

Results of Directional Survey

API number:	30-025-39419		
OGRID:		Operator:	COG OPERATING LLC
		Property:	BC FEDERAL # 45

surface	ULSTR:	C	19	T 17S	R 32E
			314	FNL	1990
				FWL	

BH Loc	ULSTR:	C	19	T 17S	R 32E
			367	FNL	2287
				FWL	

Top Perf/OH	ULSTR:	C	19	T 17S	R 32E
		5340	381	FNL	2259
				FWL	

Bot Perf/OH	ULSTR:	C	19	T 17S	R 32E
		6640	370	FNL	2280
				FWL	

	MD	N/S	E/W	VD
	5250	-66.36	267.14	5238.54
TOP PERFS/OH	5340	-66.76	269.37	5328.51
	5344	-66.78	269.47	5332.51
	5344	-66.78	269.47	5332.51
BOT PERFS/OH	6640	-56.02	290.41	6628.16
	5456	-65.85	271.28	5444.48

NEXT TO LAST	5344	-66.78	269.47	5332.51
LAST READING	5456	-65.85	271.28	5444.48
TD	7034	-52.75	296.78	7022.06

Surface Location	314	FN	1990	FW
Projected BHL	367	FN	2287	FW
Location of				
Top Perfs/OH	381	FN	2259	FW
Bottom Perfs/OH	370	FN	2280	FW

SUMMARY of Subsurface Locations

Surface Location	C-19-17S-32E	314	FN	1990	FW	Vert. Depth
Top Perfs/OH	C-19-17S-32E	381	FN	2259	FW	5328.51
Bottom Perfs/OH	C-19-17S-32E	370	FN	2280	FW	6628.16
Projected TD	C-19-17S-32E	367	FN	2287	FW	7022.06