

Air Drilling Specialist
Oil & Gas Wells

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

PO Box 449
Caney, KS 67333

Date Started	4/1/2011
Date Completed	4/4/2011

Well No.	Operator	Lease	A.P.I #	County	State
4N-2	Layne Energy Operating	Shultz	15-125-32058-00-00	Montgomery	Kansas

1/4	1/4	1/4	Sec.	Twp.	Rge.
			2	31	14

Driller	Type/Well	Cement Used	Casing Used	Depth	Size of Hole
Billy	Oil	4	21.6 8 5/8	1287	6 3/4

Formation Record

0-10	DIRT	928-931	BLK SHALE (LEXINGTON)	1239-1287	SHALE
10-99	LIME	931-945	SHALE	1287	TD
99-291	LMY SHALE	945-958	SAND		
291-302	SANDY SHALE	958-979	SHALE		
302-390	SAND (DAMP)	979-1005	LIME (OSWEGO)		
361	WENT TO WATER	1005-1014	BLK SHALE (SUMMIT)		
390-441	SHALE	1014-1022	LIME		
441-464	LIME	1022-1026	BLK SHALE (EXCELLO)		
464-476	SHALE	1026-1027	COAL (MULKEY)		
476-504	LIME	1027-1029	SHALE		
504-520	LMY SHALE	1029-1033	LIME		
520-540	LIME	1033-1073	SHALE		
540-545	BLACK SHALE	1073-1074	COAL (BEVIER)		
545-564	LIME	1074-1089	SHALE		
564-600	SAND	1089-1091	LIME (V-LIME)		
600-665	LIME	1091-1093	SHALE		
665-711	SHALE	1093-1094	COAL (CROWBERG)		
711-738	LMY SHALE	1094-1135	SHALE		
738-752	SANDY SHALE	1135-1136	COAL (MINERAL)		
752-763	SHALE	1136-1174	SHALE		
763-780	LIME	1162	GAS TEST-2#,1/4,MCF-12.7		
780-800	SAND	1174-1178	BLACK SHALE		
800-827	SHALE	1178-1184	SHALE		
827-848	SANDY SHALE	1184-1198	SANDY SHALE		
848-891	SHALE	1198-1206	SAND / LITE OIL ODOR		
891-892	COAL (MULBERRY)	1206-1215	BROWN SAND/BETTER ODOR		
892-894	SHALE	1215-1216	COAL (WEIR)		
894-921	LIME (PAWNEE)	1216-1224	SHALE		
921-925	BLACK SHALE	1224-1230	SAND / LITE ODOR		
925-928	LIME	1230-1239	SANDY SHALE		