

PV-058

Operator: United Fuel Gas Company
 Farm: National Shawmut Bank of Boston
 Well No. 8415-T
 Location: Buchanan County
 5900^t S. of 37° 30'^t) approximate
 4650^t W. of 82° 00'^t)
 Elevation: 1353.65^t Ground
 Total Depth: 5567^t
 Drilling Commenced: July 2, 1957
 Well Completed: January 1, 1958
 Result: Gas Well

Geologic log and summary by Marshall S. Miller. *If Voitsberger (VDMR) and Bowens (VPI) descriptions are sufficient, only the lithology is noted. The Pennsylvanian sands were observed and studied in detail, and the Lee quartzose sands are described and identified below. The Mississippian section was determined and correlated from the descriptions of Voitsberger and Bowen.

Remarks: Location and elevation of well indicate well located 10^t to 20^t below the Eagle Coal horizon.

<u>Depth</u>	<u>Thickness</u>	<u>Description</u>
0- 63	63 ^t	No samples. *Driller notes a coal present (61-63). Could be the Dorchester coal.
63-100	37 ^t	Sandstone (Gladeville sand interval)
100-130	30 ^t	Shale
130-137	7 ^t	No samples
137-143	6 ^t	Sandstone
143-210	67 ^t	Shale
210-254	44 ^t	Siltstone
254-315	61 ^t	Sandstone
315-336	21 ^t	Shale
336-342	6 ^t	Siltstone

342-395	53'	Sandstone
395-402	7'	Shale and sandstone
402-412	10'	Shale
412-467	55'	Shale and siltstone
467-472	5'	Shale and sandstone
472-500	28'	Sandstone with shale stringers
500-551	51'	Sandstone
551-581	30'	Shale
581-609	28'	Sandstone
*609-685	76'	Sandstone, white, fine grained to medium grained, subround to subangular, moderately sorted, with rare and scattered amounts of muscovite, and dark carbonaceous material, very little matrix and silt-clay material. Bowen indicates that this interval is slightly feldspathic; however sand appears to be a quartzose sand. X-ray of intervals (615-620) (620-629) (629-635) (635-639) (639-647) (653-659) indicate a quartz sand with only a trace of feldspar, and local traces of siderite, muscovite, kaolinite and illite.
685-699	14'	Sandstone, light gray, fine to medium grained, locally coarse grained, subangular, very poorly sorted, micaceous, feldspathic with abundant coaly material throughout, about 60-75% quartz; lesser amounts of gray, micaceous, carbonaceous siltstone
*699-708	9'	Sandstone, white, quartzose, medium to coarse grained to granule, conglomeratic with quartz pebbles visible in cuttings up to 5 mm in diameter, grains are subangular to subround, appears to be well cemented with silica, contains rare amounts of coarse grained muscovite and scattered carbonaceous material, poorly sorted, 95% quartz

*708-743	35'	Sandstone, white, quartzose, fine to medium grained, mostly medium grained, subround to subangular, moderately to well sorted, almost 100% quartz
*743-751	8'	Sandstone, white, quartzose, medium to coarse grained, subangular to subround, poorly sorted
*751-761	10'	Sandstone, white, quartzose, very fine to fine grained, subrounded, well sorted
*761-787	16'	Sandstone, white, quartzose, fine, to medium grained, occasionally coarse grained, subround to subangular, moderately sorted, conglomeratic and coarse grained (784-787)
787-796	9'	Sandstone, gray, very fine to fine grained, subangular, poorly sorted, micaceous, carbonaceous, about 60% quartz
796-1117	32'	No samples
*1117-1184	67'	Sandstone, white, fine to coarse grained, quartzose, almost 100% quartz, subangular to subrounded, no clay or silt matrix visible, becomes conglomeratic at (1127-1134) (1155-1184)
1184-1188	4'	No sample
1188-1197	9'	Siltstone, sandstone and shale
1197-1205	8'	Shale
1205-1214	9'	Siltstone
1214-1254	40'	Sandstone
1254-1270	16'	Sandstone, Bowen refers to this interval as "clean", however the sand is not quartzose, about 80% quartz, fine to coarse grained to conglomeratic, with muscovite, biotite, coaly material and other dark minerals, also silty with abundant clay matrix material and some calcareous cement

