Easting:	737,924.20 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.10814
		Longitude:	-103.56493
		Grid Convergence:	0.41 °

Well	Dominator 25 Fed #608H, ACTIVE		
Well Position	+N/-S	0.00 usft	Latitude: 32.09490
	+E/-W	0.00 usft	Longitude: -103.52941
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	3,338.89 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/28/2018	6.73	59.77	47,851

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	357.03	

Survey Program	Date 10/9/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	11,669.98	Keeper Gyro Surveys (Wellbore #1)	Keeper	Standard Wireline Keeper ver 1.0.2	
11,900.00	17,100.00	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	0.57	212.62	100.00	-0.42	-0.27	-0.40	0.57	0.57	0.00
125.00	0.45	203.48	125.00	-0.61	-0.37	-0.59	0.58	-0.48	-36.56
150.00	0.47	212.17	150.00	-0.79	-0.47	-0.77	0.29	0.08	34.76
175.00	0.45	201.88	175.00	-0.97	-0.56	-0.94	0.34	-0.08	-41.16
200.00	0.60	181.95	199.99	-1.19	-0.60	-1.16	0.94	0.60	-79.72
225.00	0.40	206.16	224.99	-1.40	-0.64	-1.36	1.15	-0.80	96.84
250.00	0.50	209.21	249.99	-1.57	-0.73	-1.53	0.41	0.40	12.20
275.00	0.34	190.14	274.99	-1.74	-0.80	-1.70	0.84	-0.64	-76.28
300.00	0.41	184.64	299.99	-1.90	-0.82	-1.86	0.31	0.28	-22.00

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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)
325.00	0.57	196.18	324.99	-2.11	-0.86	-2.06	0.75	0.64	46.16
350.00	0.55	214.82	349.99	-2.33	-0.97	-2.28	0.73	-0.08	74.56
375.00	0.49	203.92	374.99	-2.53	-1.08	-2.47	0.46	-0.24	-43.60
400.00	0.43	208.67	399.99	-2.71	-1.17	-2.64	0.28	-0.24	19.00
425.00	0.45	197.45	424.99	-2.88	-1.24	-2.81	0.35	0.08	-44.88
450.00	0.37	208.56	449.99	-3.05	-1.31	-2.97	0.45	-0.32	44.44
475.00	0.39	186.21	474.99	-3.20	-1.36	-3.13	0.59	0.08	-89.40
500.00	0.40	177.13	499.99	-3.37	-1.36	-3.30	0.25	0.04	-36.32
525.00	0.42	190.75	524.98	-3.55	-1.37	-3.48	0.40	0.08	54.48
550.00	0.49	206.62	549.98	-3.74	-1.44	-3.66	0.57	0.28	63.48
575.00	0.40	177.09	574.98	-3.92	-1.48	-3.84	0.97	-0.36	-118.12
600.00	0.45	183.63	599.98	-4.10	-1.48	-4.02	0.28	0.20	26.16
625.00	0.53	188.46	624.98	-4.32	-1.51	-4.23	0.36	0.32	19.32
650.00	0.44	196.09	649.98	-4.52	-1.55	-4.44	0.44	-0.36	30.52
675.00	0.35	198.55	674.98	-4.69	-1.60	-4.60	0.37	-0.36	9.84
700.00	0.40	192.54	699.98	-4.85	-1.65	-4.75	0.25	0.20	-24.04
725.00	0.43	187.99	724.98	-5.02	-1.68	-4.93	0.18	0.12	-18.20
750.00	0.45	190.45	749.98	-5.21	-1.71	-5.12	0.11	0.08	9.84
775.00	0.48	197.53	774.98	-5.41	-1.76	-5.31	0.26	0.12	28.32
800.00	0.52	179.51	799.98	-5.62	-1.79	-5.52	0.65	0.16	-72.08
825.00	0.37	186.45	824.98	-5.82	-1.80	-5.72	0.64	-0.60	27.76
850.00	0.45	178.67	849.98	-5.99	-1.80	-5.89	0.39	0.32	-31.12
875.00	0.47	181.52	874.97	-6.20	-1.80	-6.09	0.12	0.08	11.40
900.00	0.46	193.74	899.97	-6.40	-1.83	-6.29	0.40	-0.04	48.88
925.00	0.42	193.78	924.97	-6.58	-1.88	-6.48	0.16	-0.16	0.16
950.00	0.51	195.12	949.97	-6.78	-1.93	-6.67	0.36	0.36	5.36
975.00	0.54	200.30	974.97	-7.00	-2.00	-6.88	0.22	0.12	20.72
1,000.00	0.48	202.71	999.97	-7.20	-2.08	-7.09	0.25	-0.24	9.64
1,025.00	0.42	190.47	1,024.97	-7.39	-2.14	-7.27	0.45	-0.24	-48.96
1,050.00	0.45	209.63	1,049.97	-7.57	-2.20	-7.44	0.59	0.12	76.64
1,075.00	0.38	183.61	1,074.97	-7.73	-2.25	-7.61	0.80	-0.28	-104.08
1,100.00	0.41	180.77	1,099.97	-7.91	-2.26	-7.78	0.14	0.12	-11.36
1,125.00	0.45	201.03	1,124.97	-8.09	-2.30	-7.96	0.63	0.16	81.04
1,150.00	0.27	203.96	1,149.97	-8.23	-2.36	-8.10	0.72	-0.72	11.72
1,175.00	0.41	226.40	1,174.97	-8.35	-2.44	-8.21	0.76	0.56	89.76
1,200.00	0.53	228.35	1,199.96	-8.49	-2.60	-8.34	0.48	0.48	7.80
1,225.00	0.38	220.24	1,224.96	-8.63	-2.74	-8.47	0.65	-0.60	-32.44
1,250.00	0.28	226.82	1,249.96	-8.73	-2.83	-8.57	0.43	-0.40	26.32
1,275.00	0.10	292.91	1,274.96	-8.76	-2.90	-8.60	1.03	-0.72	264.36
1,300.00	0.18	22.65	1,299.96	-8.72	-2.90	-8.56	0.82	0.32	358.96
1,325.00	0.31	357.99	1,324.96	-8.62	-2.89	-8.46	0.66	0.52	-98.64
1,350.00	0.57	10.14	1,349.96	-8.43	-2.87	-8.27	1.10	1.04	48.60
1,375.00	0.60	7.47	1,374.96	-8.17	-2.83	-8.02	0.16	0.12	-10.68

