

Results of Directional Survey

DD

API number:	30-025-40165		
OGRID:		Operator:	COG OPERATING LLC
		Property:	GC FEDERAL # 47

surface	ULSTR:	I	20	T	17S	R	32E
				1505	FSL	200	FEL

BH Loc	ULSTR:	P	20	T	17S	R	32E
7160	MD	7126.6	TVD	984	FSL	333	FEL

Top Perf/OH	ULSTR:	I	20	T	17S	R	32E
5460	MD	5438.1	TVD	1175	FSL	283	FEL

Bot Perf/OH	ULSTR:	P	20	T	17S	R	32E
6820	MD	6788.8	TVD	1021	FSL	325	FEL

	MD	N/S	E/W	VD
	5444	-328.26	-82.73	5422.24
TOP PERFS/OH	5460	-330.04	-83.24	5438.14
	5476	-331.82	-83.75	5454.03
	6799	-481.37	-124.35	6767.88
BOT PERFS/OH	6820	-483.56	-124.93	6788.76
	6830	-484.60	-125.20	6798.70

NEXT TO LAST	7113	-516.24	-131.60	7079.85
LAST READING	7160	-521.23	-132.51	7126.58
TD	7160	-521.23	-132.51	7126.58

Surface Location	1505	FS	200	FE
Projected BHL	984	FS	333	FE
Location of				
Top Perfs/OH	1175	FS	283	FE
Bottom Perfs/OH	1021	FS	325	FE

SUMMARY of Subsurface Locations

Surface Location	I-20-17S-32E	1505	FS	200	FE	Vert. Depth
Top Perfs/OH	I-20-17S-32E	1175	FS	283	FE	5438.14
Bottom Perfs/OH	P-20-17S-32E	1021	FS	325	FE	6788.76
Projected TD	P-20-17S-32E	984	FS	333	FE	7126.58

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