*1270-1300	30'	Sandstone, white, quartzose, fine to coarse grained to granule, subround to subangular, poorly sorted with scattered muscovite, biotite, siderite, carbonaceous material (mostly in thin laminations) and dark argillaceous material. Interval is contaminated with the "dirty" sand from above in interval 1270-1286. Most of the sample is a quartzose sand. A few conglomeratic pebbles up to 5 mm present in intervals (1270-1276) (1295-1300)
1300-1305	5'	Siltstone, light tan, siliceous
1305-1315	10'	Shale mostly, 60% shale, 40% fine grained sand
1315-1331	16'	Siltstone and shale
1331-1339	8'	Shale
1332-1339	7'	Coal, shaly
1339-1370	31'	Sandstone (65% quartz) and shale
1370-1397	27'	Sandstone and siltstone
1397-1400	3'	No samples
1400-1430	30'	Shale, with lesser amounts of sand
1430-1432	2'	Coal, silty and shaly
1432-1439	7'	Siltstone and shale, lesser amount of sandstone; (*abundant ironstone nodules and siderite nodules)
1439-1442	3'	Coal, bright, vitreous luster, pure, conchoidal fracture, thickness estimated
*1442-1572	130'	Sandstone, white, fine grained, quartzose, 95 to 100% quartz, moderate sorting, subangular, medium to coarse grained (1463-1530), slightly conglomeratic (1471-1480) (1490-1497); some shale stringers present (1497-1507), very little and usually no clay, silty or matrix material throughout, generally 100% quartz. Fine to coarse grained (1530-1550) and silty with occasional muscovite.

		At (1550-1572) sand returns to medium to coarse grained and conglomeratic, with no clay-silt material; picks up some scattered dark minerals at 1556' but remains quartzose
1572-1576	4'	Samples missing
1576-1597	21'	Sandstone, moderately quartzose, 80-90% quartz, fine to coarse grained, poorly sorted, subangular, with consistent amount of muscovite, dark minerals and dark argillaceous material
*1597-1654	57'	Sandstone, white, quartzose, medium to coarse grained sand and conglomeratic, subangular to subround, and no clay-silt material present, 98-100% quartz, is not conglomeratic in lower 16'
1654-1664	10'	Sandstone, (*represents an extreme change in type sands) this sand is fine grained, poorly sorted, very "dirty", with abundant muscovite, dark coaly material and argillaceous material, chlorite, feldspar, clay and silt material, and interbedded shale.
*1664-1684	20'	Shale
*1684-1722	38'	Sandstone, white, quartzose, throughout, only the grain size changes, and occasionally some silt and clay is present, and thin coaly laminations. From (1684 to 1699) the sand is fine to medium grained, subangular to subrounded, with no silt or clay material, loose and friable, would have good porosity. At 1699' sand becomes coarse grained and conglomeratic, with some occasional, rare, bluish gray chert and reworked carbonaceous material.
1722-1736	14'	Sandstone, light gray, gray, fine grained, micaceous (60% quartz) with coaly material throughout, abundant dark and brown minerals, sand is very poorly sorted.

- *1736-1802 66' Sandstone, white, medium to coarse grained, and conglomeratic, over 95% quartz, generally 100% quartz. [Is fine to medium grained and not conglomeratic (1760-1776) and picks up some scattered dark minerals,] about 90-95% quartz, some dark shale stringers present (1769-1776). At 1776' sand continues medium to coarse grained and conglomeratic and 95-100% quartz
- 1802 Red, gray and pastel green shale