LOG ANALYSIS

Well log descriptions for the Caney interval were completed in two analyses: a general analysis, and a marker-based analysis. From over 100 wells that penetrated the Caney within the area of study, only three to four "quality" well logs per township were used to measure log parameters. A map of the location of the logs used in the log analysis is shown as Figure 9. Only log values from the upper and lower Caney were measured. The lower Caney was divided to separate the lower Caney hot shale to avoid data bias from this bed. Three intervals are listed for both log analyses: the upper Caney, upper lower Caney, and lower Caney hot shale.

General Log Analysis

Method

For the general log analysis the minimum, mean, and maximum values of the gamma ray, resistivity, and density porosity parameters were measured for each interval, and are shown in Appendix 1. The general log analysis was done in an attempt to determine if any log values correlated with the occurrence of gas.

Results

Upper Caney Zone: The upper Caney, as a zone, exhibited frequent inter-bedding of hot shale beds with cleaner shale beds. As a result log curves do not develop a consistent shape within the upper Caney zone since parameter values change at each bedding boundary. The presence of up to three gas crossover zones is also a characteristic of the upper Caney.

Compared to the upper part of the lower Caney interval the upper Caney usually had a higher maximum and average gamma ray value, but a lower minimum value. Maximum values ranged between 180-263 counts. Minimum gamma ray value was...