

COG

SURVEY REPORT

AZORES FEDERAL #006H

SCANDRILL FREEDOM

11/3/2017

This survey is correct to the best of my knowledge and is supported by actual field data.

Kolton Cotton

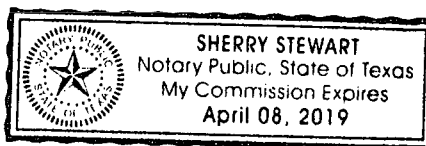
Notarized this date 9 of February, 2018.

Sherry Stewart

Notary Signature

County of Midland

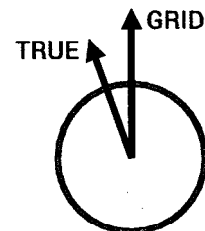
State of Texas



SURVEY REPORT

AZORES FEDERAL #006H

COMPUTED KEEPER GYRO WIRELINE SURVEY

CUSTOMER
PROJECT
FIELDCOG
Azores Federal #006H
Azores Federal #006HSDI JOB NO.
SDI DISTRICT
SDI KIT/UNITOP005613
Midland**SITE INFORMATION**Site Name Azores Federal #006H
Lat/Long 32.181636° N, 103.693655° W
Northing 430,388.1 ft
Easting 697,906.9 ftSection
Township
Range**MAP INFORMATION**North Reference Grid North
Grid Correction -0.34 deg
System US State Plane 1927
Datum North American Datum 1927 (Clarke 1866)
Map Zone New Mexico East: 3001**WELL INFORMATION**Lat/Long 32.181636° N, 103.693655° W
Northing 430,388.1 ft
Easting 697,906.9 ft
UWI 30-025-43845**DEPTH AND ELEVATION REFERENCE**Ground Level 3496.6 ft above Mean Sea
Level
Reference Datum RKB
Reference Height 27 ft above G.L.
Reference Elevation 3523.6 ft**VERTICAL SECTION REFERENCE**+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 1.93°
Calculation Method Minimum Curvature**LOCAL GRAVITY REFERENCE INFORMATION**Local Gravity 998.488 mG [computed]
True to Grid subtract 0.34°**WELL NOTES**

Keeper Gyro Wireline Survey

OPERATORS

Nathan Yerby

SDI Operator Name (Printed)

SIGNATURE

DATE

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.58	12.88	100.00	0.50	0.49	0.11	0.58	0.50	12.88
125.00	0.93	10.85	125.00	0.82	0.81	0.18	1.41	0.83	12.38
150.00	1.02	0.32	149.99	1.24	1.24	0.22	0.80	1.26	10.01
175.00	1.01	351.57	174.99	1.68	1.68	0.19	0.62	1.69	6.37
200.00	0.85	353.13	199.99	2.08	2.08	0.13	0.64	2.08	3.66
225.00	1.05	337.63	224.98	2.48	2.48	0.02	1.30	2.48	0.54
250.00	1.14	344.08	249.98	2.92	2.93	-0.13	0.61	2.93	357.41
275.00	1.00	342.91	274.97	3.37	3.38	-0.26	0.58	3.39	355.52
300.00	1.00	332.69	299.97	3.76	3.78	-0.43	0.71	3.80	353.52
325.00	1.08	341.43	324.97	4.17	4.20	-0.60	0.71	4.24	351.81
350.00	1.12	336.04	349.96	4.61	4.64	-0.78	0.45	4.71	350.48
375.00	1.21	337.63	374.96	5.07	5.11	-0.98	0.38	5.20	349.16
400.00	1.04	350.20	399.95	5.54	5.58	-1.12	1.20	5.69	348.67
425.00	1.25	344.82	424.95	6.02	6.07	-1.23	0.96	6.19	348.56
450.00	1.09	338.35	449.94	6.50	6.55	-1.39	0.83	6.70	348.04
475.00	1.04	339.07	474.94	6.93	6.98	-1.56	0.23	7.16	347.44
500.00	0.95	338.55	499.93	7.33	7.39	-1.71	0.37	7.59	346.95
525.00	0.95	343.05	524.93	7.71	7.78	-1.85	0.30	8.00	346.63
550.00	1.00	350.24	549.93	8.12	8.19	-1.95	0.53	8.42	346.64
575.00	0.89	339.56	574.92	8.51	8.59	-2.05	0.83	8.83	346.57
600.00	0.82	341.10	599.92	8.86	8.94	-2.18	0.26	9.20	346.32
625.00	0.70	338.25	624.92	9.17	9.25	-2.29	0.53	9.53	346.09
650.00	0.55	340.51	649.92	9.42	9.50	-2.39	0.59	9.80	345.90
675.00	0.55	323.63	674.91	9.63	9.72	-2.50	0.65	10.03	345.57
700.00	0.57	317.66	699.91	9.81	9.90	-2.65	0.25	10.25	344.99
725.00	0.55	302.54	724.91	9.96	10.06	-2.84	0.60	10.46	344.23
750.00	0.70	305.92	749.91	10.11	10.22	-3.07	0.59	10.67	343.29
775.00	0.63	320.52	774.91	10.30	10.41	-3.28	0.72	10.92	342.53
800.00	0.69	316.58	799.91	10.51	10.63	-3.47	0.31	11.18	341.92
825.00	0.73	317.02	824.90	10.72	10.85	-3.68	0.13	11.46	341.27
850.00	0.86	310.90	849.90	10.95	11.09	-3.93	0.62	11.77	340.49

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
875.00	0.62	324.06	874.90	11.18	11.32	-4.15	1.16	12.06	339.87
900.00	0.52	302.63	899.90	11.34	11.50	-4.33	0.93	12.28	339.38
925.00	0.51	8.10	924.90	11.51	11.67	-4.41	2.23	12.47	339.31
950.00	0.46	346.42	949.90	11.72	11.87	-4.41	0.75	12.67	339.61
975.00	0.39	348.24	974.90	11.90	12.05	-4.45	0.29	12.85	339.72
1000.00	0.30	5.47	999.90	12.04	12.20	-4.47	0.55	12.99	339.90
1025.00	0.30	356.19	1024.90	12.17	12.33	-4.46	0.20	13.12	340.10
1050.00	0.19	18.04	1049.90	12.28	12.44	-4.46	0.59	13.21	340.29
1075.00	0.14	315.35	1074.90	12.34	12.50	-4.46	0.69	13.27	340.34
1100.00	0.13	279.87	1099.90	12.36	12.52	-4.51	0.32	13.31	340.18
1125.00	0.30	306.43	1124.90	12.40	12.57	-4.59	0.80	13.38	339.92
1150.00	0.24	314.79	1149.90	12.48	12.64	-4.68	0.28	13.48	339.67
1175.00	0.34	345.93	1174.89	12.59	12.75	-4.74	0.72	13.60	339.61
1200.00	0.40	6.53	1199.89	12.74	12.91	-4.75	0.59	13.76	339.81
1225.00	0.51	17.47	1224.89	12.94	13.11	-4.70	0.55	13.92	340.26
1250.00	0.39	22.94	1249.89	13.13	13.29	-4.64	0.53	14.08	340.76
1275.00	0.43	14.00	1274.89	13.30	13.46	-4.58	0.30	14.22	341.20
1300.00	0.40	16.29	1299.89	13.47	13.63	-4.54	0.11	14.37	341.60
1325.00	0.32	7.91	1324.89	13.63	13.79	-4.50	0.39	14.50	341.92
1350.00	0.40	358.44	1349.89	13.79	13.94	-4.49	0.39	14.65	342.14
1375.00	0.32	0.27	1374.89	13.94	14.10	-4.50	0.34	14.80	342.32
1400.00	0.39	353.68	1399.89	14.09	14.25	-4.50	0.34	14.95	342.46
1425.00	0.43	12.26	1424.89	14.27	14.43	-4.49	0.55	15.11	342.70
1450.00	0.43	357.62	1449.89	14.46	14.62	-4.48	0.44	15.29	342.97
1475.00	0.53	3.92	1474.89	14.67	14.83	-4.47	0.47	15.49	343.21
1500.00	0.50	15.05	1499.89	14.89	15.05	-4.44	0.43	15.69	343.57
1525.00	0.51	7.42	1524.89	15.11	15.26	-4.40	0.27	15.88	343.93
1550.00	0.58	351.19	1549.88	15.34	15.50	-4.40	0.68	16.11	344.15
1575.00	0.50	2.43	1574.88	15.57	15.73	-4.42	0.54	16.34	344.32
1600.00	0.75	357.60	1599.88	15.85	16.00	-4.42	1.04	16.60	344.57
1625.00	0.69	353.80	1624.88	16.16	16.32	-4.44	0.30	16.91	344.78
1650.00	0.35	349.42	1649.88	16.39	16.55	-4.47	1.37	17.14	344.88

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
1675.00	0.33	290.24	1674.88	16.48	16.65	-4.55	1.35	17.26	344.70
1700.00	0.45	251.96	1699.88	16.47	16.64	-4.71	1.13	17.30	344.18
1725.00	0.60	239.00	1724.88	16.37	16.54	-4.92	0.75	17.26	343.43
1750.00	0.51	214.97	1749.88	16.20	16.38	-5.10	0.99	17.16	342.72
1775.00	0.61	222.10	1774.87	16.01	16.19	-5.25	0.49	17.02	342.03
1800.00	0.62	211.26	1799.87	15.79	15.98	-5.41	0.47	16.87	341.29
1825.00	0.58	238.53	1824.87	15.60	15.80	-5.59	1.14	16.76	340.51
1850.00	0.55	224.40	1849.87	15.44	15.64	-5.78	0.57	16.68	339.71
1875.00	0.39	217.60	1874.87	15.28	15.49	-5.92	0.69	16.58	339.08
1900.00	0.49	213.58	1899.87	15.12	15.33	-6.03	0.40	16.48	338.53
1925.00	0.50	205.02	1924.87	14.93	15.14	-6.14	0.30	16.34	337.94
1950.00	0.45	221.06	1949.87	14.75	14.97	-6.25	0.57	16.22	337.35
1975.00	0.53	200.65	1974.87	14.57	14.79	-6.35	0.76	16.09	336.75
2000.00	0.42	214.56	1999.87	14.38	14.60	-6.45	0.63	15.96	336.18
2025.00	0.33	215.21	2024.86	14.24	14.47	-6.54	0.36	15.88	335.67
2050.00	0.21	175.83	2049.86	14.13	14.36	-6.58	0.87	15.80	335.39
2075.00	0.17	230.07	2074.86	14.06	14.29	-6.60	0.71	15.75	335.20
2100.00	0.28	145.97	2099.86	13.99	14.22	-6.60	1.24	15.68	335.11
2125.00	0.36	155.97	2124.86	13.87	14.10	-6.53	0.39	15.54	335.14
2150.00	0.40	130.77	2149.86	13.75	13.97	-6.43	0.68	15.38	335.27
2175.00	0.54	136.11	2174.86	13.61	13.83	-6.29	0.59	15.19	335.55
2200.00	0.39	134.20	2199.86	13.47	13.68	-6.14	0.60	15.00	335.82
2225.00	0.44	120.42	2224.86	13.36	13.57	-6.00	0.45	14.84	336.16
2250.00	0.54	110.25	2249.86	13.28	13.48	-5.80	0.51	14.68	336.71
2275.00	0.81	107.14	2274.86	13.20	13.39	-5.53	1.10	14.49	337.58
2300.00	0.84	102.56	2299.86	13.12	13.30	-5.18	0.28	14.27	338.72
2325.00	0.94	99.39	2324.85	13.06	13.23	-4.80	0.45	14.07	340.06
2350.00	0.94	105.09	2349.85	12.98	13.14	-4.40	0.37	13.86	341.49
2375.00	0.91	113.05	2374.85	12.87	13.01	-4.02	0.53	13.62	342.83
2400.00	0.99	112.52	2399.84	12.72	12.85	-3.64	0.35	13.35	344.19
2425.00	0.99	115.23	2424.84	12.56	12.67	-3.24	0.19	13.08	345.65
2450.00	0.99	115.42	2449.84	12.39	12.49	-2.85	0.02	12.81	347.14

