

Results of Directional Survey

API number:	30-025-38262		
OGRID:		Operator:	COG OPERATING LLC
		Property:	MC FEDERAL # 10

surface	ULSTR:	E	22	T 17S	R 32E
			1500	FN	990 FW

BH Loc	ULSTR:	E	22	T 17S	R 32E
			1665	FN	980 FW

	MD	N/S	E/W	VD
	5904	-162.84	-9.32	5892.9
TOP PERFS/OH	5967	-162.78	-8.87	5955.90
	5999	-162.75	-8.64	5987.90
	6838	-163.86	-10.46	6826.86
BOT PERFS/OH	6873	-164.11	-10.37	6861.86
	6957	-164.71	-10.17	6945.86

NEXT TO LAST	6957	-164.71	-10.17	6945.86
LAST READING	7011	-164.97	-9.88	6999.86
TD	7011	-164.97	-9.88	6999.86

Surface Location	1500	FN	990	FW
Projected BHL	1665	FN	980	FW
Location of				
Top Perfs/OH	1663	FN	981	FW
Bottom Perfs/OH	1664	FN	980	FW

SUMMARY of Subsurface Locations

Surface Location	E-22-17S-32E	1500	FN	990	FW	Vert. Depth
Top Perfs/OH	E-22-17S-32E	1663	FN	981	FW	5955.90
Bottom Perfs/OH	E-22-17S-32E	1664	FN	980	FW	6861.86
Projected TD	E-22-17S-32E	1665	FN	980	FW	6999.86