

ELECTRICAL LOG ANALYSISPRAWN A-1

by

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Induction-Electrical, Sonic, Formation Density, and Continuous Depmeter logs were run by Schlumberger on the Esso Prawn A-1 well from a total depth of 10,477 feet up to the bottom of the 20 inch casing at 934 feet. A Cement Bond log was run from 5500-7300 feet. The following table lists all of the mechanical logs run on the well.

<u>Log</u>		<u>Interval (Feet)</u>
I.E.S.	Run 1	934-2782
	2	2676-5600
	3	5500-8197
	4	8148-10477
SGRC	1	934-2774
	2	2676-5595
	3	5550-8198
	4	8148-10478
FDC	1	934-2782
	2	2676-8196
	3	8148-10478
CDM	1	932-2777
	2	2676-8192
	3	8148-10475
CBL	1	5500-7300

Data derived from the induction-electrical, sonic and formation density logs were used to calculate porosities and as an aid in determining the presence or absence of hydrocarbon bearing zones.

Method of Analysis

The method of log analysis used for the purpose of interpreting log data from the Prawn A-1 well has been referred to as the "Magnolia Plot". This technique is a graphical presentation and basically consists of plotting resistivity (or conductivity) values against corresponding sonic log transit times and/or bulk density from the Formation Density log on special log paper. The resistivity is plotted on the ordinate of the paper with a logarithmic scale while the abscissa is measured in a linear scale which is plotted in sonic transit time or bulk density.

In brief, the initial plotting procedure consists of plotting on the chart water saturated sands having a fairly constant SP curve indicative of a fairly constant water salinity. A series of points plotted from salt water saturated sands will fall high on the chart and establish a line indicative of 100% water saturation. This line should intersect the abscissa at a matrix transit time or density, equivalent to zero porosity. All other points of interest which plot low and to the right on the chart should have the greatest hydrocarbon potential. A porosity scale is plotted on the abscissa for determining porosities of the various points on the chart.

Resistivity versus sonic transit time and bulk density of selected zones from the Prawn A-1 are compared on the attached charts. Porosity and water saturation values are shown next to their respective depths in the upper left hand corner of each chart. These values were taken directly from the chart itself and estimated to the nearest per cent.