

Results of Directional Survey

DD

API number:	30-025-39862		
OGRID:		Operator:	COG OPERATING LLC
		Property:	J C FEDERAL # 53

surface	ULSTR:	N	22	T 17S	R 32E
				784 FSL	1689 FWL

BH Loc	ULSTR:	N	22	T 17S	R 32E
7124 MD		7117.1	TVD	993 FSL	1653 FWL

Top Perf/OH	ULSTR:	N	22	T 17S	R 32E
5468 MD		5461.2	TVD	979 FSL	1660 FWL

Bot Perf/OH	ULSTR:	N	22	T 17S	R 32E
6850 MD		6822.6	TVD	1123 FSL	1716 FWL

	MD	N/S	E/W	VD
	5465	194.50	-29.00	5458.2
TOP PERFS/OH	5468	194.58	-29.02	5461.20
	5528	196.10	-29.40	5521.20
	7263	340.80	31.50	7235.60
BOT PERFS/OH	6850	338.53	26.51	6822.60
	7354	341.30	32.60	7326.60

NEXT TO LAST	6033	200.60	-30.50	6026.10
LAST READING	6096	201.10	-30.80	6089.10
TD	7124	209.26	-35.70	7117.10

Surface Location	784	FS	1689	FW
Projected BHL	993	FS	1653	FW
Location of				
Top Perfs/OH	979	FS	1660	FW
Bottom Perfs/OH	1123	FS	1716	FW

SUMMARY of Subsurface Locations

Surface Location	N-22-17S-32E	784	FS	1689	FW	Vert. Depth
Top Perfs/OH	N-22-17S-32E	979	FS	1660	FW	5461.20
Bottom Perfs/OH	N-22-17S-32E	1123	FS	1716	FW	6822.60
Projected TD	N-22-17S-32E	993	FS	1653	FW	7117.10

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