

Results of Directional Survey

API number:	30-025-42031				
OGRID:		Operator:	CIMAREX ENERGY CO.		
		Property:	CASCADE 29 FEDERAL	# 7H	

surface	ULSTR:	A	29	T 25S	R 33E
				340 FNL	864 FEL

BH Loc	ULSTR:	O	29	T 25S	R 33E
14306	MD	9847.0	TVD	326 FSL	1326 FEL

Top Perf/OH	ULSTR:	A	29	T 25S	R 33E
9875	MD	9781.3	TVD	660 FNL	923 FEL

Bot Perf/OH	ULSTR:	O	29	T 25S	R 33E
14232	MD	9848.2	TVD	400 FSL	1327 FEL

	MD	N/S	E/W	VD
	9869.00	403473.33	771879.44	9778.21
TOP PERFS/OH	9875.00	403468.22	771878.88	9781.30
	9900.00	403446.93	771876.57	9794.17
	14196.00	399284.57	771508.98	9848.89
BOT PERFS/OH	14232.00	399248.58	771509.48	9848.24
	14245.00	399235.58	771509.66	9848.00

NEXT TO LAST	14245.00	399235.58	771509.66	9848.00
LAST READING	14306.00	399174.60	771510.43	9846.97
TD	14306.00	399174.60	771510.43	9846.97

Surface Loc	403783.70	Northing	771940.40	Easting
	340	FN	864	FE
Projected BHL	399174.60	Northing	771510.43	Easting
Location of				
Top Perfs/OH	403468.22	Northing	771878.88	Easting
Bot Perfs/OH	399248.58	Northing	771509.48	Easting

SUMMARY of Subsurface Locations

Surface Loc	A-29-25S-33E	340	FN	864	FE	Vert. Depth
Top Perfs/OH	A-29-25S-33E	660	FN	923	FE	9781.30 NE
Bot Perfs/OH	O-29-25S-33E	400	FS	1327	FE	9848.24 SE
Projected TD	O-29-25S-33E	326	FS	1326	FE	9846.97 SE

FEB 17 2015