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	"/100ft	ft	deg
2475.00	0.88	109.03	2474.83	12.24	12.33	-2.47	0.61	12.58	348.66
2500.00	0.93	107.09	2499.83	12.13	12.21	-2.10	0.22	12.39	350.25
2525.00	0.87	105.75	2524.83	12.03	12.10	-1.72	0.24	12.22	351.90
2550.00	0.98	114.70	2549.82	11.91	11.96	-1.34	0.73	12.03	353.59
2575.00	0.64	110.70	2574.82	11.78	11.82	-1.02	1.39	11.86	355.08
2600.00	0.44	129.39	2599.82	11.67	11.71	-0.81	1.06	11.74	356.03
2625.00	0.32	197.59	2624.82	11.55	11.58	-0.76	1.75	11.61	356.24
2650.00	0.43	292.53	2649.82	11.51	11.55	-0.87	2.25	11.58	355.70
2675.00	0.40	266.38	2674.82	11.54	11.58	-1.04	0.77	11.63	354.85
2700.00	0.37	283.60	2699.82	11.55	11.59	-1.21	0.48	11.66	354.05
2725.00	0.29	297.84	2724.82	11.59	11.64	-1.34	0.44	11.72	353.43
2750.00	0.29	278.95	2749.82	11.63	11.68	-1.46	0.38	11.77	352.88
2775.00	0.11	343.86	2774.82	11.66	11.71	-1.53	1.06	11.81	352.56
2800.00	0.11	283.24	2799.82	11.68	11.74	-1.56	0.43	11.85	352.44
2825.00	0.13	334.72	2824.82	11.71	11.77	-1.59	0.41	11.88	352.29
2850.00	0.11	336.97	2849.82	11.76	11.82	-1.61	0.05	11.93	352.22
2875.00	0.33	354.07	2874.82	11.85	11.91	-1.63	0.88	12.03	352.20
2900.00	0.37	351.01	2899.81	12.00	12.06	-1.65	0.19	12.18	352.20
2925.00	0.29	35.16	2924.81	12.13	12.20	-1.63	1.03	12.30	352.40
2950.00	0.38	58.90	2949.81	12.23	12.29	-1.52	0.64	12.38	352.95
2975.00	0.26	28.53	2974.81	12.33	12.38	-1.42	0.80	12.46	353.45
3000.00	0.24	35.31	2999.81	12.42	12.48	-1.36	0.14	12.55	353.76
3025.00	0.37	32.08	3024.81	12.54	12.59	-1.29	0.49	12.65	354.14
3050.00	0.43	36.89	3049.81	12.68	12.73	-1.19	0.30	12.79	354.65
3075.00	0.46	21.16	3074.81	12.86	12.90	-1.10	0.50	12.95	355.13
3100.00	0.46	32.74	3099.81	13.04	13.08	-1.01	0.37	13.12	355.59
3125.00	0.62	44.07	3124.81	13.22	13.26	-0.86	0.77	13.29	356.29
3150.00	0.56	48.18	3149.81	13.41	13.44	-0.68	0.30	13.46	357.12
3175.00	0.57	65.24	3174.81	13.55	13.57	-0.47	0.67	13.58	358.00
3200.00	0.50	54.84	3199.81	13.67	13.69	-0.27	0.47	13.69	358.86
3225.00	0.52	49.41	3224.81	13.81	13.82	-0.10	0.22	13.82	359.60
3250.00	0.75	34.59	3249.80	14.03	14.03	0.08	1.10	14.03	0.34

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
3275.00	0.80	47.83	3274.80	14.28	14.28	0.30	0.74	14.29	1.22
3300.00	0.70	42.63	3299.80	14.52	14.51	0.54	0.46	14.52	2.12
3325.00	0.57	49.12	3324.80	14.72	14.71	0.74	0.60	14.73	2.87
3350.00	0.65	47.74	3349.80	14.91	14.88	0.94	0.31	14.91	3.60
3375.00	0.75	41.55	3374.79	15.13	15.10	1.15	0.49	15.14	4.35
3400.00	0.80	41.70	3399.79	15.39	15.35	1.37	0.20	15.41	5.11
3425.00	0.23	46.57	3424.79	15.56	15.52	1.52	2.27	15.59	5.61
3450.00	0.36	238.31	3449.79	15.55	15.51	1.49	2.37	15.58	5.50
3475.00	0.63	208.73	3474.79	15.38	15.35	1.36	1.45	15.41	5.06
3500.00	0.69	189.86	3499.79	15.11	15.08	1.27	0.89	15.13	4.80
3525.00	0.75	177.10	3524.79	14.80	14.77	1.25	0.68	14.82	4.83
3550.00	0.89	176.07	3549.78	14.45	14.41	1.27	0.57	14.47	5.04
3575.00	0.98	187.48	3574.78	14.04	14.01	1.26	0.82	14.06	5.12
3600.00	0.94	186.55	3599.78	13.63	13.59	1.21	0.17	13.65	5.07
3625.00	1.03	182.23	3624.77	13.20	13.16	1.17	0.49	13.22	5.09
3650.00	1.05	185.92	3649.77	12.74	12.71	1.14	0.28	12.76	5.13
3675.00	0.93	190.69	3674.77	12.31	12.28	1.08	0.60	12.33	5.02
3700.00	1.00	185.98	3699.76	11.90	11.87	1.02	0.43	11.91	4.91
3725.00	1.03	205.98	3724.76	11.47	11.45	0.90	1.42	11.48	4.48
3750.00	1.10	199.92	3749.75	11.04	11.02	0.72	0.52	11.04	3.72
3775.00	1.21	194.50	3774.75	10.55	10.54	0.57	0.64	10.55	3.09
3800.00	1.16	213.15	3799.74	10.08	10.07	0.36	1.55	10.08	2.07
3825.00	1.27	214.39	3824.74	9.63	9.63	0.07	0.45	9.63	0.41
3850.00	1.09	208.64	3849.73	9.18	9.19	-0.20	0.86	9.19	358.75
3875.00	1.19	211.22	3874.73	8.74	8.76	-0.45	0.46	8.77	357.06
3900.00	1.29	220.68	3899.72	8.29	8.32	-0.77	0.90	8.36	354.73
3925.00	1.51	225.27	3924.71	7.84	7.88	-1.19	0.99	7.97	351.44
3950.00	1.48	221.48	3949.71	7.35	7.41	-1.63	0.41	7.58	347.56
3975.00	1.33	223.67	3974.70	6.88	6.95	-2.05	0.64	7.25	343.58
4000.00	1.13	227.05	3999.69	6.49	6.57	-2.43	0.87	7.01	339.72
4025.00	0.65	212.66	4024.69	6.19	6.29	-2.69	2.10	6.84	336.87
4050.00	0.66	190.53	4049.69	5.93	6.03	-2.79	1.00	6.64	335.17

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4075.00	0.66	182.15	4074.69	5.64	5.74	-2.82	0.38	6.40	333.84
4100.00	0.63	185.26	4099.68	5.36	5.46	-2.84	0.17	6.16	332.54
4125.00	0.53	186.09	4124.68	5.11	5.21	-2.86	0.40	5.95	331.21
4150.00	0.63	170.27	4149.68	4.86	4.96	-2.85	0.76	5.72	330.09
4175.00	0.70	170.49	4174.68	4.58	4.67	-2.80	0.27	5.45	329.03
4200.00	0.79	189.63	4199.68	4.26	4.35	-2.81	1.05	5.18	327.18
4225.00	0.81	178.46	4224.68	3.91	4.01	-2.83	0.63	4.91	324.74
4250.00	0.77	172.54	4249.67	3.57	3.66	-2.81	0.36	4.61	322.55
4275.00	1.07	134.41	4274.67	3.24	3.33	-2.62	2.66	4.24	321.86
4300.00	0.78	159.93	4299.67	2.93	3.01	-2.39	1.99	3.84	321.52
4325.00	0.83	158.65	4324.66	2.60	2.68	-2.27	0.21	3.51	319.77
4350.00	0.87	167.79	4349.66	2.25	2.32	-2.16	0.56	3.17	317.10
4375.00	0.86	145.48	4374.66	1.91	1.98	-2.01	1.34	2.83	314.58
4400.00	0.88	140.07	4399.66	1.62	1.68	-1.78	0.33	2.45	313.32
4425.00	0.98	146.71	4424.65	1.30	1.36	-1.54	0.58	2.05	311.31
4450.00	0.96	148.03	4449.65	0.95	1.00	-1.31	0.10	1.65	307.25
4475.00	0.97	146.14	4474.65	0.61	0.64	-1.08	0.14	1.26	300.73
4500.00	1.06	135.87	4499.64	0.28	0.30	-0.81	0.80	0.86	290.58
4525.00	1.09	143.25	4524.64	-0.07	-0.05	-0.50	0.57	0.51	263.86
4550.00	0.97	145.43	4549.63	-0.43	-0.42	-0.24	0.51	0.48	209.84
4575.00	0.90	137.44	4574.63	-0.74	-0.74	0.01	0.59	0.74	179.02
4600.00	1.12	139.32	4599.63	-1.06	-1.07	0.30	0.89	1.11	164.06
4625.00	1.21	139.95	4624.62	-1.43	-1.46	0.63	0.37	1.59	156.45
4650.00	0.97	139.58	4649.62	-1.79	-1.82	0.94	0.98	2.05	152.63
4675.00	1.08	143.29	4674.61	-2.13	-2.17	1.22	0.52	2.49	150.65
4700.00	1.16	139.57	4699.61	-2.50	-2.55	1.52	0.43	2.97	149.13
4725.00	1.12	145.41	4724.60	-2.88	-2.94	1.83	0.49	3.46	148.17
4750.00	1.12	149.02	4749.60	-3.28	-3.35	2.09	0.28	3.95	148.05
4775.00	1.10	140.83	4774.59	-3.67	-3.75	2.37	0.64	4.44	147.72
4800.00	1.08	137.36	4799.59	-4.02	-4.11	2.68	0.28	4.91	146.88
4825.00	1.20	140.22	4824.58	-4.38	-4.48	3.01	0.53	5.40	146.15
4850.00	1.25	138.61	4849.58	-4.77	-4.89	3.36	0.23	5.93	145.54

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
4875.00	1.06	144.17	4874.57	-5.15	-5.28	3.67	0.88	6.43	145.20
4900.00	1.08	142.06	4899.57	-5.52	-5.65	3.95	0.19	6.90	145.06
4925.00	1.26	137.61	4924.56	-5.90	-6.04	4.28	0.78	7.41	144.69
4950.00	1.23	139.58	4949.56	-6.29	-6.45	4.64	0.21	7.94	144.27
4975.00	1.23	139.18	4974.55	-6.68	-6.86	4.99	0.04	8.48	143.96
5000.00	1.94	124.94	4999.54	-7.11	-7.30	5.51	3.23	9.15	142.96
5025.00	1.31	140.92	5024.53	-7.56	-7.76	6.04	3.09	9.83	142.14
5050.00	1.23	144.38	5049.53	-7.98	-8.20	6.37	0.42	10.39	142.16
5075.00	1.31	141.15	5074.52	-8.41	-8.65	6.71	0.41	10.94	142.19
5100.00	1.22	139.37	5099.51	-8.83	-9.07	7.06	0.38	11.49	142.10
5125.00	1.27	137.50	5124.51	-9.22	-9.48	7.42	0.24	12.03	141.93
5150.00	1.18	138.86	5149.50	-9.61	-9.87	7.78	0.35	12.57	141.77
5175.00	1.11	136.76	5174.50	-9.96	-10.24	8.11	0.34	13.07	141.62
5200.00	1.10	138.16	5199.49	-10.31	-10.60	8.44	0.11	13.55	141.48
5225.00	1.08	132.48	5224.49	-10.64	-10.94	8.77	0.44	14.02	141.27
5250.00	1.33	131.58	5249.48	-10.97	-11.29	9.16	1.00	14.54	140.94
5275.00	1.18	137.55	5274.48	-11.34	-11.67	9.55	0.80	15.08	140.70
5300.00	1.18	136.14	5299.47	-11.70	-12.04	9.90	0.12	15.59	140.57
5325.00	1.17	132.32	5324.47	-12.05	-12.40	10.27	0.32	16.10	140.37
5350.00	1.09	130.17	5349.46	-12.36	-12.73	10.64	0.34	16.59	140.10
5375.00	1.28	135.37	5374.46	-12.70	-13.08	11.02	0.87	17.10	139.89
5400.00	1.28	128.70	5399.45	-13.06	-13.45	11.43	0.60	17.66	139.64
5425.00	1.17	138.66	5424.44	-13.41	-13.82	11.82	0.94	18.19	139.46
5450.00	1.09	136.56	5449.44	-13.77	-14.19	12.15	0.37	18.68	139.41
5475.00	1.23	132.95	5474.43	-14.11	-14.54	12.51	0.65	19.18	139.29
5500.00	1.01	134.12	5499.43	-14.44	-14.88	12.87	0.90	19.67	139.14
5525.00	0.94	130.52	5524.43	-14.71	-15.17	13.18	0.38	20.09	139.00
5550.00	1.06	130.34	5549.42	-14.98	-15.45	13.52	0.48	20.53	138.82
5575.00	1.11	130.39	5574.42	-15.28	-15.75	13.88	0.19	20.99	138.63
5600.00	0.92	131.55	5599.41	-15.56	-16.04	14.21	0.76	21.43	138.47
5625.00	0.94	135.15	5624.41	-15.82	-16.32	14.50	0.24	21.83	138.38
5650.00	0.84	126.19	5649.41	-16.07	-16.57	14.80	0.67	22.22	138.25