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1,400.00	0.56	355.67	1,399.96	-7.92	-2.82	-7.77	0.50	-0.16	-47.20
1,425.00	0.64	4.07	1,424.96	-7.66	-2.82	-7.51	0.47	0.32	33.60
1,450.00	0.61	13.46	1,449.96	-7.39	-2.78	-7.24	0.43	-0.12	37.56
1,475.00	0.60	12.08	1,474.96	-7.14	-2.72	-6.98	0.07	-0.04	-5.52
1,500.00	0.62	7.44	1,499.95	-6.87	-2.68	-6.73	0.21	0.08	-18.56
1,525.00	0.67	0.45	1,524.95	-6.59	-2.66	-6.45	0.37	0.20	-27.96
1,550.00	0.65	352.36	1,549.95	-6.31	-2.68	-6.16	0.38	-0.08	-32.36
1,575.00	0.69	9.27	1,574.95	-6.02	-2.67	-5.87	0.80	0.16	67.64
1,600.00	0.66	17.70	1,599.95	-5.73	-2.61	-5.59	0.41	-0.12	33.72
1,625.00	0.67	6.39	1,624.95	-5.45	-2.55	-5.31	0.53	0.04	-45.24
1,650.00	0.78	11.68	1,649.94	-5.14	-2.49	-5.00	0.51	0.44	21.16
1,675.00	0.62	14.60	1,674.94	-4.84	-2.43	-4.71	0.66	-0.64	11.68
1,700.00	0.75	6.59	1,699.94	-4.55	-2.37	-4.42	0.64	0.52	-32.04
1,725.00	0.90	12.35	1,724.94	-4.19	-2.31	-4.07	0.68	0.60	23.04
1,750.00	1.00	359.76	1,749.93	-3.78	-2.27	-3.66	0.92	0.40	-50.36
1,775.00	1.20	0.05	1,774.93	-3.30	-2.27	-3.18	0.80	0.80	1.16
1,800.00	1.40	351.25	1,799.92	-2.74	-2.32	-2.61	1.13	0.80	-35.20
1,825.00	1.46	347.42	1,824.92	-2.13	-2.43	-2.00	0.45	0.24	-15.32
1,850.00	1.47	341.27	1,849.91	-1.51	-2.61	-1.37	0.63	0.04	-24.60
1,875.00	1.50	328.42	1,874.90	-0.93	-2.88	-0.78	1.33	0.12	-51.40
1,900.00	1.43	312.46	1,899.89	-0.44	-3.28	-0.27	1.65	-0.28	-63.84
1,925.00	1.57	311.74	1,924.88	0.00	-3.77	0.19	0.57	0.56	-2.88
1,950.00	1.52	312.20	1,949.87	0.45	-4.27	0.67	0.21	-0.20	1.84
1,975.00	1.52	312.70	1,974.86	0.90	-4.76	1.14	0.05	0.00	2.00
2,000.00	1.54	309.80	1,999.86	1.34	-5.26	1.61	0.32	0.08	-11.60
2,025.00	1.65	306.54	2,024.85	1.77	-5.81	2.07	0.57	0.44	-13.04
2,050.00	1.64	306.89	2,049.84	2.20	-6.38	2.52	0.06	-0.04	1.40
2,075.00	1.52	303.41	2,074.83	2.59	-6.95	2.95	0.61	-0.48	-13.92
2,100.00	1.69	306.99	2,099.82	3.00	-7.52	3.38	0.79	0.68	14.32
2,125.00	1.68	300.40	2,124.81	3.40	-8.13	3.82	0.78	-0.04	-26.36
2,150.00	1.69	285.30	2,149.79	3.69	-8.80	4.14	1.77	0.04	-60.40
2,175.00	1.66	280.72	2,174.78	3.85	-9.51	4.34	0.55	-0.12	-18.32
2,200.00	1.77	267.71	2,199.77	3.90	-10.25	4.43	1.61	0.44	-52.04
2,225.00	2.09	259.49	2,224.76	3.81	-11.09	4.37	1.69	1.28	-32.88
2,250.00	2.19	254.64	2,249.74	3.60	-11.99	4.21	0.83	0.40	-19.40
2,275.00	2.45	249.43	2,274.72	3.28	-12.96	3.95	1.34	1.04	-20.84
2,300.00	2.35	251.65	2,299.70	2.93	-13.94	3.65	0.55	-0.40	8.88
2,325.00	2.27	247.85	2,324.68	2.58	-14.89	3.35	0.69	-0.32	-15.20
2,350.00	1.87	239.19	2,349.66	2.19	-15.70	3.00	2.03	-1.60	-34.64
2,375.00	1.65	235.75	2,374.65	1.78	-16.34	2.62	0.98	-0.88	-13.76
2,400.00	1.52	227.63	2,399.64	1.35	-16.89	2.22	1.04	-0.52	-32.48
2,425.00	1.39	225.91	2,424.63	0.92	-17.35	1.81	0.55	-0.52	-6.88
2,450.00	1.46	230.25	2,449.63	0.50	-17.81	1.42	0.51	0.28	17.36

Survey Report

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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
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2,475.00	1.36	221.77	2,474.62	0.08	-18.25	1.02	0.92	-0.40	-33.92
2,500.00	1.29	222.26	2,499.61	-0.35	-18.64	0.61	0.28	-0.28	1.96
2,525.00	1.20	224.91	2,524.60	-0.75	-19.02	0.24	0.43	-0.36	10.60
2,550.00	1.11	223.53	2,549.60	-1.11	-19.37	-0.10	0.38	-0.36	-5.52
2,575.00	0.95	222.05	2,574.60	-1.44	-19.67	-0.42	0.65	-0.64	-5.92
2,600.00	1.11	221.28	2,599.59	-1.77	-19.97	-0.74	0.64	0.64	-3.08
2,625.00	0.92	215.75	2,624.59	-2.12	-20.25	-1.07	0.85	-0.76	-22.12
2,650.00	0.73	220.29	2,649.59	-2.40	-20.47	-1.34	0.80	-0.76	18.16
2,675.00	0.88	221.44	2,674.58	-2.67	-20.70	-1.59	0.60	0.60	4.60
2,700.00	0.74	222.28	2,699.58	-2.93	-20.93	-1.84	0.56	-0.56	3.36
2,725.00	0.86	227.20	2,724.58	-3.18	-21.18	-2.08	0.55	0.48	19.68
2,750.00	0.87	225.45	2,749.57	-3.44	-21.45	-2.32	0.11	0.04	-7.00
2,775.00	1.06	242.06	2,774.57	-3.68	-21.79	-2.55	1.34	0.76	66.44
2,800.00	0.98	251.45	2,799.57	-3.86	-22.20	-2.70	0.74	-0.32	37.56
2,825.00	1.08	263.56	2,824.56	-3.95	-22.64	-2.77	0.96	0.40	48.44
2,850.00	1.14	265.61	2,849.56	-4.00	-23.12	-2.79	0.29	0.24	8.20
2,875.00	1.12	270.93	2,874.55	-4.01	-23.61	-2.78	0.43	-0.08	21.28
2,900.00	1.22	269.45	2,899.55	-4.01	-24.12	-2.75	0.42	0.40	-5.92
2,925.00	1.26	269.90	2,924.54	-4.01	-24.66	-2.73	0.16	0.16	1.80
2,950.00	1.36	268.65	2,949.54	-4.02	-25.23	-2.71	0.42	0.40	-5.00
2,975.00	1.16	270.69	2,974.53	-4.02	-25.78	-2.68	0.82	-0.80	8.16
3,000.00	1.25	270.39	2,999.52	-4.02	-26.31	-2.65	0.36	0.36	-1.20
3,025.00	0.97	277.93	3,024.52	-3.99	-26.79	-2.60	1.26	-1.12	30.16
3,050.00	0.96	280.87	3,049.52	-3.92	-27.21	-2.51	0.20	-0.04	11.76
3,075.00	0.96	277.66	3,074.51	-3.85	-27.62	-2.42	0.22	0.00	-12.84
3,100.00	0.84	277.78	3,099.51	-3.80	-28.01	-2.34	0.48	-0.48	0.48
3,125.00	0.96	280.87	3,124.51	-3.73	-28.40	-2.26	0.52	0.48	12.36
3,150.00	0.69	288.58	3,149.50	-3.65	-28.75	-2.15	1.17	-1.08	30.84
3,175.00	0.69	291.72	3,174.50	-3.54	-29.03	-2.04	0.15	0.00	12.56
3,200.00	0.51	312.86	3,199.50	-3.41	-29.25	-1.89	1.13	-0.72	84.56
3,225.00	0.38	324.67	3,224.50	-3.27	-29.38	-1.74	0.63	-0.52	47.24
3,250.00	0.48	318.95	3,249.50	-3.12	-29.50	-1.59	0.43	0.40	-22.88
3,275.00	0.46	314.45	3,274.50	-2.97	-29.64	-1.43	0.17	-0.08	-18.00
3,300.00	0.85	302.04	3,299.50	-2.80	-29.86	-1.25	1.65	1.56	-49.64
3,325.00	1.11	309.08	3,324.49	-2.55	-30.21	-0.99	1.14	1.04	28.16
3,350.00	1.13	305.37	3,349.49	-2.26	-30.60	-0.67	0.30	0.08	-14.84
3,375.00	1.06	311.38	3,374.48	-1.96	-30.97	-0.36	0.54	-0.28	24.04
3,400.00	1.13	305.62	3,399.48	-1.67	-31.35	-0.04	0.52	0.28	-23.04
3,425.00	1.08	306.12	3,424.47	-1.38	-31.74	0.26	0.20	-0.20	2.00
3,450.00	1.13	305.71	3,449.47	-1.10	-32.13	0.56	0.20	0.20	-1.64
3,475.00	0.99	314.65	3,474.47	-0.80	-32.48	0.88	0.87	-0.56	35.76
3,500.00	0.99	313.28	3,499.46	-0.51	-32.79	1.19	0.09	0.00	-5.48
3,525.00	1.06	311.94	3,524.46	-0.20	-33.12	1.51	0.30	0.28	-5.36
3,550.00	1.01	317.01	3,549.45	0.11	-33.44	1.84	0.42	-0.20	20.28

