

Results of Directional Survey

API number:	30-025-39626		
OGRID:		Operator:	COG OPERATING LLC
		Property:	GC FEDERAL # 40

surface	ULSTR:	M	20	T	17S	R	32E
				480	FSL	900	FWL

BH Loc	ULSTR:	M	20	T	17S	R	32E
7178	MD	7133.9	TVD	373	FSL	359	FWL

Top Perf/OH	ULSTR:	M	20	T	17S	R	32E
5380	MD	5338.7	TVD	396	FSL	452	FWL

Bot Perf/OH	ULSTR:	M	20	T	17S	R	32E
6780	MD	6736.1	TVD	377	FSL	371	FWL

	MD	N/S	E/W	VD
	5323	-83.78	-443.28	5281.88
TOP PERFS/OH	5380	-84.21	-448.16	5338.66
	5418	-84.49	-451.41	5376.51
	6705	-101.60	-526.10	6661.16
BOT PERFS/OH	6780	-102.55	-528.69	6736.11
	6894	-104.00	-532.62	6850.03

NEXT TO LAST	6894	-104.00	-532.62	6850.03
LAST READING	7116	-105.96	-539.18	7071.92
TD	7178	-106.51	-541.01	7133.89

Surface Location	480	FS	900	FW
Projected BHL	373	FS	359	FW
Location of				
Top Perfs/OH	396	FS	452	FW
Bottom Perfs/OH	377	FS	371	FW

SUMMARY of Subsurface Locations

Surface Location	M-20-17S-32E	480	FS	900	FW	Vert. Depth
Top Perfs/OH	M-20-17S-32E	396	FS	452	FW	5338.66
Bottom Perfs/OH	M-20-17S-32E	377	FS	371	FW	6736.11
Projected TD	M-20-17S-32E	373	FS	359	FW	7133.89