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
5675.00	0.85	133.91	5674.40	-16.29	-16.81	15.08	0.46	22.58	138.11
5700.00	0.97	124.46	5699.40	-16.53	-17.06	15.39	0.76	22.97	137.95
5725.00	0.89	124.55	5724.40	-16.75	-17.29	15.72	0.31	23.37	137.72
5750.00	0.95	126.03	5749.39	-16.97	-17.52	16.05	0.23	23.76	137.51
5775.00	1.03	126.01	5774.39	-17.21	-17.77	16.40	0.34	24.18	137.31
5800.00	0.74	130.65	5799.39	-17.44	-18.01	16.70	1.19	24.56	137.16
5825.00	0.69	136.50	5824.39	-17.65	-18.23	16.93	0.36	24.87	137.12
5850.00	0.61	135.71	5849.38	-17.84	-18.43	17.12	0.33	25.15	137.11
5875.00	0.79	124.20	5874.38	-18.03	-18.62	17.36	0.92	25.45	137.01
5900.00	0.81	126.95	5899.38	-18.22	-18.82	17.64	0.18	25.80	136.86
5925.00	0.82	130.71	5924.38	-18.43	-19.05	17.92	0.22	26.15	136.75
5950.00	0.86	133.38	5949.38	-18.67	-19.29	18.19	0.20	26.51	136.69
5975.00	0.70	132.17	5974.37	-18.89	-19.52	18.44	0.62	26.85	136.64
6000.00	0.73	132.80	5999.37	-19.09	-19.73	18.67	0.12	27.17	136.59
6025.00	0.78	128.41	6024.37	-19.30	-19.95	18.92	0.31	27.49	136.52
6050.00	0.83	129.56	6049.37	-19.51	-20.17	19.19	0.21	27.84	136.42
6075.00	0.82	131.87	6074.36	-19.74	-20.41	19.47	0.14	28.20	136.35
6100.00	0.81	129.45	6099.36	-19.96	-20.64	19.74	0.15	28.55	136.28
6125.00	0.66	133.25	6124.36	-20.16	-20.85	19.98	0.61	28.87	136.22
6150.00	0.72	119.04	6149.36	-20.33	-21.02	20.22	0.72	29.17	136.12
6175.00	0.74	121.08	6174.36	-20.48	-21.18	20.49	0.12	29.47	135.95
6200.00	0.64	126.87	6199.35	-20.64	-21.35	20.74	0.47	29.77	135.83
6225.00	0.73	132.83	6224.35	-20.82	-21.54	20.97	0.46	30.07	135.77
6250.00	0.84	124.59	6249.35	-21.03	-21.76	21.24	0.63	30.41	135.69
6275.00	0.79	123.90	6274.35	-21.22	-21.96	21.54	0.24	30.75	135.55
6300.00	0.67	125.09	6299.34	-21.39	-22.14	21.80	0.45	31.07	135.44
6325.00	0.63	130.15	6324.34	-21.55	-22.31	22.02	0.29	31.35	135.37
6350.00	0.81	132.38	6349.34	-21.75	-22.52	22.26	0.71	31.66	135.33
6375.00	0.66	139.54	6374.34	-21.97	-22.74	22.48	0.68	31.98	135.33
6400.00	0.78	128.32	6399.34	-22.18	-22.96	22.71	0.74	32.29	135.31
6425.00	0.87	136.79	6424.33	-22.42	-23.20	22.97	0.59	32.65	135.29
6450.00	0.73	132.19	6449.33	-22.65	-23.45	23.22	0.61	33.00	135.28

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
6475.00	0.68	120.43	6474.33	-22.83	-23.63	23.47	0.60	33.30	135.20
6500.00	0.79	130.95	6499.33	-23.01	-23.82	23.72	0.69	33.62	135.11
6525.00	0.76	127.96	6524.33	-23.21	-24.03	23.99	0.20	33.96	135.06
6550.00	0.70	124.51	6549.32	-23.39	-24.22	24.24	0.32	34.27	134.98
6575.00	0.69	145.64	6574.32	-23.60	-24.43	24.45	1.02	34.57	134.98
6600.00	0.84	136.37	6599.32	-23.85	-24.69	24.66	0.79	34.90	135.03
6625.00	1.07	131.10	6624.32	-24.12	-24.98	24.97	0.99	35.32	135.01
6650.00	0.93	131.01	6649.31	-24.40	-25.26	25.30	0.56	35.75	134.96
6675.00	0.88	127.23	6674.31	-24.63	-25.51	25.60	0.32	36.14	134.90
6700.00	0.86	130.25	6699.31	-24.86	-25.75	25.90	0.19	36.52	134.83
6725.00	0.95	130.97	6724.30	-25.11	-26.01	26.20	0.38	36.91	134.79
6750.00	1.00	131.43	6749.30	-25.38	-26.29	26.52	0.17	37.34	134.75
6775.00	0.85	129.82	6774.30	-25.63	-26.55	26.82	0.60	37.74	134.71
6800.00	0.97	129.05	6799.29	-25.87	-26.80	27.13	0.50	38.13	134.65
6825.00	0.91	138.37	6824.29	-26.14	-27.08	27.42	0.66	38.54	134.64
6850.00	1.03	126.26	6849.29	-26.41	-27.36	27.74	0.94	38.96	134.61
6875.00	1.04	142.07	6874.28	-26.71	-27.67	28.06	1.14	39.41	134.61
6900.00	0.94	138.65	6899.28	-27.04	-28.01	28.33	0.47	39.84	134.67
6925.00	1.03	148.06	6924.27	-27.37	-28.35	28.59	0.73	40.26	134.76
6950.00	1.07	147.65	6949.27	-27.75	-28.74	28.83	0.17	40.71	134.91
6975.00	1.16	146.95	6974.27	-28.15	-29.15	29.09	0.35	41.18	135.05
7000.00	1.03	141.33	6999.26	-28.53	-29.53	29.37	0.68	41.65	135.16
7025.00	0.73	157.95	7024.26	-28.84	-29.86	29.57	1.54	42.02	135.28
7050.00	0.20	212.94	7049.26	-29.03	-30.04	29.60	2.55	42.18	135.42
7075.00	0.41	299.13	7074.26	-29.02	-30.04	29.50	1.77	42.10	135.51
7100.00	0.36	314.10	7099.26	-28.93	-29.94	29.37	0.44	41.94	135.55
7125.00	0.38	296.59	7124.26	-28.84	-29.85	29.24	0.46	41.78	135.59
7150.00	0.37	285.55	7149.26	-28.79	-29.79	29.09	0.30	41.63	135.68
7175.00	0.34	295.27	7174.26	-28.74	-29.73	28.94	0.27	41.49	135.77
7200.00	0.41	277.83	7199.25	-28.70	-29.69	28.79	0.52	41.35	135.88
7225.00	0.39	283.28	7224.25	-28.68	-29.66	28.62	0.16	41.21	136.02
7250.00	0.28	274.68	7249.25	-28.66	-29.63	28.47	0.50	41.10	136.14

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
7275.00	0.42	285.13	7274.25	-28.63	-29.61	28.33	0.62	40.97	136.27
7300.00	0.60	285.57	7299.25	-28.58	-29.55	28.11	0.71	40.78	136.42
7325.00	0.46	289.95	7324.25	-28.52	-29.48	27.89	0.56	40.58	136.58
7350.00	0.42	276.73	7349.25	-28.48	-29.43	27.71	0.44	40.42	136.73
7375.00	0.29	264.74	7374.25	-28.48	-29.43	27.55	0.59	40.31	136.89
7400.00	0.32	276.44	7399.25	-28.49	-29.43	27.42	0.28	40.22	137.02
7425.00	0.43	271.65	7424.25	-28.48	-29.41	27.25	0.43	40.10	137.18
7450.00	0.41	272.68	7449.25	-28.48	-29.41	27.07	0.07	39.97	137.37
7475.00	0.36	285.22	7474.25	-28.46	-29.38	26.90	0.39	39.84	137.52
7500.00	0.43	266.02	7499.25	-28.45	-29.37	26.73	0.58	39.71	137.69
7525.00	0.52	273.56	7524.25	-28.46	-29.37	26.53	0.46	39.57	137.91
7550.00	0.37	271.97	7549.25	-28.45	-29.36	26.33	0.61	39.44	138.11
7575.00	0.30	280.32	7574.25	-28.44	-29.34	26.19	0.33	39.33	138.25
7600.00	0.35	277.03	7599.24	-28.43	-29.32	26.04	0.21	39.22	138.39
7625.00	0.30	295.36	7624.24	-28.39	-29.28	25.91	0.47	39.10	138.50
7650.00	0.32	260.89	7649.24	-28.38	-29.27	25.78	0.74	39.00	138.62
7675.00	0.40	237.37	7674.24	-28.45	-29.33	25.64	0.67	38.95	138.84
7700.00	0.37	241.58	7699.24	-28.54	-29.41	25.49	0.18	38.92	139.08
7725.00	0.30	236.05	7724.24	-28.61	-29.49	25.37	0.29	38.90	139.29
7750.00	0.39	226.97	7749.24	-28.71	-29.58	25.25	0.41	38.89	139.51
7775.00	0.41	230.49	7774.24	-28.83	-29.69	25.12	0.12	38.90	139.77
7800.00	0.32	243.77	7799.24	-28.92	-29.78	24.99	0.48	38.88	140.00
7825.00	0.20	265.19	7824.24	-28.96	-29.82	24.89	0.60	38.84	140.15
7850.00	0.15	216.12	7849.24	-28.99	-29.84	24.82	0.62	38.82	140.25
7875.00	0.33	214.79	7874.24	-29.08	-29.93	24.76	0.72	38.85	140.39
7900.00	0.50	254.87	7899.24	-29.17	-30.02	24.62	1.31	38.82	140.64
7925.00	0.46	218.85	7924.24	-29.28	-30.12	24.45	1.20	38.80	140.94
7950.00	0.59	233.19	7949.24	-29.44	-30.28	24.28	0.72	38.81	141.27
7975.00	0.46	237.39	7974.24	-29.58	-30.41	24.10	0.52	38.80	141.61
8000.00	0.41	224.48	7999.24	-29.70	-30.53	23.95	0.44	38.80	141.89
8025.00	0.62	222.86	8024.24	-29.87	-30.69	23.79	0.82	38.83	142.22
8050.00	0.63	233.76	8049.23	-30.06	-30.87	23.59	0.47	38.85	142.61