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.06	308.08	3,574.45	0.42	-33.78	2.17	0.67	0.20	-35.72
3,600.00	1.14	306.98	3,599.45	0.71	-34.16	2.48	0.33	0.32	-4.40
3,625.00	1.13	303.30	3,624.44	0.99	-34.56	2.78	0.29	-0.04	-14.72
3,650.00	1.02	300.29	3,649.44	1.24	-34.96	3.05	0.49	-0.44	-12.04
3,675.00	0.92	292.98	3,674.43	1.43	-35.34	3.26	0.64	-0.40	-29.24
3,700.00	1.15	277.14	3,699.43	1.54	-35.77	3.39	1.46	0.92	-63.36
3,725.00	1.00	282.90	3,724.42	1.62	-36.23	3.50	0.74	-0.60	23.04
3,750.00	1.14	274.62	3,749.42	1.69	-36.69	3.59	0.83	0.56	-33.12
3,775.00	0.93	275.37	3,774.42	1.73	-37.14	3.65	0.84	-0.84	3.00
3,800.00	1.16	268.15	3,799.41	1.74	-37.60	3.68	1.06	0.92	-28.88
3,825.00	1.10	268.17	3,824.41	1.72	-38.09	3.69	0.24	-0.24	0.08
3,850.00	1.13	269.13	3,849.40	1.71	-38.58	3.71	0.14	0.12	3.84
3,875.00	0.95	271.75	3,874.40	1.72	-39.03	3.73	0.74	-0.72	10.48
3,900.00	0.76	276.73	3,899.40	1.74	-39.40	3.78	0.82	-0.76	19.92
3,925.00	0.85	266.55	3,924.39	1.75	-39.75	3.81	0.67	0.36	-40.72
3,950.00	0.54	266.62	3,949.39	1.73	-40.05	3.80	1.24	-1.24	0.28
3,975.00	0.37	31.12	3,974.39	1.79	-40.13	3.87	3.24	-0.68	498.00
4,000.00	0.30	341.13	3,999.39	1.92	-40.11	4.00	1.16	-0.28	-199.96
4,025.00	0.27	325.66	4,024.39	2.04	-40.16	4.11	0.33	-0.12	-61.88
4,050.00	0.32	324.21	4,049.39	2.14	-40.24	4.22	0.20	0.20	-5.80
4,075.00	0.30	314.70	4,074.39	2.24	-40.33	4.33	0.22	-0.08	-38.04
4,100.00	0.32	316.23	4,099.39	2.34	-40.42	4.43	0.09	0.08	6.12
4,125.00	0.51	272.98	4,124.39	2.40	-40.58	4.49	1.41	0.76	-173.00
4,150.00	0.85	255.79	4,149.39	2.36	-40.87	4.47	1.57	1.36	-68.76
4,175.00	1.23	252.22	4,174.38	2.23	-41.31	4.36	1.54	1.52	-14.28
4,200.00	1.33	251.07	4,199.38	2.05	-41.84	4.22	0.41	0.40	-4.60
4,225.00	1.23	257.54	4,224.37	1.90	-42.37	4.09	0.70	-0.40	25.88
4,250.00	1.29	252.71	4,249.36	1.76	-42.90	3.98	0.49	0.24	-19.32
4,275.00	1.35	252.66	4,274.36	1.59	-43.45	3.84	0.24	0.24	-0.20
4,300.00	1.35	252.52	4,299.35	1.41	-44.02	3.69	0.01	0.00	-0.56
4,325.00	1.38	249.70	4,324.34	1.22	-44.58	3.52	0.29	0.12	-11.28
4,350.00	1.38	249.39	4,349.34	1.01	-45.14	3.34	0.03	0.00	-1.24
4,375.00	1.15	250.31	4,374.33	0.82	-45.66	3.18	0.92	-0.92	3.68
4,400.00	1.07	244.86	4,399.32	0.63	-46.11	3.02	0.53	-0.32	-21.80
4,425.00	0.91	230.42	4,424.32	0.41	-46.47	2.81	1.18	-0.64	-57.76
4,450.00	0.90	205.83	4,449.32	0.11	-46.71	2.52	1.54	-0.04	-98.36
4,475.00	0.95	192.54	4,474.31	-0.27	-46.84	2.15	0.88	0.20	-53.16
4,500.00	1.12	181.34	4,499.31	-0.72	-46.89	1.71	1.05	0.68	-44.80
4,525.00	1.10	176.79	4,524.31	-1.20	-46.88	1.22	0.36	-0.08	-18.20
4,550.00	1.10	175.10	4,549.30	-1.68	-46.85	0.74	0.13	0.00	-6.76
4,575.00	1.17	178.03	4,574.30	-2.18	-46.82	0.25	0.36	0.28	11.72
4,600.00	1.14	182.08	4,599.29	-2.68	-46.82	-0.25	0.35	-0.12	16.20
4,625.00	1.31	184.59	4,624.29	-3.21	-46.85	-0.78	0.71	0.68	10.04

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.31	187.71	4,649.28	-3.78	-46.91	-1.35	0.29	0.00	12.48
4,675.00	1.40	183.65	4,674.27	-4.37	-46.97	-1.93	0.53	0.36	-16.24
4,700.00	1.71	175.66	4,699.26	-5.05	-46.96	-2.61	1.51	1.24	-31.96
4,725.00	1.90	176.63	4,724.25	-5.83	-46.91	-3.40	0.77	0.76	3.88
4,750.00	1.78	172.94	4,749.24	-6.63	-46.84	-4.20	0.67	-0.48	-14.76
4,775.00	1.93	174.18	4,774.22	-7.44	-46.75	-5.01	0.62	0.60	4.96
4,800.00	1.83	173.84	4,799.21	-8.25	-46.66	-5.82	0.40	-0.40	-1.36
4,825.00	1.75	174.96	4,824.20	-9.03	-46.59	-6.60	0.35	-0.32	4.48
4,850.00	1.80	176.34	4,849.19	-9.80	-46.53	-7.38	0.26	0.20	5.52
4,875.00	1.86	178.37	4,874.17	-10.60	-46.49	-8.18	0.35	0.24	8.12
4,900.00	1.85	182.28	4,899.16	-11.41	-46.50	-8.98	0.51	-0.04	15.64
4,925.00	1.43	186.29	4,924.15	-12.12	-46.55	-9.69	1.74	-1.68	16.04
4,950.00	1.20	197.78	4,949.14	-12.68	-46.66	-10.25	1.40	-0.92	45.96
4,975.00	1.10	210.93	4,974.14	-13.13	-46.86	-10.69	1.13	-0.40	52.60
5,000.00	0.83	238.78	4,999.14	-13.43	-47.14	-10.98	2.13	-1.08	111.40
5,025.00	1.11	248.00	5,024.13	-13.62	-47.52	-11.14	1.28	1.12	36.88
5,050.00	1.03	254.39	5,049.13	-13.77	-47.96	-11.27	0.57	-0.32	25.56
5,075.00	1.21	254.70	5,074.12	-13.90	-48.43	-11.37	0.72	0.72	1.24
5,100.00	1.21	252.96	5,099.12	-14.05	-48.94	-11.49	0.15	0.00	-6.96
5,125.00	1.23	255.62	5,124.11	-14.19	-49.45	-11.61	0.24	0.08	10.64
5,150.00	1.29	254.77	5,149.11	-14.33	-49.98	-11.72	0.25	0.24	-3.40
5,175.00	1.26	261.11	5,174.10	-14.45	-50.53	-11.81	0.58	-0.12	25.36
5,200.00	1.25	265.05	5,199.09	-14.51	-51.07	-11.85	0.35	-0.04	15.76
5,225.00	1.26	263.35	5,224.09	-14.57	-51.61	-11.88	0.15	0.04	-6.80
5,250.00	1.25	264.56	5,249.08	-14.63	-52.16	-11.91	0.11	-0.04	4.84
5,275.00	1.21	263.74	5,274.08	-14.68	-52.69	-11.93	0.17	-0.16	-3.28
5,300.00	1.34	261.49	5,299.07	-14.75	-53.24	-11.98	0.56	0.52	-9.00
5,325.00	1.34	258.74	5,324.06	-14.85	-53.82	-12.05	0.26	0.00	-11.00
5,350.00	1.29	262.22	5,349.06	-14.95	-54.39	-12.11	0.38	-0.20	13.92
5,375.00	1.30	262.41	5,374.05	-15.02	-54.95	-12.16	0.04	0.04	0.76
5,400.00	1.34	257.92	5,399.04	-15.12	-55.51	-12.23	0.44	0.16	-17.96
5,425.00	1.36	259.99	5,424.04	-15.24	-56.09	-12.31	0.21	0.08	8.28
5,450.00	1.21	266.02	5,449.03	-15.31	-56.65	-12.35	0.81	-0.60	24.12
5,475.00	1.36	260.95	5,474.02	-15.37	-57.20	-12.39	0.75	0.60	-20.28
5,500.00	1.26	269.88	5,499.02	-15.42	-57.77	-12.41	0.91	-0.40	35.72
5,525.00	1.33	260.14	5,524.01	-15.47	-58.33	-12.43	0.92	0.28	-38.96
5,550.00	1.29	261.60	5,549.00	-15.56	-58.90	-12.49	0.21	-0.16	5.84
5,575.00	1.38	260.05	5,574.00	-15.65	-59.47	-12.55	0.39	0.36	-6.20
5,600.00	1.29	261.84	5,598.99	-15.74	-60.05	-12.61	0.40	-0.36	7.16
5,625.00	1.24	269.33	5,623.98	-15.79	-60.59	-12.63	0.69	-0.20	29.96
5,650.00	1.35	258.86	5,648.98	-15.85	-61.15	-12.66	1.04	0.44	-41.88
5,675.00	1.35	260.75	5,673.97	-15.95	-61.73	-12.73	0.18	0.00	7.56
5,700.00	1.32	261.80	5,698.96	-16.04	-62.31	-12.79	0.15	-0.12	4.20

