

**Professional Energy Services**

9402 Kessler Lane  
Shawnee Mission, KS 66212  
Ph.913.341.7434

**GEOLOGICAL REPORT**

Operator: **EVERGREEN OPERATING CORPORATION**

Project: Whiting Well Name: Liggatt 33-35

Location: Ap 70'E of NW SE 1950'FSL & 1910'FEL

Sec. 35-5S-16E County: Jackson State: Kansas

All measurements GL: 1095' API: 15-085-20066-00-00

Company: Sr. Operations Engineer: Mr. Tom Erwin

Company: Geologist: Mr. Paul Clarke

Professional Energy Services: Geologist: Rich Robba

Crown: Drilling Superintendent: Fred O'Doan

Patterson Logging: Engineer: Roger Taylor

Drilling Contractor: Layne Christensen Company

CBM Solutions: Desorption: Dan Tutt/Ken Glover/Kelly Franz

Geosearch Logging: Mudloggers: Kevin Clark/ Pat / Nathan Barnes

Commenced: 01/11/04 Completed: 01/17/04

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This geological report is prepared for **EVERGREEN OPERATING CORPORATION**. Wellsite geological supervision was conducted from surface to Total Depth. The Liggatt 33-35 well was air drilled to the Mississippian formation. ROP, gas curves and sample descriptions from the chips are recorded on the mud log and geophysical survey formation tops and coal intersections are listed below.

**Liggatt 33-35**

This well encountered drilling problems that required several trips to ream or use special tools. Numerous washouts occurred resulting in false coal appearances and recording optimistic geophysical coal density surveys data.

**Formation E-Log Tops**

Heebner Shale:	724'	Excello:	1477'
Lansing:	925'	VShale:	1569'
Stark Shale:	1205'	Tebo Shale:	1681'
B/Kansas City:	1258'	Mississippi:	2163'
Altamount:	1360'	RTD:	2262'
Summit:	1457'	LTD:	2257'

Coal and Coal Shale Intersections E-Log

Net Coals(ft) < 1.75 g.cc

Net Coals(ft) < 2.00 g.cc

Net Carbonaceous Shale (ft)

Name	Depth
Mulberry	1370.7-1371.6
Lexington	1381.5-1382.2
Fleming	1610.8-1612.6
Weir A	1711.9-1713.8
Weir B	1727.4-1728.3
Weir C	1757.3-1758.1
Drywood	1936-1938
Rowe B	1966.8-1968.3
Rowe E	2015-2016.4
Neutral A	2021.9-2023.8
Neutral B	2031.9-2033
Neutral D	2053.7-2055.3
Riverton	2153.6-2156

Name	Depth
Blue Jacket A	1799.6-1802.7
Blue Jacket D	1901.5-1902.7
Rowe C	1991.8-1993
Rowe D	2004.3-2006

Name	Depth
Mineral	1621-1622.3
Blue Jacket B	1872.6-1874.2
Blue Jacket C	1889.4-1890.6

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Cumulative Net Thickness Density E-Log

Net Coals(ft) < 1.75 g.cc

Net Coals(ft) < 2.00 g.cc

Net Carbonaceous Shale (ft)

17.1'

7.2'

4.1'

Conventional Oil and Gas Shows

No shows recorded.

Respectfully submitted,

Richard A. Robba, PG  
Director of Operations  
Professional Energy Services