

4.

Sample: S-3: TS 23664 Core 5 (4478-4489')

Rock Name:

Laminated silty shale

Hand Specimen:

A pale reddish-brown (10R 6/4), highly argillaceous laminated ferruginous siltstone.

Thin Section:

An optical estimate of the constituents gives the following:

| | |
|-----------------------|----------|
| | <u>3</u> |
| Framework: | |
| Quartz | 35 |
| Muscovite | Trace |
| Clay-fraction: | |
| Clay | 55 |
| Iron oxide | 10 |
| Other opaque material | 1 |

The most prominent feature of this rock is not its framework, but the ferruginous and argillaceous laminations. These vary in thickness up to a few millimetres, but most are much less than 1 mm. Some consist almost entirely of iron oxide, but in others there is very little iron oxide, and the matrix is almost entirely clay. The laminations containing other opaque material do not contain any brown iron oxide, and the material is black. It is probably manganiferous, but may be carbonaceous or iron oxide.

The framework consists of well sorted silt grains of quartz generally between 0.03 and 0.07 mm across. These occur in most of the laminations in similar proportions, but they are very sparse in a few laminations. The laminations are not completely even, and some micro-faulting of a few laminations has taken place. They have been given a wavy appearance in parts by the transport of small lumps of intraformationally derived material, or very rarely possible detrital grains of fine sandstone resembling some in S-1 and S-2.

Conditions during the deposition of this rock appear not to have been as stable as for most laminated shales, as