I. INTRODUCTION

This work was undertaken by SAGASCO Resources Ltd on behalf of its joint venture partners in permit T/22P, Bass Basin, Tasmania. The report documents the results of log analysis of the lower part of the Eastern View Coal Measures sequence (1700 metres to TD) penetrated in Pipipa 1.

The objectives of the study were to determine the reservoir quality and hydrocarbon saturation of the Eastern View Coal Measures sandstones of the interval which contains shows in Pipipa 1.

2. METHOD

Log analysis was performed using Terralog Version 4.0 (a product of Terrasciences). Digital logs were obtained from Wiltshire Geological Services. The following logs were used in the analysis:

> SP
> GR
> RHOB
> DT
> NPHI
> MSFL
> SFL
> ILD
> Caliper.

The digital traces were then checked against sepia originals, a depth and scale error was found with the SFL curve which was corrected by redigitization of that curve.

Initially a log derived lithology column (the Petra Major Lithology column of Enclosure 1) was generated using the gamma ray and sonic logs. The result compares favourably with the observed lithologies on the mudlog and composite well log.

Porosity was determined using two methods; the standard chartbook density neutron crossplot method and, the Hunt-Raymer method using the sonic log and Vsh determined from the gamma ray log. The two methods produced similar results, which is a reflection of the good hole conditions and the absence of significant hydrocarbon effects on the logs.

No water samples were recovered from Pipipa 1 which prevented direct measurement of Rw. Therefore Rw was determined using the SP method and Hingle, or Resistivity-Porosity crossplot method. Both methods produced similar results. In the analyses presented here an Rw of 0.04 at 188.7°C (Salinity 70,000 ppm NaCl equivalent) was used.

Water saturation was determined using the Indonesian Shaly Sand equation. Calculation of the water saturation in the flushed zone was also performed to determine whether moveable hydrocarbons are present.