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.34	262.90	5,723.96	-16.12	-62.88	-12.84	0.13	0.08	4.40
5,750.00	1.32	260.46	5,748.95	-16.20	-63.46	-12.89	0.24	-0.08	-9.76
5,775.00	1.45	256.73	5,773.94	-16.32	-64.05	-12.98	0.63	0.52	-14.92
5,800.00	1.40	259.61	5,798.94	-16.45	-64.66	-13.08	0.35	-0.20	11.52
5,825.00	1.39	259.42	5,823.93	-16.56	-65.26	-13.16	0.04	-0.04	-0.76
5,850.00	1.34	258.51	5,848.92	-16.67	-65.84	-13.24	0.22	-0.20	-3.64
5,875.00	1.36	258.85	5,873.91	-16.79	-66.42	-13.33	0.09	0.08	1.36
5,900.00	1.36	261.17	5,898.91	-16.89	-67.00	-13.40	0.22	0.00	9.28
5,925.00	1.30	265.52	5,923.90	-16.96	-67.58	-13.44	0.47	-0.24	17.40
5,950.00	1.44	263.19	5,948.89	-17.02	-68.17	-13.47	0.60	0.56	-9.32
5,975.00	1.32	261.22	5,973.89	-17.10	-68.77	-13.52	0.52	-0.48	-7.88
6,000.00	1.41	260.94	5,998.88	-17.19	-69.36	-13.58	0.36	0.36	-1.12
6,025.00	1.38	260.09	6,023.87	-17.29	-69.96	-13.65	0.15	-0.12	-3.40
6,050.00	1.45	258.60	6,048.86	-17.41	-70.57	-13.73	0.32	0.28	-5.96
6,075.00	1.40	260.42	6,073.86	-17.52	-71.18	-13.81	0.27	-0.20	7.28
6,100.00	1.37	260.98	6,098.85	-17.62	-71.77	-13.88	0.13	-0.12	2.24
6,125.00	1.46	262.12	6,123.84	-17.71	-72.38	-13.94	0.38	0.36	4.56
6,150.00	1.44	260.58	6,148.83	-17.80	-73.01	-14.00	0.18	-0.08	-6.16
6,175.00	1.37	263.52	6,173.83	-17.89	-73.62	-14.05	0.40	-0.28	11.76
6,200.00	1.49	257.19	6,198.82	-18.00	-74.23	-14.13	0.79	0.48	-25.32
6,225.00	1.48	258.66	6,223.81	-18.13	-74.86	-14.23	0.16	-0.04	5.88
6,250.00	1.45	255.40	6,248.80	-18.27	-75.49	-14.34	0.35	-0.12	-13.04
6,275.00	1.39	265.37	6,273.79	-18.38	-76.09	-14.41	1.02	-0.24	39.88
6,300.00	1.37	258.64	6,298.79	-18.46	-76.69	-14.47	0.65	-0.08	-26.92
6,325.00	1.43	258.88	6,323.78	-18.58	-77.29	-14.55	0.24	0.24	0.96
6,350.00	1.45	258.04	6,348.77	-18.71	-77.90	-14.65	0.12	0.08	-3.36
6,375.00	1.44	258.27	6,373.76	-18.84	-78.52	-14.75	0.05	-0.04	0.92
6,400.00	1.46	257.23	6,398.76	-18.97	-79.14	-14.85	0.13	0.08	-4.16
6,425.00	1.48	257.58	6,423.75	-19.11	-79.76	-14.95	0.09	0.08	1.40
6,450.00	1.53	256.42	6,448.74	-19.26	-80.40	-15.07	0.23	0.20	-4.64
6,475.00	1.53	257.65	6,473.73	-19.41	-81.06	-15.19	0.13	0.00	4.92
6,500.00	1.39	255.64	6,498.72	-19.55	-81.67	-15.30	0.60	-0.56	-8.04
6,525.00	1.41	257.42	6,523.71	-19.70	-82.27	-15.41	0.19	0.08	7.12
6,550.00	1.41	254.11	6,548.71	-19.85	-82.86	-15.53	0.33	0.00	-13.24
6,575.00	1.40	259.18	6,573.70	-19.99	-83.46	-15.64	0.50	-0.04	20.28
6,600.00	1.42	257.23	6,598.69	-20.11	-84.06	-15.74	0.21	0.08	-7.80
6,625.00	1.29	257.95	6,623.68	-20.24	-84.64	-15.83	0.52	-0.52	2.88
6,650.00	1.39	256.65	6,648.68	-20.37	-85.21	-15.93	0.42	0.40	-5.20
6,675.00	1.43	252.47	6,673.67	-20.53	-85.80	-16.07	0.44	0.16	-16.72
6,700.00	1.40	254.32	6,698.66	-20.71	-86.39	-16.21	0.22	-0.12	7.40
6,725.00	1.36	257.89	6,723.66	-20.86	-86.98	-16.33	0.38	-0.16	14.28
6,750.00	1.38	253.95	6,748.65	-21.00	-87.56	-16.44	0.39	0.08	-15.76
6,775.00	1.37	254.86	6,773.64	-21.16	-88.14	-16.57	0.10	-0.04	3.64
6,800.00	1.28	251.60	6,798.63	-21.33	-88.69	-16.71	0.47	-0.36	-13.04