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
8075.00	1.06	255.93	8074.23	-30.21	-31.01	23.26	2.14	38.76	143.13
8100.00	0.52	218.19	8099.23	-30.36	-31.15	22.96	2.89	38.70	143.61
8125.00	0.60	223.44	8124.23	-30.55	-31.34	22.80	0.35	38.75	143.96
8150.00	0.74	224.36	8149.23	-30.77	-31.55	22.60	0.60	38.81	144.38
8175.00	0.47	221.23	8174.22	-30.97	-31.74	22.42	1.12	38.86	144.77
8200.00	0.50	221.32	8199.22	-31.13	-31.90	22.28	0.15	38.91	145.07
8225.00	0.59	217.57	8224.22	-31.32	-32.08	22.13	0.38	38.97	145.41
8250.00	0.66	212.51	8249.22	-31.55	-32.31	21.97	0.34	39.07	145.78
8275.00	0.75	221.28	8274.22	-31.80	-32.55	21.79	0.58	39.17	146.21
8300.00	0.71	218.76	8299.22	-32.05	-32.80	21.58	0.22	39.26	146.65
8325.00	0.64	227.07	8324.22	-32.27	-33.01	21.38	0.48	39.33	147.07
8350.00	0.61	217.96	8349.21	-32.48	-33.21	21.20	0.41	39.40	147.45
8375.00	0.69	218.66	8374.21	-32.71	-33.43	21.02	0.31	39.49	147.84
8400.00	0.71	211.25	8399.21	-32.96	-33.68	20.85	0.37	39.61	148.24
8425.00	0.76	217.22	8424.21	-33.23	-33.95	20.67	0.37	39.74	148.67
8450.00	0.88	211.67	8449.21	-33.53	-34.24	20.47	0.58	39.89	149.13
8475.00	0.99	212.69	8474.20	-33.89	-34.59	20.25	0.42	40.08	149.66
8500.00	1.00	211.45	8499.20	-34.26	-34.96	20.02	0.10	40.28	150.20
8525.00	0.89	212.10	8524.20	-34.62	-35.31	19.80	0.44	40.48	150.72
8550.00	0.78	215.83	8549.19	-34.93	-35.61	19.60	0.51	40.65	151.18
8575.00	0.59	217.85	8574.19	-35.18	-35.85	19.42	0.75	40.77	151.56
8600.00	0.53	217.12	8599.19	-35.38	-36.05	19.27	0.27	40.87	151.87
8625.00	0.33	218.19	8624.19	-35.53	-36.19	19.16	0.78	40.95	152.11
8650.00	0.24	221.26	8649.19	-35.63	-36.29	19.08	0.35	41.00	152.27
8675.00	0.14	222.05	8674.19	-35.69	-36.35	19.02	0.43	41.03	152.38
8700.00	0.13	176.90	8699.19	-35.74	-36.40	19.00	0.40	41.06	152.44
8725.00	0.15	116.48	8724.19	-35.78	-36.44	19.03	0.56	41.12	152.42
8750.00	0.07	185.06	8749.19	-35.81	-36.47	19.06	0.57	41.15	152.41
8775.00	0.07	288.01	8774.19	-35.82	-36.49	19.05	0.44	41.16	152.44
8800.00	0.12	72.60	8799.19	-35.81	-36.47	19.05	0.71	41.15	152.42
8825.00	0.23	46.43	8824.19	-35.77	-36.43	19.11	0.55	41.14	152.31
8850.00	0.40	84.84	8849.19	-35.72	-36.39	19.24	1.06	41.16	152.13

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
8860.00	0.50	91.49	8859.19	-35.71	-36.39	19.32	1.06	41.20	152.04

COG Operating L L C

Lea County, NM (NAD27 NME)

Sec. 29, T 24 S. , R 32E

Azores Federal #6H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

14 November, 2017

**HOBBS OCD
MAY 14 2018
RECEIVED**

Survey Report - Geographic

Company:	COG Operating L.L.C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandrift Freedom)
Site:	Sec. 29, T 24 S., R 32E	MD Reference:	KB=26' @ 3522.60ft (Scandrift Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

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. 29, T 24 S., R 32E		
Site Position:		Northing:	430,368.5000 usft
From:	Map	Easting:	696,155.5000 usft
Position Uncertainty:	5.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32.181611
		Longitude:	-103.693616
		Grid Convergence:	0.34 °

Well	Azores Federal #6H, ACTIVE		
Well Position	+N-S	0.00 ft	Northing: 430,388.1000 usft
	+E-W	0.00 ft	Easting: 697,906.9000 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	32.181636
		Longitude:	-103.693655
		Ground Level:	3,496.60 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	HDGM	10/16/2017	(°)
			6.87
			Dip Angle (°)
			59.90
			Field Strength (nT)
			48,042

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction (°)
			1.93

Survey Program	Date 11/14/2017		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100.00	8,966.00	GYROS (Wellbore #1)	Keeper
9,005.00	14,185.00	MWD Surveys (Wellbore #1)	MWD
			Description
			Standard Wireline Keeper ver 1.0.2
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(ft)	(ft)	Northing	Easting		
(ft)			(ft)			(usft)	(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	430,388.1000	697,906.9000	32.181636	-103.693655
100.00	0.58	12.88	100.00	0.49	0.11	430,388.5934	697,907.0129	32.181638	-103.693654
125.00	0.93	10.85	125.00	0.82	0.18	430,388.9160	697,907.0793	32.181639	-103.693654
150.00	1.02	0.32	149.99	1.24	0.22	430,389.3378	697,907.1187	32.181640	-103.693654
175.00	1.01	351.57	174.99	1.68	0.19	430,389.7782	697,907.0876	32.181641	-103.693654
200.00	0.85	353.13	199.99	2.08	0.13	430,390.1803	697,907.0331	32.181642	-103.693654
225.00	1.05	337.63	224.98	2.48	0.02	430,390.5762	697,906.9238	32.181643	-103.693655
250.00	1.14	344.08	249.98	2.93	-0.13	430,391.0272	697,906.7684	32.181644	-103.693655
275.00	1.00	342.91	274.97	3.37	-0.26	430,391.4749	697,906.6361	32.181646	-103.693656
300.00	1.00	332.69	299.97	3.78	-0.43	430,391.8772	697,906.4719	32.181647	-103.693656
325.00	1.08	341.43	324.97	4.19	-0.60	430,392.2944	697,906.2967	32.181648	-103.693657

Survey Report - Geographic

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandill Freedom)
Site:	Sec. 29, T 24 S., R 32E	MD Reference:	KB=26' @ 3522.60ft (Scandill Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
350.00	1.12	336.04	349.96	4.64	-0.78	430,392.7410	697,906.1225	32.181649	-103.693657
375.00	1.21	337.63	374.96	5.11	-0.98	430,393.2084	697,905.9228	32.181650	-103.693658
400.00	1.04	350.20	399.95	5.58	-1.12	430,393.6761	697,905.7837	32.181652	-103.693658
425.00	1.25	344.82	424.95	6.06	-1.23	430,394.1628	697,905.6737	32.181653	-103.693659
450.00	1.09	338.35	449.94	6.55	-1.39	430,394.6470	697,905.5146	32.181654	-103.693659
475.00	1.04	339.07	474.94	6.98	-1.55	430,395.0799	697,905.3458	32.181656	-103.693660
500.00	0.95	338.55	499.93	7.38	-1.71	430,395.4847	697,905.1890	32.181657	-103.693660
525.00	0.95	343.05	524.93	7.78	-1.85	430,395.8758	697,905.0528	32.181658	-103.693661
550.00	1.00	350.24	549.93	8.19	-1.94	430,396.2891	697,904.9554	32.181659	-103.693661
575.00	0.89	339.56	574.92	8.59	-2.05	430,396.6860	697,904.8506	32.181660	-103.693661
600.00	0.82	341.10	599.92	8.94	-2.18	430,397.0372	697,904.7248	32.181661	-103.693662
625.00	0.70	338.25	624.92	9.25	-2.29	430,397.3483	697,904.6103	32.181662	-103.693662
650.00	0.55	340.51	649.92	9.50	-2.39	430,397.6032	697,904.5137	32.181663	-103.693662
675.00	0.55	323.63	674.91	9.71	-2.50	430,397.8130	697,904.4025	32.181663	-103.693663
700.00	0.57	317.66	699.91	9.90	-2.65	430,398.0015	697,904.2476	32.181664	-103.693663
725.00	0.55	302.54	724.91	10.06	-2.84	430,398.1580	697,904.0627	32.181664	-103.693664
750.00	0.70	305.92	749.91	10.21	-3.06	430,398.3121	697,903.8378	32.181665	-103.693665
775.00	0.63	320.52	774.91	10.41	-3.27	430,398.5078	697,903.6268	32.181665	-103.693665
800.00	0.69	316.58	799.91	10.62	-3.46	430,398.7232	697,903.4359	32.181666	-103.693666
825.00	0.73	317.02	824.91	10.85	-3.68	430,398.9490	697,903.2239	32.181666	-103.693667
850.00	0.86	310.90	849.90	11.09	-3.93	430,399.1884	697,902.9735	32.181667	-103.693667
875.00	0.62	324.06	874.90	11.32	-4.15	430,399.4207	697,902.7523	32.181668	-103.693668
900.00	0.52	302.63	899.90	11.49	-4.32	430,399.5914	697,902.5774	32.181668	-103.693669
925.00	0.51	8.10	924.90	11.66	-4.40	430,399.7627	697,902.4975	32.181669	-103.693669
950.00	0.46	346.42	949.90	11.87	-4.41	430,399.9704	697,902.4896	32.181669	-103.693669
975.00	0.39	348.24	974.90	12.05	-4.45	430,400.1513	697,902.4487	32.181670	-103.693669
1,000.00	0.30	5.47	999.90	12.20	-4.46	430,400.2997	697,902.4376	32.181670	-103.693669
1,025.00	0.30	356.19	1,024.90	12.33	-4.46	430,400.4302	697,902.4395	32.181670	-103.693669
1,050.00	0.19	18.04	1,049.90	12.43	-4.45	430,400.5349	697,902.4480	32.181671	-103.693669
1,075.00	0.14	315.35	1,074.90	12.50	-4.46	430,400.5961	697,902.4394	32.181671	-103.693669
1,100.00	0.13	279.87	1,099.90	12.52	-4.51	430,400.6226	697,902.3900	32.181671	-103.693669
1,125.00	0.30	306.43	1,124.90	12.57	-4.59	430,400.6664	697,902.3094	32.181671	-103.693669
1,150.00	0.24	314.79	1,149.90	12.64	-4.68	430,400.7421	697,902.2195	32.181671	-103.693670
1,175.00	0.34	345.93	1,174.90	12.75	-4.74	430,400.8510	697,902.1643	32.181672	-103.693670
1,200.00	0.40	6.53	1,199.89	12.91	-4.74	430,401.0096	697,902.1562	32.181672	-103.693670
1,225.00	0.51	17.47	1,224.89	13.10	-4.70	430,401.2025	697,902.1996	32.181673	-103.693670
1,250.00	0.39	22.94	1,249.89	13.29	-4.63	430,401.3869	697,902.2661	32.181673	-103.693670
1,275.00	0.43	14.00	1,274.89	13.46	-4.58	430,401.5563	697,902.3220	32.181673	-103.693669
1,300.00	0.40	16.29	1,299.89	13.63	-4.53	430,401.7311	697,902.3692	32.181674	-103.693669
1,325.00	0.32	7.91	1,324.89	13.78	-4.50	430,401.8840	697,902.4032	32.181674	-103.693669
1,350.00	0.40	358.44	1,349.89	13.94	-4.49	430,402.0404	697,902.4105	32.181675	-103.693669
1,375.00	0.32	0.27	1,374.89	14.10	-4.49	430,402.1974	697,902.4084	32.181675	-103.693669
1,400.00	0.39	353.68	1,399.89	14.25	-4.50	430,402.3518	697,902.3994	32.181676	-103.693669
1,425.00	0.43	12.26	1,424.89	14.43	-4.49	430,402.5281	697,902.4099	32.181676	-103.693669
1,450.00	0.43	357.62	1,449.89	14.61	-4.47	430,402.7135	697,902.4260	32.181677	-103.693669
1,475.00	0.53	3.92	1,474.89	14.82	-4.47	430,402.9225	697,902.4300	32.181677	-103.693669
1,500.00	0.50	15.05	1,499.89	15.04	-4.43	430,403.1432	697,902.4662	32.181678	-103.693669
1,525.00	0.51	7.42	1,524.89	15.26	-4.39	430,403.3589	697,902.5089	32.181678	-103.693669
1,550.00	0.58	351.19	1,549.88	15.49	-4.40	430,403.5943	697,902.5039	32.181679	-103.693669
1,575.00	0.50	2.43	1,574.88	15.73	-4.41	430,403.8283	697,902.4891	32.181680	-103.693669
1,600.00	0.75	357.60	1,599.88	16.00	-4.41	430,404.1008	697,902.4869	32.181680	-103.693669
1,625.00	0.69	353.80	1,624.88	16.31	-4.44	430,404.4139	697,902.4638	32.181681	-103.693669
1,650.00	0.35	349.42	1,649.88	16.54	-4.47	430,404.6386	697,902.4335	32.181682	-103.693669
1,675.00	0.33	290.24	1,674.88	16.64	-4.55	430,404.7386	697,902.3520	32.181682	-103.693669
1,700.00	0.45	251.96	1,699.88	16.63	-4.71	430,404.7331	697,902.1911	32.181682	-103.693670

