

Results of Directional Survey

DD

API number:	30-025-39612			
OGRID:		Operator:	COG OPERATING LLC	
		Property:	BC FEDERAL	# 53

surface	ULSTR:	A	20	T	17S	R	32E
				738	FNL	73	FEL

BH Loc	ULSTR:	A	20	T	17S	R	32E
7121	MD	7092.0	TVD	376	FNL	349	FEL

Top Perf/OH	ULSTR:	A	20	T	17S	R	32E
5480	MD	5451.2	TVD	383	FNL	346	FEL

Bot Perf/OH	ULSTR:	A	20	T	17S	R	32E
6760	MD	6731.0	TVD	377	FNL	348	FEL

	MD	N/S	E/W	VD
	5459	355.30	-272.50	5430.2
TOP PERFS/OH	5480	355.43	-272.70	5451.20
	5523	355.70	-273.10	5494.20
	5649	356.00	-273.20	5620.00
BOT PERFS/OH	6760	360.53	-275.47	6731.00
	5698	356.20	-273.30	5669.00

NEXT TO LAST	5649	356.00	-273.20	5620.00
LAST READING	5698	356.20	-273.30	5669.00
TD	7121	362.01	-276.20	7092.00

Surface Location	738	FN	73	FE
Projected BHL	376	FN	349	FE
Location of				
Top Perfs/OH	383	FN	346	FE
Bottom Perfs/OH	377	FN	348	FE

SUMMARY of Subsurface Locations

Surface Location	A-20-17S-32E	738	FN	73	FE	Vert. Depth
Top Perfs/OH	A-20-17S-32E	383	FN	346	FE	5451.20
Bottom Perfs/OH	A-20-17S-32E	377	FN	348	FE	6731.00
Projected TD	A-20-17S-32E	376	FN	349	FE	7092.00