

Results of Directional Survey

DD

API number:	30-025-39624			
OGRID:		Operator:	COG OPERATING LLC	
		Property:	BC FEDERAL	# 52

surface	ULSTR:	G	19	T 17S	R 32E
				1985 FNL	2242 FEL

BH Loc	ULSTR:	G	19	T 17S	R 32E
7032	MD	6992.5	TVD	2314 FNL	2282 FEL

Top Perf/OH	ULSTR:	G	19	T 17S	R 32E
5354	MD	5318.7	TVD	2297 FNL	2297 FEL

Bot Perf/OH	ULSTR:	G	19	T 17S	R 32E
6590	MD	6551.9	TVD	2312 FNL	2287 FEL

	MD	N/S	E/W	VD
	5336	-311.60	-55.00	5300.7
TOP PERFS/OH	5354	-312.37	-54.91	5318.67
	5399	-314.30	-54.70	5363.60
	5715	-321.10	-52.80	5679.60
BOT PERFS/OH	6590	-326.57	-44.60	6551.87
	5747	-321.30	-52.50	5711.50

NEXT TO LAST	5715	-321.10	-52.80	5679.60
LAST READING	5747	-321.30	-52.50	5711.50
TD	7032	-329.33	-40.45	6992.48

Surface Location	1985	FN	2242	FE
Projected BHL	2314	FN	2282	FE
Location of				
Top Perfs/OH	2297	FN	2297	FE
Bottom Perfs/OH	2312	FN	2287	FE

SUMMARY of Subsurface Locations

Surface Location	G-19-17S-32E	1985	FN	2242	FE	Vert. Depth
Top Perfs/OH	G-19-17S-32E	2297	FN	2297	FE	5318.67
Bottom Perfs/OH	G-19-17S-32E	2312	FN	2287	FE	6551.87
Projected TD	G-19-17S-32E	2314	FN	2282	FE	6992.48