

Results of Directional Survey

DD

API number:	30-025-40150			
OGRID:		Operator:	COG OPERATING LLC	
		Property:	GC FEDERAL	# 36

surface	ULSTR:	J	20	T 17S	R 32E
				2012 FSL	2240 FEL

BH Loc	ULSTR:	J	20	T 17S	R 32E
7151 MD		7129.0	TVD	1651 FSL	2292 FEL

Top Perf/OH	ULSTR:	J	20	T 17S	R 32E
5400 MD		5377.9	TVD	1657 FSL	2292 FEL

Bot Perf/OH	ULSTR:	J	20	T 17S	R 32E
6780 MD		6752.6	TVD	2350 FSL	2214 FEL

	MD	N/S	E/W	VD
	5342	-352.10	-51.40	5320
TOP PERFS/OH	5400	-355.19	-51.83	5377.94
	5436	-357.10	-52.10	5413.90
	7263	340.80	31.50	7235.60
BOT PERFS/OH	6780	338.15	25.66	6752.60
	7354	341.30	32.60	7326.60

NEXT TO LAST	5616	-360.70	-51.70	5593.80
LAST READING	7151	-360.70	-51.70	7129.00
TD	7151	-360.70	-51.70	7129.00

Surface Location	2012	FS	2240	FE
Projected BHL	1651	FS	2292	FE
Location of				
Top Perfs/OH	1657	FS	2292	FE
Bottom Perfs/OH	2350	FS	2214	FE

SUMMARY of Subsurface Locations

Surface Location	J-20-17S-32E	2012	FS	2240	FE	Vert. Depth
Top Perfs/OH	J-20-17S-32E	1657	FS	2292	FE	5377.94
Bottom Perfs/OH	J-20-17S-32E	2350	FS	2214	FE	6752.60
Projected TD	J-20-17S-32E	1651	FS	2292	FE	7129.00

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