

Results of Directional Survey

API number:	30-025-41451		
OGRID:		Operator:	CIMAREX ENERGY CO.
		Property:	COTTON DRAW 9L FEDERAL # 3H

surface	ULSTR:	M	09	T	25S	R	32E
				330	FSL	380	FWL

BH Loc	ULSTR:	D	09	T	25S	R	32E
16340	MD	11768.0	TVD	4923	FSL	334	FWL

357 FNL

Top Perf/OH	ULSTR:	M	09	T	25S	R	32E
11750	MD	11673.7	TVD	365	FSL	431	FWL

Bot Perf/OH	ULSTR:	D	09	T	25S	R	32E
16310	MD	11768.0	TVD	4893	FSL	336	FWL

387 FNL

	MD	N/S	E/W	VD
	11722	13.40	45.00	11657.52
TOP PERFS/OH	11750	35.36	51.42	11673.66
	11754	38.50	52.34	11675.96
	16271	4524.30	-42.49	11768.13
BOT PERFS/OH	16310	4563.14	-44.45	11767.97
	16340	4593.02	-45.95	11767.85

NEXT TO LAST	16271	4524.30	-42.49	11768.13
LAST READING	16340	4593.02	-45.95	11767.85
TD	16340	4593.02	-45.95	11767.85

Surface Location	330	FS	380	FW
Projected BHL	4923	FS	334	FW
Location of				
Top Perfs/OH	365	FS	431	FW
Bottom Perfs/OH	4893	FS	336	FW

SUMMARY of Subsurface Locations

Surface Location	M-09-25S-32E	330	FS	380	FW	Vert. Depth
Top Perfs/OH	M-09-25S-32E	365	FS	431	FW	11673.66
Bottom Perfs/OH	D-09-25S-32E	4893	FS	336	FW	11767.97
Projected TD	D-09-25S-32E	4923	FS	334	FW	11767.85

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