

**GEOLOGISTS REPORT**

**for**

**EDMONDS #1  
3340 FEL, 1650 FSL  
C, N/2, S/2, NE, SW  
sec <sup>1</sup>/<sub>2</sub> ~~16~~, T9S, R19E  
JEFFERSON COUNTY, KANSAS**

**FEBRUARY, 1995**

**by**

**George E. Petersen C.P.G.  
Deacon Geology Inc.**

**GEOLOGISTS REPORT  
EDMONDS #1**

**February 16, 1995: Called to loc. @ 9:15PM drlg at 1150'. Released from loc. @ 2:30 PM upon completion of logging.**

**ELEVATION: 1108 GL ( all measurements from GL )**

**FORMATION TOPS    SAMPLE DEPTH    LOG DEPTH    DATUM    THICKNESS**

<b>FORMATION TOPS</b>	<b>SAMPLE DEPTH</b>	<b>LOG DEPTH</b>	<b>DATUM</b>	<b>THICKNESS</b>
<b>Base KC</b>	<b>853</b>	<b>853</b>	<b>+255</b>	
<b>Mammaton</b>	<b>994</b>	<b>994</b>	<b>+114</b>	<b>94'</b>
<b>Cherokee</b>	<b>1084</b>	<b>1088</b>	<b>+ 20</b>	<b>530'</b>
<b>Coal marker</b>	<b>1510</b>	<b>1509</b>	<b>-401</b>	<b>5'</b>
<b>U McLouth Sd</b>	<b>1559</b>	<b>1558</b>	<b>-450</b>	<b>4'</b>
<b>L McLouth Sd</b>	<b>1591</b>	<b>1591</b>	<b>-483</b>	<b>7'</b>
<b>Burgess Sd</b>		<b>1598</b>	<b>-490</b>	<b>18'</b>
<b>Miss Lm</b>	<b>1617</b>	<b>1618</b>	<b>-510</b>	
<b>RTD &amp; LTD</b>	<b>1646</b>			

**Sample returns were examined microscopically from a drilled depth of 950 feet to TD for the presence of visible hydrocarbons. Formation tops and thicknesses were picked from the drilling time log, sample returns, and the Neutron Density/ Porosity Log. There were no zones of interest above 1290 feet depth in this well and therefore only the lower portion of this well will be discussed in detail in this report.**

**CHEROKEE GROUP:**

**The un-named sand found between 1294 and 1300 is a clean, fine grained, glauconitic, quartz sand. There were no visible shows of hydrocarbons found in the samples; however, there was a gas cross over effect noted on the log between 1294 and 1296. A quick look log calculation indicated the Sw values for this interval may be 35% or less. Further evaluation of this interval is recommended before the eventual abandonment of this well.**

**A second clean un-named sand was found between 1341 and 1356 feet. The sample returns contained a medium to coarse grained , subrounded quartz sand. There were no visible shows of hydrocarbons ; however, there was a gas cross over effect observed on the log between 1348 and 1352. A preliminary log evaluation indicated that the Sw values were about 50%. Again as for the upper interval previously discussed , this zone warrents further testing and evaluation.**

**The McLouth-Burgess Interval was divided into an upper McLouth Sand (1559-62), a shale interval (1562-91) composed of the middle McLouth and part of the lower McLouth and a sand interval (1591-98, lower McLouth, 1598-1618 Burgess). The upper sand interval was a quartz sand that had very minimal porosity and no shows of hydrocarbons. This upper McLouth sand has no potential to produce hydrocarbons in this well.**

**The middle McLouth and upper portion of the lower McLouth were represented by a shale sequence in this well and have no potential to produce oil or gas. The exact boundry between the two units is difficult to pick from the samples or on the logs.**

**The lower McLouth sand appears to lie in direct contact with the Burgess in this well, therefore the two units will be discussed together. The upper seven feet of the zone is a medium to coarse grained, sub-rounded, quartz sand . The sand appeared to be somewhat shaly on the log and this log signature was the basis for picking the top of the Burgess. The lower sand appeared cleaner and was a mostly coarse grained , sub-rounded white to clear quartz sand. There were no shows of hydrocarbons visible in the samples. There appeared to be a slight show of gas in the mud returns. The Neutron Density /Porosity Log had a strong gas crossover effect between 1592 and 1616.**