Survey Report - Geographic

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Site:	Sec. 29, T.24 S., R. 32E	MD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,725.00	0.60	239.00	1,724.88	16.54	-4.91	430,404.6353	697,901.9855	32.181682	-103.693670
1,750.00	0.51	214.97	1,749.88	16.38	-5.09	430,404.4767	697,901.8095	32.181682	-103.693671
1,775.00	0.61	222.10	1,774.87	16.19	-5.24	430,404.2867	697,901.6565	32.181681	-103.693672
1,800.00	0.62	211.26	1,799.87	15.97	-5.40	430,404.0724	697,901.4971	32.181680	-103.693672
1,825.00	0.58	238.53	1,824.87	15.79	-5.58	430,403.8907	697,901.3190	32.181680	-103.693673
1,850.00	0.55	224.40	1,849.87	15.64	-5.77	430,403.7389	697,901.1272	32.181680	-103.693673
1,875.00	0.39	217.60	1,874.87	15.49	-5.91	430,403.5858	697,900.9913	32.181679	-103.693674
1,900.00	0.49	213.58	1,899.87	15.33	-6.02	430,403.4293	697,900.8802	32.181679	-103.693674
1,925.00	0.50	205.02	1,924.87	15.14	-6.13	430,403.2414	697,900.7750	32.181678	-103.693674
1,950.00	0.45	221.06	1,949.87	14.97	-6.24	430,403.0685	697,900.6644	32.181678	-103.693675
1,975.00	0.53	200.65	1,974.87	14.79	-6.34	430,402.8863	697,900.5591	32.181677	-103.693675
2,000.00	0.42	214.56	1,999.87	14.60	-6.43	430,402.7026	697,900.4664	32.181677	-103.693675
2,025.00	0.33	215.21	2,024.86	14.47	-6.53	430,402.5684	697,900.3729	32.181676	-103.693676
2,050.00	0.21	175.83	2,049.86	14.36	-6.57	430,402.4638	697,900.3347	32.181676	-103.693676
2,075.00	0.17	230.07	2,074.86	14.29	-6.59	430,402.3944	697,900.3096	32.181676	-103.693676
2,100.00	0.28	145.97	2,099.86	14.22	-6.58	430,402.3199	697,900.3153	32.181676	-103.693676
2,125.00	0.36	155.97	2,124.86	14.10	-6.52	430,402.1976	697,900.3815	32.181675	-103.693676
2,150.00	0.40	130.77	2,149.86	13.97	-6.42	430,402.0688	697,900.4796	32.181675	-103.693675
2,175.00	0.54	136.11	2,174.86	13.83	-6.27	430,401.9270	697,900.6273	32.181675	-103.693675
2,200.00	0.39	134.20	2,199.86	13.68	-6.13	430,401.7827	697,900.7700	32.181674	-103.693674
2,225.00	0.44	120.42	2,224.86	13.57	-5.99	430,401.6748	697,900.9138	32.181674	-103.693674
2,250.00	0.54	110.25	2,249.86	13.49	-5.79	430,401.5854	697,901.1071	32.181674	-103.693673
2,275.00	0.81	107.14	2,274.86	13.39	-5.51	430,401.4926	697,901.3865	32.181673	-103.693672
2,300.00	0.84	102.56	2,299.86	13.30	-5.17	430,401.4007	697,901.7342	32.181673	-103.693671
2,325.00	0.94	99.39	2,324.85	13.23	-4.78	430,401.3273	697,902.1154	32.181673	-103.693670
2,350.00	0.94	105.09	2,349.85	13.14	-4.38	430,401.2405	697,902.5157	32.181673	-103.693669
2,375.00	0.91	113.05	2,374.85	13.01	-4.00	430,401.1094	697,902.8964	32.181672	-103.693668
2,400.00	0.99	112.52	2,399.84	12.85	-3.62	430,400.9489	697,903.2785	32.181672	-103.693666
2,425.00	0.99	115.23	2,424.84	12.67	-3.23	430,400.7742	697,903.6734	32.181671	-103.693665
2,450.00	0.99	115.42	2,449.84	12.49	-2.84	430,400.5894	697,904.0638	32.181671	-103.693664
2,475.00	0.88	109.03	2,474.83	12.33	-2.46	430,400.4341	697,904.4404	32.181670	-103.693663
2,500.00	0.93	107.09	2,499.83	12.21	-2.08	430,400.3119	697,904.8158	32.181670	-103.693661
2,525.00	0.87	105.75	2,524.83	12.10	-1.71	430,400.2007	697,905.1924	32.181670	-103.693660
2,550.00	0.98	114.70	2,549.82	11.96	-1.33	430,400.0599	697,905.5693	32.181669	-103.693659
2,575.00	0.64	110.70	2,574.82	11.82	-1.01	430,399.9212	697,905.8941	32.181669	-103.693658
2,600.00	0.44	129.39	2,599.82	11.71	-0.80	430,399.8109	697,906.0989	32.181669	-103.693657
2,625.00	0.32	197.59	2,624.82	11.58	-0.75	430,399.6835	697,906.1520	32.181668	-103.693657
2,650.00	0.43	292.53	2,649.82	11.55	-0.86	430,399.6529	697,906.0443	32.181668	-103.693657
2,675.00	0.40	266.38	2,674.82	11.58	-1.03	430,399.6833	697,905.8705	32.181668	-103.693658
2,700.00	0.37	283.60	2,699.82	11.60	-1.20	430,399.6968	697,905.7050	32.181668	-103.693659
2,725.00	0.29	297.84	2,724.82	11.65	-1.33	430,399.7453	697,905.5706	32.181668	-103.693659
2,750.00	0.29	278.95	2,749.82	11.68	-1.45	430,399.7847	697,905.4522	32.181669	-103.693659
2,775.00	0.11	343.86	2,774.82	11.72	-1.52	430,399.8176	697,905.3830	32.181669	-103.693660
2,800.00	0.11	283.24	2,799.82	11.75	-1.55	430,399.8461	697,905.3530	32.181669	-103.693660
2,825.00	0.13	334.72	2,824.82	11.78	-1.58	430,399.8773	697,905.3175	32.181669	-103.693660
2,850.00	0.11	336.97	2,849.82	11.83	-1.60	430,399.9250	697,905.2960	32.181669	-103.693660
2,875.00	0.33	354.07	2,874.82	11.92	-1.62	430,400.0187	697,905.2792	32.181669	-103.693660
2,900.00	0.37	351.01	2,899.82	12.07	-1.64	430,400.1700	697,905.2591	32.181670	-103.693660
2,925.00	0.29	35.16	2,924.81	12.20	-1.62	430,400.3015	697,905.2829	32.181670	-103.693660
2,950.00	0.38	58.90	2,949.81	12.30	-1.51	430,400.3960	697,905.3903	32.181670	-103.693660
2,975.00	0.26	28.53	2,974.81	12.39	-1.41	430,400.4887	697,905.4884	32.181670	-103.693659
3,000.00	0.24	35.31	2,999.81	12.48	-1.35	430,400.5812	697,905.5458	32.181671	-103.693659
3,025.00	0.37	32.08	3,024.81	12.59	-1.28	430,400.6924	697,905.6189	32.181671	-103.693659
3,050.00	0.43	36.89	3,049.81	12.74	-1.18	430,400.8358	697,905.7181	32.181671	-103.693658
3,075.00	0.46	21.16	3,074.81	12.90	-1.09	430,401.0044	697,905.8106	32.181672	-103.693658

Survey Report - Geographic

Company:	COG Operating L.L.C.	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandill Freedom)
Site:	Sec. 29, T 24 S., R 32 E	MD Reference:	KB=26' @ 3522.60ft (Scandill Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,100.00	0.46	32.74	3,099.81	13.08	-1.00	430,401.1824	697,905.9011	32.181672	-103.693658
3,125.00	0.62	44.07	3,124.81	13.26	-0.85	430,401.3640	697,906.0495	32.181673	-103.693657
3,150.00	0.56	48.18	3,149.81	13.44	-0.67	430,401.5426	697,906.2346	32.181673	-103.693657
3,175.00	0.57	65.24	3,174.81	13.58	-0.46	430,401.6762	697,906.4386	32.181674	-103.693656
3,200.00	0.50	54.84	3,199.81	13.69	-0.26	430,401.7911	697,906.6407	32.181674	-103.693655
3,225.00	0.52	49.41	3,224.81	13.83	-0.08	430,401.9277	697,906.8160	32.181674	-103.693655
3,250.00	0.75	34.59	3,249.80	14.04	0.10	430,402.1362	697,906.9950	32.181675	-103.693654
3,275.00	0.80	47.83	3,274.80	14.29	0.32	430,402.3881	697,907.2173	32.181676	-103.693654
3,300.00	0.70	42.63	3,299.80	14.52	0.55	430,402.6176	697,907.4501	32.181676	-103.693653
3,325.00	0.57	49.12	3,324.80	14.71	0.75	430,402.8114	697,907.6475	32.181677	-103.693652
3,350.00	0.65	47.74	3,349.80	14.89	0.95	430,402.9881	697,907.8465	32.181677	-103.693652
3,375.00	0.75	41.55	3,374.79	15.11	1.16	430,403.2059	697,908.0599	32.181678	-103.693651
3,400.00	0.80	41.70	3,399.79	15.36	1.38	430,403.4587	697,908.2846	32.181679	-103.693650
3,425.00	0.23	46.57	3,424.79	15.52	1.54	430,403.6235	697,908.4371	32.181679	-103.693650
3,450.00	0.36	238.31	3,449.79	15.52	1.51	430,403.6167	697,908.4067	32.181679	-103.693650
3,475.00	0.63	208.73	3,474.79	15.35	1.37	430,403.4549	697,908.2738	32.181679	-103.693650
3,500.00	0.69	189.86	3,499.79	15.09	1.28	430,403.1861	697,908.1820	32.181678	-103.693650
3,525.00	0.75	177.10	3,524.79	14.77	1.26	430,402.8744	697,908.1645	32.181677	-103.693651
3,550.00	0.89	176.07	3,549.78	14.42	1.29	430,402.5173	697,908.1861	32.181676	-103.693650
3,575.00	0.98	187.48	3,574.78	14.01	1.27	430,402.1116	697,908.1716	32.181675	-103.693650
3,600.00	0.94	186.55	3,599.78	13.60	1.22	430,401.6959	697,908.1203	32.181674	-103.693651
3,625.00	1.03	182.23	3,624.77	13.17	1.19	430,401.2676	697,908.0882	32.181673	-103.693651
3,650.00	1.05	185.92	3,649.77	12.72	1.16	430,400.8153	697,908.0558	32.181671	-103.693651
3,675.00	0.93	190.69	3,674.77	12.29	1.09	430,400.3881	697,907.9946	32.181670	-103.693651
3,700.00	1.00	185.98	3,699.76	11.87	1.03	430,399.9717	697,907.9342	32.181669	-103.693651
3,725.00	1.03	205.98	3,724.76	11.45	0.91	430,399.5528	697,907.8130	32.181668	-103.693652
3,750.00	1.10	199.92	3,749.75	11.03	0.73	430,399.1252	697,907.6329	32.181667	-103.693652
3,775.00	1.21	194.50	3,774.75	10.54	0.58	430,398.6440	697,907.4850	32.181665	-103.693653
3,800.00	1.16	213.15	3,799.74	10.08	0.38	430,398.1766	697,907.2805	32.181664	-103.693653
3,825.00	1.27	214.39	3,824.74	9.64	0.09	430,397.7361	697,906.9857	32.181663	-103.693654
3,850.00	1.09	208.64	3,849.73	9.20	-0.18	430,397.2988	697,906.7152	32.181662	-103.693655
3,875.00	1.19	211.22	3,874.73	8.77	-0.43	430,396.8681	697,906.4667	32.181661	-103.693656
3,900.00	1.29	220.68	3,899.72	8.33	-0.75	430,396.4327	697,906.1487	32.181659	-103.693657
3,925.00	1.51	225.27	3,924.71	7.89	-1.17	430,395.9874	697,905.7313	32.181658	-103.693658
3,950.00	1.48	221.48	3,949.71	7.41	-1.62	430,395.5137	697,905.2834	32.181657	-103.693660
3,975.00	1.33	223.67	3,974.70	6.96	-2.03	430,395.0620	697,904.8692	32.181656	-103.693661
4,000.00	1.13	227.05	3,999.69	6.58	-2.41	430,394.6842	697,904.4884	32.181655	-103.693663
4,025.00	0.65	212.66	4,024.69	6.30	-2.67	430,394.3968	697,904.2315	32.181654	-103.693663
4,050.00	0.66	190.53	4,049.69	6.04	-2.77	430,394.1359	697,904.1286	32.181653	-103.693664
4,075.00	0.66	182.15	4,074.69	5.75	-2.80	430,393.8504	697,904.0969	32.181652	-103.693664
4,100.00	0.63	185.26	4,099.69	5.47	-2.82	430,393.5697	697,904.0789	32.181652	-103.693664
4,125.00	0.53	186.09	4,124.68	5.22	-2.85	430,393.3179	697,904.0541	32.181651	-103.693664
4,150.00	0.63	170.27	4,149.68	4.97	-2.84	430,393.0674	697,904.0650	32.181650	-103.693664
4,175.00	0.70	170.49	4,174.68	4.68	-2.79	430,392.7813	697,904.1135	32.181649	-103.693664
4,200.00	0.79	189.63	4,199.68	4.36	-2.79	430,392.4608	697,904.1099	32.181648	-103.693664
4,225.00	0.81	178.46	4,224.68	4.01	-2.81	430,392.1143	697,904.0858	32.181648	-103.693664
4,250.00	0.77	172.54	4,249.67	3.67	-2.79	430,391.7710	697,904.1124	32.181647	-103.693664
4,275.00	1.07	134.41	4,274.67	3.34	-2.60	430,391.4411	697,904.3009	32.181646	-103.693663
4,300.00	0.78	159.93	4,299.67	3.02	-2.37	430,391.1180	697,904.5261	32.181645	-103.693662
4,325.00	0.83	158.65	4,324.67	2.69	-2.25	430,390.7895	697,904.6504	32.181644	-103.693662
4,350.00	0.87	167.79	4,349.66	2.34	-2.14	430,390.4353	697,904.7564	32.181643	-103.693662
4,375.00	0.86	145.48	4,374.66	2.00	-2.00	430,390.0952	697,904.9029	32.181642	-103.693661
4,400.00	0.88	140.07	4,399.66	1.69	-1.77	430,389.7934	697,905.1324	32.181641	-103.693661
4,425.00	0.98	146.71	4,424.65	1.37	-1.53	430,389.4675	697,905.3730	32.181640	-103.693660
4,450.00	0.96	148.03	4,449.65	1.01	-1.30	430,389.1112	697,905.6012	32.181639	-103.693659

