

Results of Directional Survey

UPR LAT

API number:	30-025-41563-02		
OGRID:		Operator:	COG OPERATING LLC
		Property:	LUSK DEEP UNIT A # 29H

surface	ULSTR:	D	17	T 19S	R 32E
				355 FNL	660 FWL

BH Loc	ULSTR:	M	17	T 19S	R 32E
12864	MD	8414.9	TVD	329 FSL	664 FWL
				4951 FNL	

Top Perf/OH	ULSTR:	D	17	T 19S	R 32E
8559	MD	8376.6	TVD	650 FNL	649 FWL

Bot Perf/OH	ULSTR:	M	17	T 19S	R 32E
12800	MD	8412.8	TVD	393 FSL	660 FWL
				4887 FNL	

	MD	N/S	E/W	VD
	8513	-251.21	-9.95	8364.23
TOP PERFS/OH	8559	-295.47	-10.90	8376.57
	8559	-295.47	-10.90	8376.57
	12712	-4444.03	-7.17	8409.92
BOT PERFS/OH	12800	-4531.72	-0.43	8412.82
	12864	-4595.50	4.48	8414.93

NEXT TO LAST	12712	-4444.03	-7.17	8409.92
LAST READING	12864	-4595.50	4.48	8414.93
TD	12864	-4595.50	4.48	8414.93

Surface Location	355	FN	660	FW
Projected BHL	4951	FN	664	FW
Location of				
Top Perfs/OH	650	FN	649	FW
Bottom Perfs/OH	4887	FN	660	FW

SUMMARY of Subsurface Locations

Surface Location	D-17-19S-32E	355	FN	660	FW	Vert. Depth
Top Perfs/OH	D-17-19S-32E	650	FN	649	FW	8376.57
Bottom Perfs/OH	M-17-19S-32E	4887	FN	660	FW	8412.82
Projected TD	M-17-19S-32E	4951	FN	664	FW	8414.93

AUG 25 2014

Results of Directional Survey

LWR LAT

API number:	30-025-41563-01		
OGRID:		Operator:	COG OPERATING LLC
		Property:	LUSK DEEP UNIT A # 29H

surface	ULSTR:	D	17	T 19S	R 32E
				355 FNL	660 FWL

BH Loc	ULSTR:	M	17	T 19S	R 32E
13698	MD	9243.7	TVD	330 FSL	722 FWL
				4950 FNL	

Top Perf/OH	ULSTR:	D	17	T 19S	R 32E
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Bot Perf/OH	ULSTR:	M	17	T 19S	R 32E
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	MD	N/S	E/W	VD
		-464.87	259.70	9425.31
TOP PERFS/OH		#DIV/0!	#DIV/0!	#DIV/0!
		-522.66	284.59	9428.49
		-4470.90	514.18	9490.42
BOT PERFS/OH		#DIV/0!	#DIV/0!	#DIV/0!
		-4516.88	512.74	9491.06

NEXT TO LAST	13598	-4494.93	60.18	9243.45
LAST READING	13698	-4594.91	62.35	9243.68
TD	13698	-4594.91	62.35	9243.68

Surface Location	355	FN	660	FW
Projected BHL	4950	FN	722	FW
Location of				
Top Perfs/OH	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Bottom Perfs/OH	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

SUMMARY of Subsurface Locations

Surface Location	D-17-19S-32E	355	FN	660	FW	Vert. Depth
Top Perfs/OH	D-17-19S-32E	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Bottom Perfs/OH	M-17-19S-32E	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Projected TD	M-17-19S-32E	4950	FN	722	FW	9243.68