**Log calculations were prepared on location for this interval by Mr. Glenn Schmeidler of Log Tech Inc. using the following values: M=1.8, Rw=.2.**

<b>INTERVAL</b>	<b>POROSITY</b>	<b>Rt</b>	<b>Sw%</b>
<b>1592-94</b>	<b>13</b>	<b>40</b>	<b>42</b>
<b>1594-96</b>	<b>14</b>	<b>10</b>	<b>73</b>
<b>1596-98</b>	<b>16</b>	<b>15</b>	<b>57</b>
<b>1598-1600</b>	<b>19</b>	<b>10</b>	<b>56</b>
<b>1600-02</b>	<b>21</b>	<b>12</b>	<b>54</b>
<b>1602-04</b>	<b>21</b>	<b>7</b>	<b>70</b>
<b>1604-06</b>	<b>21</b>	<b>7</b>	<b>70</b>
<b>1606-08</b>	<b>22</b>	<b>7</b>	<b>68</b>

**The upper 2 to 4 feet of this sand appears to have the potential to produce commercial quantities of gas. Water saturation values may be lower than the calculated values as the shale breaks lower the porosity values seen on the logs. The lower part of the sand calculates wet but limiting the perforated interval to the upper 2 to 4 feet will minimize the quantity of water that might be produced along with the gas.**

#### **MISSISSIPPI LIME:**

**The top of the lime was reached at a drilled depth of 1618 feet. Sample returns consisted of light tan to medium brown, very coarsely crystalline to fragmental limestone. There was also gray to white tripolitic chert present in the samples along with some green to gray shale. There was no visible show of oil or gas in the samples, and there is no potential for the production of oil or gas from this interval in this well.**

#### **CONCLUSIONS AND RECOMMENDATIONS;**

**The upper 4 feet of the Lower McLouth - Burgess sand appears to have an excellent chance to produce commercial quantities of gas. There may be some water produced along with the gas; however, the water should not be a problem until gas has been produced for some continued length of time. The shalyness of the sand makes the Sw calculated values to appear higher than they may actually be. Until the well has been tested there can be no determination of the amount of water that may be produced.**

**It is strongly suggested that the two upper zones discussed previously in the report be perforated and tested before eventual abandonment of the well. These zones HAVE NOT BEEN TESTED in any wells in this area to date.**

**Although the lower Cherokee sands have been broken into an upper, middle, and lower, McLouth and a Burgess interval in the wells drilled in this area, it should be noted that in many cases, the divisions are based on a distinguishing feature on the log signature. There has not been a detailed study of cored material to determine if the various sands are significantly different. There is also enough evidence to suggest that there are many faults present throughout the area and the fact that one well is significantly lower structurally than an adjoining well does not**

**mean that there is no possibility that the structurally lower well will not produce oil or gas because of its position.**

**There was a possible show of oil and gas on the pit during the drilling of the lower sands; however there were no shows in the samples . It is not possible to place the source of this oil show into a zone because of the lack of evidence in the samples or on the logs. The application of solvent yielded no cuts nor was there any fluorescence in the samples. The gas show appears to have come from the sand intervals.**

**DISCLOSURE;**

**Services rendered on the Edmonds #1 were done without any biasing influence, intentional or otherwise, from any official of Horizontal Development and Production Inc.. In this report, I am an Independent Petroleum Geologist and not an employee of the referenced company. I will not receive any financial benefit from the positive completion of this well.**

**The enclosed Geologists Log is considered an intergal part of this report and is not intended to be separated from the same.**

**The recommendations made herein shall not be construed as absolute and are made without assumption of liability and are statements of observation, research, training, and opinion only.**

**Should additional information be required, please contact me.**

**Respectfully submitted,**

**George E. Petersen C.P.G.  
Deacon Geology Inc.**