Survey Report - Geographic

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandriill Freedom)
Site:	Sec. 29, T 24 S., R 32E	MD Reference:	KB=26' @ 3522.60ft (Scandriill Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,475.00	0.97	146.14	4,474.65	0.66	-1.07	430,388.7578	697,905.8300	32.181638	-103.693658
4,500.00	1.06	135.87	4,499.64	0.32	-0.79	430,388.4161	697,906.1090	32.181637	-103.693657
4,525.00	1.09	143.25	4,524.64	-0.04	-0.49	430,388.0596	697,906.4122	32.181636	-103.693656
4,550.00	0.97	145.43	4,549.63	-0.41	-0.23	430,387.6948	697,906.6746	32.181635	-103.693656
4,575.00	0.90	137.44	4,574.63	-0.72	0.03	430,387.3759	697,906.9274	32.181634	-103.693655
4,600.00	1.12	139.32	4,599.63	-1.05	0.32	430,387.0460	697,907.2195	32.181634	-103.693654
4,625.00	1.21	139.95	4,624.62	-1.44	0.65	430,386.6587	697,907.5486	32.181632	-103.693653
4,650.00	0.97	139.58	4,649.62	-1.80	0.96	430,386.2955	697,907.8557	32.181631	-103.693652
4,675.00	1.08	143.29	4,674.61	-2.15	1.23	430,385.9455	697,908.1337	32.181630	-103.693651
4,700.00	1.16	139.57	4,699.61	-2.54	1.54	430,385.5640	697,908.4387	32.181629	-103.693650
4,725.00	1.12	145.41	4,724.60	-2.93	1.84	430,385.1703	697,908.7415	32.181628	-103.693649
4,750.00	1.12	149.02	4,749.60	-3.34	2.11	430,384.7596	697,909.0060	32.181627	-103.693648
4,775.00	1.10	140.83	4,774.59	-3.74	2.38	430,384.3641	697,909.2833	32.181626	-103.693647
4,800.00	1.08	137.36	4,799.59	-4.10	2.69	430,384.0048	697,909.5945	32.181625	-103.693646
4,825.00	1.20	140.22	4,824.58	-4.47	3.02	430,383.6303	697,909.9215	32.181624	-103.693645
4,850.00	1.25	138.61	4,849.58	-4.88	3.37	430,383.2245	697,910.2693	32.181623	-103.693644
4,875.00	1.06	144.17	4,874.57	-5.27	3.68	430,382.8325	697,910.5850	32.181622	-103.693643
4,900.00	1.08	142.06	4,899.57	-5.64	3.97	430,382.4592	697,910.8652	32.181621	-103.693642
4,925.00	1.26	137.61	4,924.56	-6.03	4.30	430,382.0703	697,911.1954	32.181620	-103.693641
4,950.00	1.23	139.58	4,949.56	-6.44	4.65	430,381.6631	697,911.5547	32.181619	-103.693640
4,975.00	1.23	139.18	4,974.55	-6.84	5.00	430,381.2557	697,911.9040	32.181618	-103.693639
5,000.00	1.94	124.94	4,999.54	-7.29	5.53	430,380.8103	697,912.4263	32.181616	-103.693637
5,025.00	1.31	140.92	5,024.53	-7.75	6.05	430,380.3461	697,912.9534	32.181615	-103.693635
5,050.00	1.23	144.38	5,049.53	-8.19	6.39	430,379.9062	697,913.2898	32.181614	-103.693634
5,075.00	1.31	141.15	5,074.52	-8.63	6.73	430,379.4655	697,913.6253	32.181613	-103.693633
5,100.00	1.22	139.37	5,099.51	-9.06	7.08	430,379.0409	697,913.9779	32.181611	-103.693632
5,125.00	1.27	137.50	5,124.51	-9.47	7.44	430,378.6347	697,914.3384	32.181610	-103.693631
5,150.00	1.18	138.86	5,149.50	-9.86	7.79	430,378.2366	697,914.6949	32.181609	-103.693630
5,175.00	1.11	136.76	5,174.50	-10.23	8.13	430,377.8663	697,915.0302	32.181608	-103.693629
5,200.00	1.10	138.16	5,199.49	-10.59	8.46	430,377.5111	697,915.3561	32.181607	-103.693628
5,225.00	1.08	132.48	5,224.49	-10.93	8.79	430,377.1732	697,915.6899	32.181606	-103.693627
5,250.00	1.33	131.58	5,249.48	-11.28	9.18	430,376.8216	697,916.0807	32.181605	-103.693625
5,275.00	1.18	137.55	5,274.48	-11.66	9.57	430,376.4391	697,916.4715	32.181604	-103.693624
5,300.00	1.18	136.14	5,299.47	-12.04	9.92	430,376.0635	697,916.8236	32.181603	-103.693623
5,325.00	1.17	132.32	5,324.47	-12.39	10.29	430,375.7061	697,917.1907	32.181602	-103.693622
5,350.00	1.09	130.17	5,349.46	-12.72	10.66	430,375.3808	697,917.5611	32.181601	-103.693621
5,375.00	1.28	135.37	5,374.46	-13.07	11.04	430,375.0287	697,917.9390	32.181600	-103.693619
5,400.00	1.28	128.70	5,399.45	-13.44	11.45	430,374.6554	697,918.3531	32.181599	-103.693618
5,425.00	1.17	138.66	5,424.44	-13.81	11.84	430,374.2892	697,918.7396	32.181598	-103.693617
5,450.00	1.09	136.56	5,449.44	-14.18	12.17	430,373.9249	697,919.0717	32.181597	-103.693616
5,475.00	1.23	132.95	5,474.43	-14.53	12.53	430,373.5695	697,919.4316	32.181596	-103.693615
5,500.00	1.01	134.12	5,499.43	-14.87	12.89	430,373.2332	697,919.7861	32.181595	-103.693614
5,525.00	0.94	130.52	5,524.43	-15.15	13.20	430,372.9466	697,920.1002	32.181595	-103.693612
5,550.00	1.06	130.34	5,549.42	-15.44	13.53	430,372.6637	697,920.4324	32.181594	-103.693611
5,575.00	1.11	130.39	5,574.42	-15.74	13.89	430,372.3571	697,920.7930	32.181593	-103.693610
5,600.00	0.92	131.55	5,599.41	-16.03	14.23	430,372.0671	697,921.1277	32.181592	-103.693609
5,625.00	0.94	135.15	5,624.41	-16.31	14.52	430,371.7886	697,921.4225	32.181591	-103.693608
5,650.00	0.84	126.19	5,649.41	-16.57	14.82	430,371.5350	697,921.7150	32.181591	-103.693607
5,675.00	0.85	133.91	5,674.40	-16.80	15.10	430,371.2982	697,921.9965	32.181590	-103.693606
5,700.00	0.97	124.46	5,699.40	-17.05	15.40	430,371.0498	697,922.3046	32.181589	-103.693605
5,725.00	0.89	124.55	5,724.40	-17.28	15.74	430,370.8200	697,922.6390	32.181589	-103.693604
5,750.00	0.95	126.03	5,749.40	-17.51	16.07	430,370.5880	697,922.9665	32.181588	-103.693603
5,775.00	1.03	126.01	5,774.39	-17.77	16.42	430,370.3339	697,923.3159	32.181587	-103.693602
5,800.00	0.74	130.65	5,799.39	-18.00	16.72	430,370.0967	697,923.6201	32.181587	-103.693601
5,825.00	0.69	136.50	5,824.39	-18.22	16.95	430,369.8823	697,923.8462	32.181586	-103.693600