Survey Report

Company: COG Operating L L C
 Project: Lea County, NM (NAD27 NME)
 Site: Sec. 27, T 25 S., R 33 E
 Well: Dominator 25 Fed #608H
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
 TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
 MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.40	252.50	6,823.63	-21.51	-89.25	-16.86	0.49	0.48	3.60
6,850.00	1.42	253.70	6,848.62	-21.69	-89.83	-17.01	0.14	0.08	4.80
6,875.00	1.34	254.85	6,873.61	-21.85	-90.41	-17.14	0.34	-0.32	4.60
6,900.00	1.36	255.56	6,898.61	-22.00	-90.98	-17.26	0.10	0.08	2.84
6,925.00	1.23	258.19	6,923.60	-22.13	-91.53	-17.36	0.57	-0.52	10.52
6,950.00	1.33	252.27	6,948.59	-22.27	-92.07	-17.48	0.66	0.40	-23.68
6,975.00	1.32	250.84	6,973.59	-22.46	-92.62	-17.63	0.14	-0.04	-5.72
7,000.00	1.22	255.55	6,998.58	-22.62	-93.15	-17.76	0.58	-0.40	18.84
7,025.00	1.27	255.55	7,023.57	-22.75	-93.68	-17.87	0.20	0.20	0.00
7,050.00	1.37	256.70	7,048.57	-22.89	-94.23	-17.98	0.41	0.40	4.60
7,075.00	1.27	251.33	7,073.56	-23.05	-94.79	-18.11	0.64	-0.40	-21.48
7,100.00	1.29	250.48	7,098.56	-23.23	-95.32	-18.27	0.11	0.08	-3.40
7,125.00	1.25	253.72	7,123.55	-23.40	-95.84	-18.41	0.33	-0.16	12.96
7,150.00	1.14	257.29	7,148.54	-23.53	-96.35	-18.51	0.53	-0.44	14.28
7,175.00	1.25	256.21	7,173.54	-23.65	-96.85	-18.61	0.45	0.44	-4.32
7,200.00	1.22	252.34	7,198.53	-23.80	-97.37	-18.73	0.35	-0.12	-15.48
7,225.00	1.27	251.30	7,223.53	-23.97	-97.89	-18.87	0.22	0.20	-4.16
7,250.00	1.27	256.34	7,248.52	-24.12	-98.42	-18.99	0.45	0.00	20.16
7,275.00	1.23	257.51	7,273.51	-24.25	-98.95	-19.09	0.19	-0.16	4.68
7,300.00	1.10	262.97	7,298.51	-24.33	-99.45	-19.15	0.68	-0.52	21.84
7,325.00	1.21	259.34	7,323.50	-24.41	-99.95	-19.20	0.53	0.44	-14.52
7,350.00	1.21	255.57	7,348.50	-24.53	-100.46	-19.29	0.32	0.00	-15.08
7,375.00	1.23	255.58	7,373.49	-24.66	-100.98	-19.40	0.08	0.08	0.04
7,400.00	1.28	251.87	7,398.49	-24.81	-101.51	-19.52	0.38	0.20	-14.84
7,425.00	1.13	256.47	7,423.48	-24.96	-102.01	-19.64	0.71	-0.60	18.40
7,450.00	1.25	248.61	7,448.48	-25.11	-102.50	-19.77	0.81	0.48	-31.44
7,475.00	1.19	254.19	7,473.47	-25.28	-103.01	-19.92	0.53	-0.24	22.32
7,500.00	1.26	246.91	7,498.46	-25.46	-103.51	-20.07	0.68	0.28	-29.12
7,525.00	1.28	248.67	7,523.46	-25.67	-104.02	-20.25	0.18	0.08	7.04
7,550.00	1.17	249.01	7,548.45	-25.86	-104.52	-20.42	0.44	-0.44	1.36
7,575.00	1.15	259.64	7,573.45	-26.00	-105.01	-20.53	0.86	-0.08	42.52
7,600.00	1.17	253.24	7,598.44	-26.12	-105.50	-20.62	0.52	0.08	-25.60
7,625.00	1.27	249.99	7,623.44	-26.29	-106.00	-20.77	0.49	0.40	-13.00
7,650.00	1.24	250.32	7,648.43	-26.47	-106.52	-20.92	0.12	-0.12	1.32
7,675.00	1.27	247.94	7,673.42	-26.67	-107.03	-21.09	0.24	0.12	-9.52
7,700.00	1.16	261.11	7,698.42	-26.81	-107.54	-21.21	1.20	-0.44	52.68
7,725.00	1.19	248.64	7,723.41	-26.95	-108.03	-21.32	1.03	0.12	-49.88
7,750.00	1.19	249.56	7,748.41	-27.13	-108.51	-21.48	0.08	0.00	3.68
7,775.00	1.19	245.14	7,773.40	-27.33	-108.99	-21.65	0.37	0.00	-17.68
7,800.00	1.18	249.53	7,798.40	-27.53	-109.47	-21.83	0.37	-0.04	17.56
7,825.00	1.21	253.68	7,823.39	-27.69	-109.96	-21.96	0.37	0.12	16.60
7,850.00	1.23	244.36	7,848.39	-27.88	-110.46	-22.13	0.80	0.08	-37.28
7,875.00	1.14	249.16	7,873.38	-28.09	-110.93	-22.31	0.54	-0.36	19.20

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.14	247.81	7,898.38	-28.27	-111.40	-22.47	0.11	0.00	-5.40
7,925.00	1.25	247.62	7,923.37	-28.47	-111.88	-22.64	0.44	0.44	-0.76
7,950.00	1.13	256.24	7,948.37	-28.63	-112.37	-22.78	0.86	-0.48	34.48
7,975.00	1.14	258.10	7,973.36	-28.74	-112.85	-22.86	0.15	0.04	7.44
8,000.00	0.98	265.60	7,998.36	-28.81	-113.31	-22.90	0.85	-0.64	30.00
8,025.00	1.11	265.43	8,023.35	-28.85	-113.76	-22.92	0.52	0.52	-0.68
8,050.00	1.20	275.20	8,048.35	-28.84	-114.27	-22.89	0.86	0.36	39.08
8,075.00	1.01	277.21	8,073.34	-28.79	-114.74	-22.81	0.78	-0.76	8.04
8,100.00	1.10	267.48	8,098.34	-28.77	-115.20	-22.77	0.80	0.36	-38.92
8,125.00	1.04	273.46	8,123.33	-28.77	-115.67	-22.74	0.51	-0.24	23.92
8,150.00	1.04	274.60	8,148.33	-28.74	-116.12	-22.69	0.08	0.00	4.56
8,175.00	1.01	276.49	8,173.33	-28.69	-116.57	-22.62	0.18	-0.12	7.56
8,200.00	1.06	276.18	8,198.32	-28.64	-117.02	-22.55	0.20	0.20	-1.24
8,225.00	0.98	267.41	8,223.32	-28.63	-117.46	-22.51	0.70	-0.32	-35.08
8,250.00	0.94	275.56	8,248.31	-28.62	-117.88	-22.48	0.57	-0.16	32.60
8,275.00	0.92	276.68	8,273.31	-28.58	-118.28	-22.41	0.11	-0.08	4.48
8,300.00	0.86	270.56	8,298.31	-28.55	-118.67	-22.37	0.45	-0.24	-24.48
8,325.00	0.83	271.92	8,323.31	-28.54	-119.04	-22.34	0.14	-0.12	5.44
8,350.00	0.84	269.70	8,348.30	-28.54	-119.40	-22.32	0.14	0.04	-8.88
8,375.00	0.76	264.71	8,373.30	-28.55	-119.75	-22.32	0.42	-0.32	-19.96
8,400.00	0.87	280.53	8,398.30	-28.53	-120.10	-22.28	1.00	0.44	63.28
8,425.00	1.05	270.51	8,423.29	-28.50	-120.52	-22.22	0.98	0.72	-40.08
8,450.00	0.88	268.62	8,448.29	-28.50	-120.94	-22.20	0.69	-0.68	-7.56
8,475.00	0.89	267.67	8,473.29	-28.51	-121.32	-22.19	0.07	0.04	-3.80
8,500.00	0.83	267.18	8,498.29	-28.53	-121.70	-22.19	0.24	-0.24	-1.96
8,525.00	0.78	272.79	8,523.28	-28.53	-122.05	-22.17	0.37	-0.20	22.44
8,550.00	1.26	252.24	8,548.28	-28.61	-122.48	-22.23	2.38	1.92	-82.20
8,575.00	0.89	274.34	8,573.27	-28.67	-122.94	-22.27	2.20	-1.48	88.40
8,600.00	0.87	272.48	8,598.27	-28.65	-123.32	-22.23	0.14	-0.08	-7.44
8,625.00	0.91	265.08	8,623.27	-28.66	-123.71	-22.22	0.49	0.16	-29.60
8,650.00	0.93	260.05	8,648.27	-28.71	-124.10	-22.25	0.33	0.08	-20.12
8,675.00	0.73	272.70	8,673.26	-28.74	-124.46	-22.26	1.08	-0.80	50.60
8,700.00	0.90	259.01	8,698.26	-28.77	-124.81	-22.27	1.03	0.68	-54.76
8,725.00	0.91	267.62	8,723.26	-28.82	-125.21	-22.30	0.54	0.04	34.44
8,750.00	0.82	256.25	8,748.25	-28.87	-125.58	-22.33	0.77	-0.36	-45.48
8,775.00	0.79	263.06	8,773.25	-28.93	-125.92	-22.37	0.40	-0.12	27.24
8,800.00	0.88	264.69	8,798.25	-28.97	-126.28	-22.39	0.37	0.36	6.52
8,825.00	0.91	264.13	8,823.25	-29.01	-126.67	-22.41	0.12	0.12	-2.24
8,850.00	0.93	265.44	8,848.24	-29.04	-127.07	-22.43	0.12	0.08	5.24
8,875.00	0.89	258.30	8,873.24	-29.10	-127.47	-22.46	0.48	-0.16	-28.56
8,900.00	0.88	268.88	8,898.24	-29.14	-127.85	-22.48	0.65	-0.04	42.32
8,925.00	0.93	266.03	8,923.23	-29.16	-128.24	-22.48	0.27	0.20	-11.40
8,950.00	1.23	279.85	8,948.23	-29.13	-128.71	-22.43	1.58	1.20	55.28

