

Results of Directional Survey

API number:	30-025-39467		
OGRID:		Operator:	COG OPERATING LLC
		Property:	BC FEDERAL # 49

surface	ULSTR:	A	19	T 17S	R 32E
				1205 FNL	330 FEL

BH Loc	ULSTR:	H	19	T 17S	R 32E
7044	MD	7010.2	TVD	1658 FNL	382 FEL

Top Perf/OH	ULSTR:	H	19	T 17S	R 32E
5366	MD	5335.5	TVD	1557 FNL	371 FEL

Bot Perf/OH	ULSTR:	H	19	T 17S	R 32E
6790	MD	6756.5	TVD	1647 FNL	378 FEL

	MD	N/S	E/W	VD
	5356	-350.80	-41.40	5325.5
TOP PERFS/OH	5366	-351.76	-41.40	5335.46
	5450	-359.80	-41.40	5419.10
	6757	-440.70	-47.30	6723.50
BOT PERFS/OH	6790	-442.15	-47.57	6756.45
	6880	-446.10	-48.30	6846.30

NEXT TO LAST	6974	-450.40	-49.80	6940.20
LAST READING	7011	-452.00	-50.70	6977.20
TD	7044	-453.43	-51.50	7010.20

Surface Location	1205	FN	330	FE
Projected BHL	1658	FN	382	FE
Location of				
Top Perfs/OH	1557	FN	371	FE
Bottom Perfs/OH	1647	FN	378	FE

SUMMARY of Subsurface Locations

Surface Location	A-19-17S-32E	1205	FN	330	FE	Vert. Depth
Top Perfs/OH	H-19-17S-32E	1557	FN	371	FE	5335.46
Bottom Perfs/OH	H-19-17S-32E	1647	FN	378	FE	6756.45
Projected TD	H-19-17S-32E	1658	FN	382	FE	7010.20