Survey Report - Geographic

Company:	COG Operating L.L.C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandill Freedom)
Site:	Sec. 29, T-24 S., R-32E	MD Reference:	KB=26' @ 3522.60ft (Scandill Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,850.00	0.61	135.71	5,849.38	-18.42	17.14	430,369.6779	697,924.0428	32.181586	-103.693600	
5,875.00	0.79	124.20	5,874.38	-18.61	17.38	430,369.4857	697,924.2782	32.181585	-103.693599	
5,900.00	0.81	126.95	5,899.38	-18.82	17.66	430,369.2826	697,924.5620	32.181584	-103.693598	
5,925.00	0.82	130.71	5,924.38	-19.04	17.94	430,369.0597	697,924.8388	32.181584	-103.693597	
5,950.00	0.86	133.38	5,949.38	-19.29	18.21	430,368.8142	697,925.1108	32.181583	-103.693596	
5,975.00	0.70	132.17	5,974.37	-19.52	18.46	430,368.5828	697,925.3603	32.181582	-103.693596	
6,000.00	0.73	132.80	5,999.37	-19.73	18.69	430,368.3721	697,925.5904	32.181582	-103.693595	
6,025.00	0.78	128.41	6,024.37	-19.94	18.94	430,368.1582	697,925.8405	32.181581	-103.693594	
6,050.00	0.83	129.56	6,049.37	-20.16	19.21	430,367.9371	697,926.1135	32.181581	-103.693593	
6,075.00	0.82	131.87	6,074.36	-20.40	19.49	430,367.7024	697,926.3863	32.181580	-103.693592	
6,100.00	0.81	129.45	6,099.36	-20.63	19.76	430,367.4707	697,926.6560	32.181579	-103.693591	
6,125.00	0.66	133.25	6,124.36	-20.84	20.00	430,367.2598	697,926.8973	32.181579	-103.693591	
6,150.00	0.72	119.04	6,149.36	-21.02	20.24	430,367.0849	697,927.1395	32.181578	-103.693590	
6,175.00	0.74	121.08	6,174.36	-21.17	20.52	430,366.9253	697,927.4151	32.181578	-103.693589	
6,200.00	0.64	126.87	6,199.35	-21.34	20.77	430,366.7582	697,927.6650	32.181577	-103.693588	
6,225.00	0.73	132.83	6,224.35	-21.53	20.99	430,366.5661	697,927.8935	32.181577	-103.693587	
6,250.00	0.84	124.59	6,249.35	-21.75	21.26	430,366.3538	697,928.1612	32.181576	-103.693587	
6,275.00	0.79	123.90	6,274.35	-21.95	21.56	430,366.1537	697,928.4551	32.181576	-103.693586	
6,300.00	0.67	125.09	6,299.34	-22.13	21.82	430,365.9735	697,928.7177	32.181575	-103.693585	
6,325.00	0.63	130.15	6,324.34	-22.30	22.04	430,365.8009	697,928.9424	32.181575	-103.693584	
6,350.00	0.81	132.38	6,349.34	-22.51	22.28	430,365.5932	697,929.1780	32.181574	-103.693583	
6,375.00	0.66	139.54	6,374.34	-22.74	22.50	430,365.3645	697,929.4020	32.181574	-103.693583	
6,400.00	0.78	128.32	6,399.34	-22.95	22.73	430,365.1494	697,929.6289	32.181573	-103.693582	
6,425.00	0.87	136.79	6,424.33	-23.19	22.99	430,364.9056	697,929.8924	32.181572	-103.693581	
6,450.00	0.73	132.19	6,449.33	-23.44	23.24	430,364.6603	697,930.1403	32.181572	-103.693580	
6,475.00	0.68	120.43	6,474.33	-23.62	23.49	430,364.4782	697,930.3862	32.181571	-103.693579	
6,500.00	0.79	130.95	6,499.33	-23.81	23.74	430,364.2901	697,930.6443	32.181571	-103.693579	
6,525.00	0.76	127.96	6,524.33	-24.02	24.01	430,364.0752	697,930.9052	32.181570	-103.693578	
6,550.00	0.70	124.51	6,549.32	-24.21	24.26	430,363.8867	697,931.1617	32.181569	-103.693577	
6,575.00	0.69	145.64	6,574.32	-24.42	24.47	430,363.6759	697,931.3725	32.181569	-103.693576	
6,600.00	0.84	136.37	6,599.32	-24.68	24.68	430,363.4190	697,931.5839	32.181568	-103.693576	
6,625.00	1.07	131.10	6,624.32	-24.97	24.99	430,363.1329	697,931.8863	32.181567	-103.693575	
6,650.00	0.93	131.01	6,649.31	-25.25	25.32	430,362.8463	697,932.2153	32.181567	-103.693574	
6,675.00	0.88	127.23	6,674.31	-25.50	25.62	430,362.5970	697,932.5212	32.181566	-103.693573	
6,700.00	0.86	130.25	6,699.31	-25.74	25.92	430,362.3597	697,932.8173	32.181565	-103.693572	
6,725.00	0.95	130.97	6,724.30	-26.00	26.22	430,362.1025	697,933.1170	32.181565	-103.693571	
6,750.00	1.00	131.43	6,749.30	-26.28	26.54	430,361.8223	697,933.4370	32.181564	-103.693570	
6,775.00	0.85	129.82	6,774.30	-26.54	26.84	430,361.5592	697,933.7430	32.181563	-103.693569	
6,800.00	0.97	129.05	6,799.29	-26.79	27.15	430,361.3071	697,934.0498	32.181562	-103.693568	
6,825.00	0.91	138.37	6,824.29	-27.07	27.45	430,361.0254	697,934.3460	32.181562	-103.693567	
6,850.00	1.03	126.26	6,849.29	-27.36	27.76	430,360.7442	697,934.6590	32.181561	-103.693566	
6,875.00	1.04	142.07	6,874.28	-27.67	28.08	430,360.4323	697,934.9797	32.181560	-103.693565	
6,900.00	0.94	138.65	6,899.28	-28.00	28.35	430,360.0994	697,935.2546	32.181559	-103.693564	
6,925.00	1.03	148.06	6,924.28	-28.35	28.61	430,359.7548	697,935.5090	32.181558	-103.693563	
6,950.00	1.07	147.65	6,949.27	-28.73	28.85	430,359.3669	697,935.7528	32.181557	-103.693562	
6,975.00	1.16	146.95	6,974.27	-29.14	29.12	430,358.9576	697,936.0157	32.181556	-103.693561	
7,000.00	1.03	141.33	6,999.26	-29.53	29.39	430,358.5701	697,936.2941	32.181555	-103.693560	
7,025.00	0.73	157.95	7,024.26	-29.85	29.59	430,358.2470	697,936.4943	32.181554	-103.693560	
7,050.00	0.20	212.94	7,049.26	-30.04	29.63	430,358.0628	697,936.5303	32.181553	-103.693560	
7,075.00	0.41	299.13	7,074.26	-30.03	29.53	430,358.0697	697,936.4285	32.181553	-103.693560	
7,100.00	0.36	314.10	7,099.26	-29.93	29.39	430,358.1679	697,936.2939	32.181554	-103.693560	
7,125.00	0.38	296.59	7,124.26	-29.84	29.26	430,358.2597	697,936.1634	32.181554	-103.693561	
7,150.00	0.37	285.55	7,149.26	-29.78	29.11	430,358.3184	697,936.0115	32.181554	-103.693561	
7,175.00	0.34	295.27	7,174.26	-29.73	28.97	430,358.3717	697,935.8667	32.181554	-103.693562	
7,200.00	0.41	277.83	7,199.26	-29.68	28.81	430,358.4156	697,935.7110	32.181554	-103.693562	

Survey Report - Geographic

Company:	COG Operating L.L.C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Site:	Sec. 29, T 24 S., R 32E	MD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,225.00	0.39	283.28	7,224.25	-29.65	28.64	430,358.4473	697,935.5395	32.181554	-103.693563
7,250.00	0.28	274.68	7,249.25	-29.63	28.50	430,358.4718	697,935.3959	32.181555	-103.693563
7,275.00	0.42	285.13	7,274.25	-29.60	28.35	430,358.5007	697,935.2465	32.181555	-103.693564
7,300.00	0.60	285.57	7,299.25	-29.54	28.13	430,358.5598	697,935.0320	32.181555	-103.693565
7,325.00	0.46	289.95	7,324.25	-29.47	27.91	430,358.6292	697,934.8115	32.181555	-103.693565
7,350.00	0.42	276.73	7,349.25	-29.43	27.73	430,358.6741	697,934.6262	32.181555	-103.693566
7,375.00	0.29	264.74	7,374.25	-29.42	27.57	430,358.6791	697,934.4722	32.181555	-103.693566
7,400.00	0.32	276.44	7,399.25	-29.42	27.44	430,358.6811	697,934.3398	32.181555	-103.693567
7,425.00	0.43	271.65	7,424.25	-29.41	27.28	430,358.6916	697,934.1767	32.181555	-103.693567
7,450.00	0.41	272.68	7,449.25	-29.40	27.09	430,358.6985	697,933.9936	32.181555	-103.693568
7,475.00	0.36	285.22	7,474.25	-29.38	26.93	430,358.7233	697,933.8284	32.181555	-103.693568
7,500.00	0.43	266.02	7,499.25	-29.36	26.76	430,358.7374	697,933.6591	32.181555	-103.693569
7,525.00	0.52	273.56	7,524.25	-29.36	26.55	430,358.7380	697,933.4523	32.181555	-103.693570
7,550.00	0.37	271.97	7,549.25	-29.35	26.36	430,358.7478	697,933.2584	32.181555	-103.693570
7,575.00	0.30	280.32	7,574.25	-29.34	26.21	430,358.7623	697,933.1133	32.181555	-103.693571
7,600.00	0.35	277.03	7,599.25	-29.32	26.07	430,358.7834	697,932.9731	32.181555	-103.693571
7,625.00	0.30	295.36	7,624.24	-29.28	25.94	430,358.8207	697,932.8382	32.181556	-103.693572
7,650.00	0.32	260.89	7,649.24	-29.26	25.81	430,358.8377	697,932.7101	32.181556	-103.693572
7,675.00	0.40	237.37	7,674.24	-29.32	25.67	430,358.7796	697,932.5677	32.181555	-103.693572
7,700.00	0.37	241.58	7,699.24	-29.41	25.52	430,358.6941	697,932.4232	32.181555	-103.693573
7,725.00	0.30	236.05	7,724.24	-29.48	25.40	430,358.6192	697,932.2979	32.181555	-103.693573
7,750.00	0.39	226.97	7,749.24	-29.58	25.28	430,358.5246	697,932.1814	32.181555	-103.693574
7,775.00	0.41	230.49	7,774.24	-29.69	25.15	430,358.4096	697,932.0502	32.181554	-103.693574
7,800.00	0.32	243.77	7,799.24	-29.78	25.02	430,358.3218	697,931.9186	32.181554	-103.693575
7,825.00	0.20	265.19	7,824.24	-29.81	24.91	430,358.2873	697,931.8125	32.181554	-103.693575
7,850.00	0.15	216.12	7,849.24	-29.84	24.85	430,358.2572	697,931.7497	32.181554	-103.693575
7,875.00	0.33	214.79	7,874.24	-29.93	24.79	430,358.1717	697,931.6894	32.181554	-103.693575
7,900.00	0.50	254.87	7,899.24	-30.02	24.64	430,358.0841	697,931.5430	32.181554	-103.693576
7,925.00	0.46	218.85	7,924.24	-30.12	24.47	430,357.9774	697,931.3747	32.181553	-103.693576
7,950.00	0.59	233.19	7,949.24	-30.28	24.31	430,357.8222	697,931.2087	32.181553	-103.693577
7,975.00	0.46	237.39	7,974.24	-30.41	24.12	430,357.6909	697,931.0211	32.181552	-103.693577
8,000.00	0.41	224.48	7,999.24	-30.53	23.97	430,357.5730	697,930.8739	32.181552	-103.693578
8,025.00	0.62	222.86	8,024.24	-30.69	23.82	430,357.4101	697,930.7193	32.181552	-103.693578
8,050.00	0.63	233.76	8,049.23	-30.87	23.62	430,357.2297	697,930.5164	32.181551	-103.693579
8,075.00	1.06	255.93	8,074.23	-31.01	23.28	430,357.0922	697,930.1812	32.181551	-103.693580
8,100.00	0.52	218.19	8,099.23	-31.15	22.99	430,356.9468	697,929.8868	32.181550	-103.693581
8,125.00	0.60	223.44	8,124.23	-31.34	22.83	430,356.7626	697,929.7266	32.181550	-103.693582
8,150.00	0.74	224.36	8,149.23	-31.55	22.62	430,356.5522	697,929.5238	32.181549	-103.693582
8,175.00	0.47	221.23	8,174.22	-31.74	22.44	430,356.3596	697,929.3433	32.181549	-103.693583
8,200.00	0.50	221.32	8,199.22	-31.90	22.30	430,356.2006	697,929.2037	32.181548	-103.693583
8,225.00	0.59	217.57	8,224.22	-32.08	22.15	430,356.0166	697,929.0532	32.181548	-103.693584
8,250.00	0.66	212.51	8,249.22	-32.31	22.00	430,355.7932	697,928.8973	32.181547	-103.693584
8,275.00	0.75	221.28	8,274.22	-32.55	21.81	430,355.5488	697,928.7120	32.181547	-103.693585
8,300.00	0.71	218.76	8,299.22	-32.79	21.61	430,355.3051	697,928.5071	32.181546	-103.693586
8,325.00	0.64	227.07	8,324.22	-33.01	21.41	430,355.0892	697,928.3079	32.181545	-103.693586
8,350.00	0.61	217.96	8,349.21	-33.21	21.22	430,354.8892	697,928.1238	32.181545	-103.693587
8,375.00	0.69	218.66	8,374.21	-33.43	21.05	430,354.6667	697,927.9479	32.181544	-103.693587
8,400.00	0.71	211.25	8,399.21	-33.68	20.87	430,354.4167	697,927.7735	32.181543	-103.693588
8,425.00	0.76	217.22	8,424.21	-33.95	20.69	430,354.1523	697,927.5929	32.181543	-103.693589
8,450.00	0.88	211.67	8,449.21	-34.24	20.49	430,353.8569	697,927.3918	32.181542	-103.693589
8,475.00	0.99	212.69	8,474.20	-34.59	20.27	430,353.5117	697,927.1744	32.181541	-103.693590
8,500.00	1.00	211.45	8,499.20	-34.96	20.04	430,353.1438	697,926.9439	32.181540	-103.693591
8,525.00	0.89	212.10	8,524.20	-35.31	19.83	430,352.7932	697,926.7269	32.181539	-103.693591
8,550.00	0.78	215.83	8,549.19	-35.61	19.62	430,352.4908	697,926.5241	32.181538	-103.693592
8,575.00	0.59	217.85	8,574.19	-35.85	19.45	430,352.2512	697,926.3455	32.181538	-103.693593