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.53	291.23	8,973.22	-28.96	-129.28	-22.23	1.62	1.20	45.52
9,000.00	1.82	289.19	8,998.21	-28.71	-129.97	-21.94	1.18	1.16	-8.16
9,025.00	1.81	292.49	9,023.20	-28.43	-130.71	-21.62	0.42	-0.04	13.20
9,050.00	1.82	291.70	9,048.19	-28.13	-131.44	-21.29	0.11	0.04	-3.16
9,075.00	1.67	290.64	9,073.17	-27.86	-132.15	-20.98	0.61	-0.60	-4.24
9,100.00	1.75	291.90	9,098.16	-27.58	-132.85	-20.67	0.35	0.32	5.04
9,125.00	1.65	288.50	9,123.15	-27.33	-133.54	-20.38	0.57	-0.40	-13.60
9,150.00	1.72	289.44	9,148.14	-27.09	-134.24	-20.10	0.30	0.28	3.76
9,175.00	1.75	290.73	9,173.13	-26.83	-134.95	-19.81	0.20	0.12	5.16
9,200.00	1.68	291.66	9,198.12	-26.56	-135.65	-19.50	0.30	-0.28	3.72
9,225.00	1.60	290.08	9,223.11	-26.30	-136.32	-19.21	0.37	-0.32	-6.32
9,250.00	1.65	287.74	9,248.10	-26.07	-136.99	-18.95	0.33	0.20	-9.36
9,275.00	1.63	283.58	9,273.09	-25.88	-137.67	-18.72	0.48	-0.08	-16.64
9,300.00	1.69	286.78	9,298.08	-25.69	-138.37	-18.49	0.44	0.24	12.80
9,325.00	1.63	283.42	9,323.07	-25.50	-139.07	-18.27	0.46	-0.24	-13.44
9,350.00	1.62	281.76	9,348.06	-25.35	-139.76	-18.08	0.19	-0.04	-6.64
9,375.00	1.58	289.07	9,373.05	-25.16	-140.44	-17.86	0.83	-0.16	29.24
9,400.00	1.62	281.31	9,398.04	-24.98	-141.11	-17.64	0.88	0.16	-31.04
9,425.00	1.68	280.56	9,423.03	-24.84	-141.81	-17.47	0.26	0.24	-3.00
9,450.00	1.60	277.44	9,448.02	-24.73	-142.52	-17.32	0.48	-0.32	-12.48
9,475.00	1.70	276.80	9,473.01	-24.64	-143.24	-17.19	0.41	0.40	-2.56
9,500.00	1.42	277.35	9,498.00	-24.56	-143.91	-17.08	1.12	-1.12	2.20
9,525.00	1.71	269.08	9,522.99	-24.53	-144.59	-17.01	1.47	1.16	-33.08
9,550.00	1.76	266.63	9,547.98	-24.55	-145.35	-17.00	0.36	0.20	-9.80
9,575.00	1.79	264.96	9,572.96	-24.61	-146.12	-17.01	0.24	0.12	-6.68
9,600.00	1.82	268.08	9,597.95	-24.66	-146.90	-17.02	0.41	0.12	12.48
9,625.00	2.01	262.60	9,622.94	-24.73	-147.74	-17.05	1.05	0.76	-21.92
9,650.00	2.32	260.13	9,647.92	-24.87	-148.67	-17.14	1.29	1.24	-9.88
9,675.00	2.37	261.27	9,672.90	-25.04	-149.68	-17.25	0.27	0.20	4.56
9,700.00	2.38	262.33	9,697.88	-25.18	-150.70	-17.35	0.18	0.04	4.24
9,725.00	2.38	262.35	9,722.86	-25.32	-151.73	-17.43	0.00	0.00	0.08
9,750.00	2.32	262.72	9,747.84	-25.46	-152.75	-17.51	0.25	-0.24	1.48
9,775.00	2.44	263.93	9,772.81	-25.58	-153.78	-17.58	0.52	0.48	4.84
9,800.00	2.35	261.99	9,797.79	-25.70	-154.82	-17.65	0.48	-0.36	-7.76
9,825.00	2.21	265.94	9,822.77	-25.81	-155.81	-17.71	0.84	-0.56	15.80
9,850.00	2.08	268.58	9,847.75	-25.86	-156.74	-17.71	0.65	-0.52	10.56
9,875.00	2.20	266.51	9,872.74	-25.90	-157.67	-17.70	0.57	0.48	-8.28
9,900.00	2.23	265.75	9,897.72	-25.96	-158.64	-17.71	0.17	0.12	-3.04
9,925.00	2.32	264.98	9,922.70	-26.04	-159.63	-17.74	0.38	0.36	-3.08
9,950.00	2.31	263.04	9,947.68	-26.15	-160.63	-17.80	0.32	-0.04	-7.76
9,975.00	2.26	264.51	9,972.66	-26.25	-161.62	-17.85	0.31	-0.20	5.88
10,000.00	2.26	265.49	9,997.64	-26.34	-162.60	-17.89	0.15	0.00	3.92
10,025.00	2.31	266.36	10,022.62	-26.41	-163.60	-17.91	0.24	0.20	3.48
10,050.00	2.29	265.30	10,047.60	-26.48	-164.60	-17.93	0.19	-0.08	-4.24

