

Results of Directional Survey

API number:	30-025-40137	DD
OGRID:		Operator: COG OPERATING LLC
		Property: GC FEDERAL # 53

surface	ULSTR:	M	19	T 17S	R 32E
				621 FSL	851 FWL

BH Loc	ULSTR:	M	19	T 17S	R 32E
7050 MD		7028.1	TVD	982 FSL	980 FWL

Top Perf/OH	ULSTR:	M	19	T 17S	R 32E
5290 MD		5268.2	TVD	975 FSL	974 FWL

Bot Perf/OH	ULSTR:	M	19	T 17S	R 32E
6740 MD		6718.1	TVD	982 FSL	979 FWL

	MD	N/S	E/W	VD
	5215	351.69	122.34	5193.21
TOP PERFS/OH	5290	354.36	123.08	5268.15
	5310	355.07	123.28	5288.14
	5500	357.81	124.97	5478.11
BOT PERFS/OH	6740	360.52	128.46	6718.11
	5532	357.88	125.06	5510.11

NEXT TO LAST	5500	357.81	124.97	5478.11
LAST READING	5532	357.88	125.06	5510.11
TD	7050	361.20	129.33	7028.11

Surface Location	621 FS	851 FW
Projected BHL	982 FS	980 FW
Location of		
Top Perfs/OH	975 FS	974 FW
Bottom Perfs/OH	982 FS	979 FW

SUMMARY of Subsurface Locations

Surface Location	M-19-17S-32E	621 FS	851 FW	Vert. Depth
Top Perfs/OH	M-19-17S-32E	975 FS	974 FW	5268.15
Bottom Perfs/OH	M-19-17S-32E	982 FS	979 FW	6718.11
Projected TD	M-19-17S-32E	982 FS	980 FW	7028.11