Survey Report - Geographic

Company:	COG Operating L L C	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Site:	Sec. 29, T 24 S., R 32E	MD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,600.00	0.53	217.12	8,599.19	-36.04	19.30	430,352.0574	697,926.1967	32.181537	-103.693593
8,625.00	0.33	218.19	8,624.19	-36.19	19.18	430,351.9086	697,926.0825	32.181537	-103.693594
8,650.00	0.24	221.26	8,649.19	-36.29	19.10	430,351.8126	697,926.0034	32.181536	-103.693594
8,675.00	0.14	222.05	8,674.19	-36.35	19.05	430,351.7506	697,925.9484	32.181536	-103.693594
8,700.00	0.13	176.90	8,699.19	-36.40	19.03	430,351.6996	697,925.9295	32.181536	-103.693594
8,725.00	0.15	116.48	8,724.19	-36.44	19.06	430,351.6567	697,925.9603	32.181536	-103.693594
8,750.00	0.07	185.06	8,749.19	-36.47	19.09	430,351.6269	697,925.9883	32.181536	-103.693594
8,775.00	0.07	288.01	8,774.19	-36.48	19.07	430,351.6164	697,925.9724	32.181536	-103.693594
8,800.00	0.12	72.60	8,799.19	-36.47	19.08	430,351.6290	697,925.9829	32.181536	-103.693594
8,825.00	0.23	46.43	8,824.19	-36.43	19.14	430,351.6714	697,926.0442	32.181536	-103.693594
8,850.00	0.40	84.84	8,849.19	-36.39	19.27	430,351.7138	697,926.1675	32.181536	-103.693593
8,860.00	0.50	91.49	8,859.19	-36.38	19.35	430,351.7158	697,926.2459	32.181536	-103.693593
8,966.00	1.80	82.00	8,965.16	-36.16	21.46	430,351.9355	697,928.3569	32.181537	-103.693586
9,005.00	6.20	21.70	9,004.07	-34.12	22.84	430,353.9791	697,929.7432	32.181542	-103.693582
First MWD Survey @ 9005' MD									
9,036.00	10.90	16.00	9,034.72	-29.75	24.27	430,358.3544	697,931.1708	32.181554	-103.693577
9,099.00	16.50	11.60	9,095.90	-15.24	27.71	430,372.8558	697,934.6144	32.181594	-103.693566
9,130.00	19.60	11.00	9,125.37	-5.83	29.59	430,382.2744	697,936.4922	32.181620	-103.693559
9,192.00	25.40	16.50	9,182.64	17.15	35.36	430,405.2538	697,942.2585	32.181683	-103.693540
9,224.00	28.80	17.30	9,211.12	31.10	39.60	430,419.1976	697,946.5011	32.181721	-103.693526
9,286.00	36.00	16.00	9,263.43	62.91	49.08	430,451.0141	697,955.9773	32.181809	-103.693495
9,376.72	46.71	14.83	9,331.43	120.63	64.93	430,508.7303	697,971.8261	32.181967	-103.693443
Hardline Crossing Point @ 9376.72' MD / 122.75' VS									
9,380.00	47.10	14.80	9,333.67	122.95	65.54	430,511.0458	697,972.4386	32.181973	-103.693441
9,473.00	57.40	14.80	9,390.53	193.94	84.30	430,582.0445	697,991.1973	32.182168	-103.693379
9,567.00	67.40	15.70	9,434.03	274.20	106.21	430,662.3031	698,013.1093	32.182388	-103.693306
9,661.00	72.90	14.30	9,465.93	359.58	129.07	430,747.6747	698,035.9652	32.182623	-103.693231
9,754.00	83.10	12.60	9,485.25	447.93	150.17	430,836.0329	698,057.0703	32.182865	-103.693161
9,785.00	87.20	12.90	9,487.87	478.05	156.99	430,866.1537	698,063.8862	32.182948	-103.693138
9,848.00	88.40	10.00	9,490.29	539.75	169.48	430,927.8467	698,076.3810	32.183117	-103.693097
9,942.00	89.40	1.30	9,492.09	633.18	178.72	431,021.2816	698,085.6235	32.183374	-103.693065
10,036.00	90.70	1.30	9,492.01	727.16	180.86	431,115.2552	698,087.7561	32.183632	-103.693056
10,129.00	88.50	0.40	9,492.66	820.14	182.24	431,208.2358	698,089.1357	32.183888	-103.693050
10,222.00	89.20	0.00	9,494.53	913.12	182.56	431,301.2156	698,089.4602	32.184143	-103.693047
10,315.00	89.20	359.00	9,495.83	1,006.10	181.75	431,394.2016	698,088.6487	32.184399	-103.693048
10,409.00	89.50	358.40	9,496.89	1,100.07	179.62	431,488.1707	698,086.5163	32.184657	-103.693053
10,502.00	89.80	357.70	9,497.46	1,193.02	176.45	431,581.1142	698,083.3518	32.184913	-103.693062
10,595.00	88.00	358.90	9,499.25	1,285.95	173.69	431,674.0504	698,080.5932	32.185168	-103.693069
10,688.00	88.10	359.00	9,502.41	1,378.88	171.99	431,766.9807	698,078.8900	32.185424	-103.693072
10,782.00	87.80	358.10	9,505.77	1,472.79	169.61	431,860.8892	698,076.5130	32.185682	-103.693078
10,876.00	88.70	0.30	9,508.64	1,566.73	168.30	431,954.8293	698,075.2017	32.185940	-103.693081
10,970.00	88.50	359.90	9,510.94	1,660.70	168.47	432,048.8007	698,075.3657	32.186199	-103.693078
11,063.00	90.10	0.80	9,512.08	1,753.69	169.03	432,141.7878	698,075.9339	32.186454	-103.693075
11,156.00	90.50	0.20	9,511.59	1,846.69	169.85	432,234.7822	698,076.7454	32.186710	-103.693070
11,249.00	90.10	0.80	9,511.10	1,939.68	170.66	432,327.7766	698,077.5570	32.186965	-103.693066
11,343.00	89.90	0.70	9,511.10	2,033.67	171.89	432,421.7683	698,078.7874	32.187224	-103.693060
11,436.00	90.00	0.00	9,511.18	2,126.67	172.46	432,514.7658	698,079.3555	32.187479	-103.693057
11,529.00	90.70	359.30	9,510.62	2,219.67	171.89	432,607.7610	698,078.7874	32.187735	-103.693057
11,623.00	90.70	0.00	9,509.47	2,313.66	171.31	432,701.7514	698,078.2133	32.187993	-103.693057
11,717.00	90.60	0.70	9,508.40	2,407.65	171.89	432,795.7428	698,078.7874	32.188252	-103.693053
11,812.00	91.00	0.20	9,507.07	2,502.63	172.63	432,890.7300	698,079.5335	32.188513	-103.693049
11,906.00	91.40	0.00	9,505.11	2,596.61	172.80	432,984.7088	698,079.6975	32.188771	-103.693046
11,999.00	89.30	358.80	9,504.54	2,689.60	171.82	433,077.6949	698,078.7237	32.189027	-103.693048
12,093.00	89.40	358.70	9,505.60	2,783.57	169.77	433,171.6662	698,076.6732	32.189285	-103.693053
12,187.00	89.30	358.50	9,506.67	2,877.54	167.48	433,265.6319	698,074.3767	32.189544	-103.693058

Survey Report - Geographic

Company:	COG Operating L.L.C.	Local Co-ordinate Reference:	Well Azores Federal #6H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Site:	Sec. 29, T.24 S., R.32E	MD Reference:	KB=26' @ 3522.60ft (Scandril Freedom)
Well:	Azores Federal #6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,281.00	90.40	358.20	9,506.92	2,971.50	164.77	433,359.5909	698,071.6701	32.189802	-103.693065
12,375.00	90.30	357.90	9,506.34	3,065.44	161.57	433,453.5344	698,068.4716	32.190060	-103.693074
12,468.00	90.30	357.80	9,505.86	3,158.37	158.08	433,546.4673	698,064.9827	32.190316	-103.693083
12,561.00	88.70	359.40	9,506.67	3,251.34	155.81	433,639.4298	698,062.7106	32.190571	-103.693089
12,655.00	89.10	1.50	9,508.47	3,345.31	156.55	433,733.4039	698,063.4488	32.190830	-103.693085
12,748.00	89.30	1.00	9,509.77	3,438.28	158.58	433,826.3722	698,065.4774	32.191085	-103.693076
12,841.00	90.60	1.40	9,509.85	3,531.26	160.53	433,919.3494	698,067.4250	32.191341	-103.693068
12,935.00	92.10	2.10	9,507.64	3,625.18	163.39	434,013.2760	698,070.2945	32.191599	-103.693057
13,028.00	90.70	0.20	9,505.36	3,718.13	165.26	434,106.2228	698,072.1599	32.191854	-103.693049
13,121.00	91.50	0.70	9,503.58	3,811.11	165.99	434,199.2016	698,072.8901	32.192110	-103.693045
13,215.00	90.90	1.30	9,501.61	3,905.07	167.63	434,293.1656	698,074.5303	32.192368	-103.693038
13,310.00	92.20	1.10	9,499.04	4,000.02	169.62	434,388.1077	698,076.5191	32.192629	-103.693030
13,403.00	90.40	359.10	9,496.93	4,092.98	169.78	434,481.0749	698,076.6808	32.192885	-103.693027
13,497.00	91.90	357.70	9,495.04	4,186.92	167.16	434,575.0141	698,074.0571	32.193143	-103.693034
13,591.00	89.10	358.20	9,494.22	4,280.85	163.80	434,668.9406	698,070.6952	32.193401	-103.693043
13,684.00	90.00	357.50	9,494.95	4,373.78	160.31	434,761.8705	698,067.2063	32.193657	-103.693053
13,778.00	90.90	358.10	9,494.22	4,467.71	156.70	434,855.7968	698,063.5980	32.193915	-103.693062
13,871.00	89.10	357.90	9,494.22	4,560.65	153.45	434,948.7361	698,060.3525	32.194170	-103.693071
13,965.00	89.60	357.80	9,495.28	4,654.57	149.93	435,042.6633	698,056.8263	32.194429	-103.693081
14,053.85	91.02	357.80	9,494.80	4,743.35	146.52	435,131.4441	698,053.4156	32.194673	-103.693090
Hardline Crossing Point @ 14053.85' MD / 4745.59' VS									
14,059.00	91.10	357.80	9,494.71	4,748.50	146.32	435,136.5894	698,053.2180	32.194687	-103.693091
14,141.00	92.00	356.20	9,492.49	4,830.35	142.03	435,218.4434	698,048.9284	32.194912	-103.693103
Final MWD Survey @ 14141' MD									
14,185.00	92.00	356.20	9,490.95	4,874.23	139.11	435,262.3199	698,046.0142	32.195033	-103.693111
Projection to TD @ 14185' MD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,005.00	9,004.07	-34.12	22.84	First MWD Survey @ 9005' MD
9,376.72	9,331.43	120.63	64.93	Hardline Crossing Point @ 9376.72' MD / 122.75' VS
14,053.85	9,494.80	4,743.35	146.52	Hardline Crossing Point @ 14053.85' MD / 4745.59' VS
14,141.00	9,492.49	4,830.35	142.03	Final MWD Survey @ 14141' MD
14,185.00	9,490.95	4,874.23	139.11	Projection to TD @ 14185' MD

Checked By: _____ Approved By: _____ Date: _____