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	2.36	265.48	10,072.58	-26.57	-165.61	-17.96	0.28	0.28	0.72
10,100.00	2.20	269.48	10,097.56	-26.61	-166.60	-17.95	0.90	-0.64	16.00
10,125.00	2.34	270.51	10,122.54	-26.61	-167.59	-17.90	0.58	0.56	4.12
10,150.00	2.37	266.81	10,147.52	-26.63	-168.62	-17.87	0.62	0.12	-14.80
10,175.00	2.36	264.79	10,172.50	-26.71	-169.65	-17.89	0.34	-0.04	-8.08
10,200.00	2.38	267.17	10,197.48	-26.78	-170.68	-17.91	0.40	0.08	9.52
10,225.00	2.43	265.99	10,222.45	-26.85	-171.73	-17.92	0.28	0.20	-4.72
10,250.00	2.42	265.86	10,247.43	-26.92	-172.78	-17.94	0.05	-0.04	-0.52
10,275.00	2.36	266.26	10,272.41	-26.99	-173.82	-17.96	0.25	-0.24	1.60
10,300.00	2.29	265.68	10,297.39	-27.06	-174.83	-17.98	0.30	-0.28	-2.32
10,325.00	2.23	268.31	10,322.37	-27.12	-175.82	-17.98	0.48	-0.24	10.52
10,350.00	2.20	265.05	10,347.35	-27.17	-176.78	-17.98	0.52	-0.12	-13.04
10,375.00	2.04	264.62	10,372.33	-27.25	-177.70	-18.02	0.64	-0.64	-1.72
10,400.00	1.96	263.96	10,397.32	-27.34	-178.57	-18.06	0.33	-0.32	-2.64
10,425.00	1.93	262.10	10,422.30	-27.44	-179.41	-18.12	0.28	-0.12	-7.44
10,450.00	1.93	263.24	10,447.29	-27.55	-180.25	-18.18	0.15	0.00	4.56
10,475.00	1.87	261.75	10,472.28	-27.66	-181.07	-18.25	0.31	-0.24	-5.96
10,500.00	1.82	259.76	10,497.26	-27.79	-181.86	-18.34	0.33	-0.20	-7.96
10,525.00	1.74	253.85	10,522.25	-27.96	-182.62	-18.47	0.80	-0.32	-23.64
10,550.00	1.64	254.87	10,547.24	-28.16	-183.33	-18.63	0.42	-0.40	4.08
10,575.00	1.71	254.66	10,572.23	-28.36	-184.03	-18.79	0.28	0.28	-0.84
10,600.00	1.72	255.93	10,597.22	-28.55	-184.76	-18.94	0.16	0.04	5.08
10,625.00	1.79	253.03	10,622.21	-28.75	-185.49	-19.11	0.45	0.28	-11.60
10,650.00	1.92	247.24	10,647.19	-29.03	-186.25	-19.35	0.91	0.52	-23.16
10,675.00	1.89	244.67	10,672.18	-29.36	-187.01	-19.64	0.36	-0.12	-10.28
10,700.00	1.89	244.16	10,697.17	-29.72	-187.76	-19.96	0.07	0.00	-2.04
10,725.00	1.87	241.73	10,722.15	-30.09	-188.49	-20.30	0.33	-0.08	-9.72
10,750.00	1.96	242.66	10,747.14	-30.48	-189.23	-20.65	0.38	0.36	3.72
10,775.00	1.97	243.65	10,772.12	-30.87	-189.99	-20.99	0.14	0.04	3.96
10,800.00	2.01	243.77	10,797.11	-31.25	-190.77	-21.34	0.16	0.16	0.48
10,825.00	1.97	245.51	10,822.09	-31.63	-191.55	-21.67	0.29	-0.16	6.96
10,850.00	2.05	248.11	10,847.08	-31.97	-192.36	-21.97	0.49	0.32	10.40
10,875.00	2.01	251.44	10,872.06	-32.28	-193.19	-22.23	0.50	-0.16	13.32
10,900.00	1.90	254.51	10,897.05	-32.53	-194.00	-22.44	0.61	-0.44	12.28
10,925.00	1.87	256.97	10,922.03	-32.73	-194.80	-22.60	0.35	-0.12	9.84
10,950.00	1.89	258.12	10,947.02	-32.91	-195.60	-22.74	0.17	0.08	4.60
10,975.00	1.95	260.88	10,972.01	-33.06	-196.43	-22.85	0.44	0.24	11.04
11,000.00	1.86	259.71	10,996.99	-33.20	-197.24	-22.94	0.39	-0.36	-4.68
11,025.00	1.78	262.01	11,021.98	-33.33	-198.03	-23.03	0.43	-0.32	9.20
11,050.00	1.71	261.53	11,046.97	-33.44	-198.78	-23.10	0.29	-0.28	-1.92
11,075.00	1.72	262.89	11,071.96	-33.54	-199.52	-23.16	0.17	0.04	5.44
11,100.00	1.71	264.11	11,096.95	-33.62	-200.27	-23.21	0.15	-0.04	4.88
11,125.00	1.66	266.63	11,121.94	-33.68	-201.00	-23.23	0.36	-0.20	10.08

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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	1.66	270.94	11,146.93	-33.70	-201.72	-23.21	0.50	0.00	17.24
11,175.00	1.59	278.63	11,171.92	-33.64	-202.43	-23.11	0.92	-0.28	30.76
11,200.00	1.50	288.80	11,196.91	-33.48	-203.08	-22.92	1.15	-0.36	40.68
11,225.00	1.57	294.13	11,221.90	-33.24	-203.70	-22.64	0.64	0.28	21.32
11,250.00	1.57	295.12	11,246.89	-32.95	-204.33	-22.33	0.11	0.00	3.96
11,275.00	1.61	297.55	11,271.88	-32.64	-204.95	-21.99	0.31	0.16	9.72
11,300.00	1.55	295.64	11,296.87	-32.33	-205.56	-21.65	0.32	-0.24	-7.64
11,325.00	1.53	301.98	11,321.86	-32.01	-206.15	-21.29	0.69	-0.08	25.36
11,350.00	1.54	301.78	11,346.85	-31.66	-206.72	-20.91	0.05	0.04	-0.80
11,375.00	1.48	296.68	11,371.84	-31.33	-207.29	-20.56	0.59	-0.24	-20.40
11,400.00	1.37	297.52	11,396.83	-31.05	-207.85	-20.25	0.45	-0.44	3.36
11,425.00	1.42	293.91	11,421.83	-30.79	-208.40	-19.96	0.40	0.20	-14.44
11,450.00	1.40	296.56	11,446.82	-30.53	-208.95	-19.67	0.27	-0.08	10.60
11,475.00	1.44	295.75	11,471.81	-30.25	-209.51	-19.37	0.18	0.16	-3.24
11,500.00	1.52	297.39	11,496.80	-29.96	-210.09	-19.05	0.36	0.32	6.56
11,525.00	1.54	299.65	11,521.79	-29.65	-210.67	-18.70	0.25	0.08	9.04
11,550.00	1.48	302.59	11,546.79	-29.30	-211.24	-18.33	0.39	-0.24	11.76
11,575.00	1.60	303.67	11,571.78	-28.94	-211.80	-17.93	0.49	0.48	4.32
11,600.00	1.71	306.11	11,596.77	-28.52	-212.39	-17.49	0.52	0.44	9.76
11,625.00	1.60	310.00	11,621.76	-28.08	-212.96	-17.02	0.63	-0.44	15.56
11,650.00	1.61	311.40	11,646.75	-27.62	-213.49	-16.53	0.16	0.04	5.60
11,670.00	1.75	309.35	11,666.74	-27.24	-213.94	-16.13	0.76	0.70	-10.25
Tie In to Gyro Surveys @ 11670'MD									
11,900.00	1.77	298.65	11,896.63	-23.31	-219.77	-11.91	0.14	0.01	-4.65
First MWD Survey @ 11900'MD									
11,993.00	1.71	309.05	11,989.59	-21.75	-222.11	-10.22	0.35	-0.06	11.18
12,025.00	5.95	351.20	12,021.51	-19.81	-222.73	-8.25	15.06	13.25	131.72
12,057.00	10.72	358.35	12,053.17	-15.19	-223.07	-3.62	15.23	14.91	22.34
12,088.00	13.77	359.56	12,083.46	-8.62	-223.18	2.94	9.87	9.84	3.90
12,120.00	17.12	358.91	12,114.30	-0.10	-223.30	11.46	10.48	10.47	-2.03
12,151.00	20.03	2.47	12,143.68	9.77	-223.16	21.31	10.07	9.39	11.48
12,182.00	23.06	2.93	12,172.51	21.14	-222.62	32.63	9.79	9.77	1.48
12,229.00	28.12	359.83	12,214.89	41.42	-222.18	52.87	11.13	10.77	-6.60
12,243.19	29.16	359.67	12,227.34	48.22	-222.21	59.66	7.34	7.32	-1.12
FTP @ 12243'MD (330'FSL)									
12,276.00	31.56	359.34	12,255.65	64.80	-222.36	76.23	7.34	7.32	-1.01
12,323.00	37.03	357.25	12,294.47	91.26	-223.18	102.69	11.90	11.64	-4.45
12,371.00	42.82	355.69	12,331.26	121.99	-225.10	133.48	12.24	12.06	-3.25
12,417.00	47.34	357.29	12,363.74	154.49	-227.08	166.04	10.13	9.83	3.48
12,464.00	51.08	359.54	12,394.44	190.05	-228.04	201.60	8.74	7.96	4.79
12,512.00	56.17	357.51	12,422.90	228.67	-229.06	240.22	11.14	10.60	-4.23
12,559.00	62.37	358.81	12,446.90	269.03	-230.34	280.59	13.40	13.19	2.77
12,607.00	65.86	359.94	12,467.86	312.20	-230.80	323.73	7.57	7.27	2.35
12,654.00	70.48	2.09	12,485.33	355.81	-230.02	367.24	10.71	9.83	4.57

