

Air Drilling Specialist  
Oil & Gas Wells

**THORNTON AIR ROTARY, LLC**  
Office Phone: 620-879-2073

PO Box 449  
Caney, KS 67333

Date Started	<b>3/30/2011</b>
Date Completed	<b>3/31/2011</b>

Well No.	Operator	Lease	A.P.I.#	County	State
<b>4D-2</b>	Layne Energy Operating	<b>Shultz</b>	<b>15-125-32055-00-00</b>	<b>Montgomery</b>	<b>Kansas</b>

1/4	1/4	1/4	Sec.	Twp.	Rge.
			<b>2</b>	<b>31</b>	<b>14</b>

Driller	Type/Well	Cement Used	Casing Used	Depth	Size of Hole
<b>Billy</b>	<b>Oil</b>	<b>4</b>	<b>21.6' 8 5/8</b>	<b>1262</b>	<b>6 3/4</b>

### Formation Record

0-4	DIRT	972-997	LIME (OSWEGO)		
4-76	LIME	997-1006	BLK SHALE (SUMMIT)		
76-290	LMY SHALE	1006-1014	LIME		
290-293	LIME	1014-1019	BLK SHALE (EXCELLO)		
293-300	SANDY SHALE	1019-1020	COAL (MULKEY)		
300-360	SAND (WET)	1020-1025	LIME		
336	WENT TO WATER	1025-1074	SHALE		
360-441	SANDY SHALE	1074-1075	COAL		
441-460	LIME	1075-1084	SHALE		
460-463	SHALE	1084-1086	LIME (V-LIME)		
463-534	LIME	1086-1088	SHALE		
534-541	LMY SHALE	1088-1089	COAL (CROWBERG)		
541-572	LIME	1089-1132	SHALE		
572-598	SHALE	1132-1134	COAL (MINERAL)		
598-617	LIME	1134-1177	SHALE		
617-653	SHALE	1177-1182	BLACK SHALE		
653-667	LIME	1182-1193	SANDY SHALE		
667-714	SHALE	1193-1206	SAND		
714-730	LIME	1198-1202	OIL ODOR		
730-757	SANDY SHALE	1206-1209	COAL		
757-778	LIME	1209-1225	SANDY SHALE		
778-790	SAND	1212	GAS TEST-SLIGHT BLOW		
790-808	SANDY SHALE	1225-1237	SAND		
808-828	SHALE	1237-1262	SHALE		
828-833	SAND	1262	TD		
833-885	SHALE				
885-887	COAL (MULBERRY)				
887-920	LIME (PAWNEE)				
920-926	BLACK SHALE				
926-972	SHALE				