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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)
12,701.00	78.54	2.10	12,497.87	401.03	-228.36	412.32	17.15	17.15	0.02
12,748.00	85.88	2.41	12,504.24	447.53	-226.53	458.66	15.63	15.62	0.66
12,779.00	88.15	1.45	12,505.85	478.47	-225.49	489.50	7.95	7.32	-3.10
12,842.00	89.58	1.54	12,507.10	541.44	-223.84	552.30	2.27	2.27	0.14
12,936.00	89.10	1.38	12,508.18	635.40	-221.45	646.01	0.54	-0.51	-0.17
13,030.00	90.00	2.69	12,508.92	729.33	-218.11	739.65	1.69	0.96	1.39
13,123.00	90.67	1.59	12,508.38	822.26	-214.64	832.27	1.38	0.72	-1.18
13,217.00	90.67	0.36	12,507.28	916.24	-213.04	926.04	1.31	0.00	-1.31
13,312.00	90.20	1.24	12,506.56	1,011.23	-211.71	1,020.83	1.05	-0.49	0.93
13,405.00	90.14	359.91	12,506.28	1,104.22	-210.78	1,113.65	1.43	-0.06	-1.43
13,496.00	89.08	359.21	12,506.90	1,195.22	-211.48	1,204.56	1.40	-1.16	-0.77
13,591.00	90.87	359.57	12,506.94	1,290.21	-212.49	1,299.48	1.92	1.88	0.38
13,686.00	89.27	359.29	12,506.83	1,385.20	-213.44	1,394.39	1.71	-1.68	-0.29
13,780.00	89.02	359.28	12,508.23	1,479.18	-214.61	1,488.31	0.27	-0.27	-0.01
13,873.00	89.69	0.44	12,509.28	1,572.17	-214.84	1,581.19	1.44	0.72	1.25
13,966.00	91.68	0.55	12,508.16	1,665.16	-214.03	1,674.01	2.14	2.14	0.12
14,060.00	91.51	2.04	12,505.55	1,759.09	-211.91	1,767.71	1.59	-0.18	1.59
14,154.00	90.03	3.32	12,504.28	1,852.98	-207.51	1,861.24	2.08	-1.57	1.36
14,249.00	87.93	1.74	12,505.98	1,947.86	-203.32	1,955.78	2.77	-2.21	-1.66
14,343.00	88.57	1.87	12,508.85	2,041.77	-200.36	2,049.41	0.69	0.68	0.14
14,437.00	89.30	359.14	12,510.59	2,135.74	-199.53	2,143.21	3.01	0.78	-2.90
14,531.00	87.93	355.68	12,512.87	2,229.60	-203.78	2,237.16	3.96	-1.46	-3.68
14,624.00	89.02	356.42	12,515.34	2,322.35	-210.18	2,330.11	1.42	1.17	0.80
14,718.00	89.44	356.52	12,516.60	2,416.16	-215.97	2,424.10	0.46	0.45	0.11
14,812.00	93.03	358.00	12,514.58	2,510.01	-220.46	2,518.06	4.13	3.82	1.57
14,906.00	91.90	358.33	12,510.54	2,603.88	-223.47	2,611.95	1.25	-1.20	0.35
15,000.00	91.79	359.96	12,507.51	2,697.81	-224.87	2,705.84	1.74	-0.12	1.73
15,095.00	89.66	359.72	12,506.31	2,792.80	-225.14	2,800.71	2.26	-2.24	-0.25
15,188.00	90.14	0.05	12,506.47	2,885.80	-225.32	2,893.59	0.63	0.52	0.35
15,283.00	88.15	0.23	12,507.89	2,980.78	-225.09	2,988.44	2.10	-2.09	0.19
15,377.00	89.02	1.13	12,510.21	3,074.75	-223.98	3,082.22	1.33	0.93	0.96
15,472.00	88.82	1.64	12,512.00	3,169.70	-221.68	3,176.93	0.58	-0.21	0.54
15,566.00	87.48	1.23	12,515.03	3,263.62	-219.33	3,270.60	1.49	-1.43	-0.44
15,661.00	92.63	3.77	12,514.94	3,358.49	-215.18	3,365.13	6.04	5.42	2.67
15,755.00	87.06	359.97	12,515.20	3,452.39	-212.12	3,458.74	7.17	-5.93	-4.04
15,850.00	90.98	0.53	12,516.82	3,547.35	-211.70	3,553.55	4.17	4.13	0.59
15,942.00	92.05	358.77	12,514.39	3,639.31	-212.27	3,645.42	2.24	1.16	-1.91
16,037.00	90.87	357.55	12,511.97	3,734.23	-215.32	3,740.37	1.79	-1.24	-1.28
16,131.00	91.32	357.52	12,510.17	3,828.13	-219.36	3,834.35	0.48	0.48	-0.03
16,224.00	89.02	356.71	12,509.90	3,921.00	-224.04	3,927.34	2.62	-2.47	-0.87
16,319.00	88.68	357.18	12,511.80	4,015.85	-229.10	4,022.32	0.61	-0.36	0.49
16,413.00	88.07	356.98	12,514.47	4,109.69	-233.89	4,116.28	0.68	-0.65	-0.21
16,507.00	87.37	356.74	12,518.21	4,203.47	-239.03	4,210.21	0.79	-0.74	-0.26

Survey Report

Company: COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 27, T 25 S., R 33 E
Well: Dominator 25 Fed #608H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dominator 25 Fed #608H
TVD Reference: KB=30' @ 3368.89usft (Nabors 894)
MD Reference: KB=30' @ 3368.89usft (Nabors 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)
16,602.00	88.52	357.62	12,521.61	4,298.29	-243.70	4,305.14	1.52	1.21	0.93
16,696.00	89.80	359.05	12,522.99	4,392.24	-246.43	4,399.10	2.04	1.36	1.52
16,790.00	90.70	357.90	12,522.58	4,486.20	-248.93	4,493.07	1.55	0.96	-1.22
16,885.00	91.40	359.07	12,520.84	4,581.15	-251.44	4,588.02	1.43	0.74	1.23
16,971.37	91.81	359.13	12,518.42	4,667.47	-252.80	4,674.30	0.48	0.48	0.06
LTP @ 16971'MD (330'FNL)									
16,979.00	91.85	359.13	12,518.18	4,675.10	-252.92	4,681.92	0.48	0.48	0.06
17,041.00	92.13	0.64	12,516.02	4,737.06	-253.05	4,743.81	2.48	0.45	2.44
Last MWD Survey @ 17041'MD									
17,100.00	92.13	0.64	12,513.83	4,796.01	-252.39	4,802.65	0.00	0.00	0.00
PTB @ TD @ 17100'MD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,670.00	11,666.74	-27.24	-213.94	Tie in to Gyro Surveys @ 11670'MD
11,900.00	11,896.63	-23.31	-219.77	First MWD Survey @ 11900'MD
12,243.19	12,227.34	48.22	-222.21	FTP @ 12243'MD (330'FSL)
16,971.37	12,518.42	4,667.47	-252.80	LTP @ 16971'MD (330'FNL)
17,041.00	12,516.02	4,737.06	-253.05	Last MWD Survey @ 17041'MD
17,100.00	12,513.83	4,796.01	-252.39	PTB @ TD @ 17100'MD

Checked By: _____ Approved By: _____ Date: _____