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DEPARTMENT OF MINES
SOUTH AUSTRALIA

BEACH PETROLEUM N.L. PT. VINCENT NO. 1 STRATIGRAPHIC WELL
SUBSURFACE STRATIGRAPHY

by

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ABSTRACT

Pt. Vincent Stratigraphic well was drilled to a depth of 150 feet, penetrating recent to subrecent sands and shellbeds to 40 feet, before entering and bottoming in limestones and marls of Miocene age (Port Willunga Beds).

1. INTRODUCTION:

Port Vincent Stratigraphic well was drilled using a Conrad "selite" drill mounted on a tubular platform 10 ft. by 10 ft by 16 ft. high, and set up on a sandspit about 2 miles northeast of the Port Vincent jetty.

All available cores and cuttings were examined, which, due to difficulties encountered during drilling, amounted to only 10 samples.

This report presents lithological and stratigraphic correlation data based on identification of fauna by T.M. Steel and N.H. Ludbrook. No stratigraphic column is included due to scarcity of samples.

2. STRATIGRAPHY:

Stratigraphic units present in Pt. Vincent No. 1 Stratigraphic Well are as follows:-

	Depth (feet)
Subrecent and recent sands and shellbeds	0 - 40
Miocene (Pt. Willunga Beds)	40 - 150

3. SUBRECENT TO RECENT (Thickness 40 feet).

The top 20 feet of this well, consisting of "beach sand from the sandspit with 5% shell"from 0-14' and of "several hard thin bands of (?)kunkar with recent shell fragments and pieces" (Well Geologist log) is missing. Below 20 feet, a sequence of offwhite and grey slightly sandy shell beds continues to 35 feet. These beds contain an abundant molluscan fauna, which is generally very broken, but includes Gazameda iredalei, Tawera gallinula, Hipponix (Sabia) conica, Batillaria (Zeacuman-

tus) diemenensis, Diala lauta and the scaphopod Dentalium flindersi. Foraminifera are rare. This material becomes very sandy between 35 and 40 feet, and is considered to be subrecent in age.

4. MIOCENE:

Port Willunga Beds (Thickness 90 feet)

Below 40 feet, the bore entered light brown and yellow brown very fossiliferous sandy and glauconitic limestones, recrystallised in part, which become very marly from probably 123 feet to the bottom of the bore at 150 feet.

The limestone is richly fossiliferous with abundant Ditrupa, bryozoa, echinoid spines and foraminifera, including Operculina victoriensis, Crespinella sp. and Cibicides cf. umbonifer. The underlying marls contain a rich microfauna, including the foraminifera Notorotalia howchini, Cibicides umbonifer, Cibicides pseudoungerianus, Calcarina verriculata (very poorly preserved) and Trifarina bradyi.

This whole section is Miocene in age and can be correlated directly with the Port Willunga Beds of the eastern side of Gulf St. Vincent.

5. LITHOLOGICAL DESCRIPTION

20' - 25'	Offwhite and grey slightly sandy shell bed, comprising broken mollusca. Sand fraction composed of very fine to coarse wellrounded often ironstained quartz grains. Foraminifera rare, and include Marginopora vertebralis and Elphidium cf. crispum. Mollusca common, including Gazameda iredalei, Tawera gallinula, Hippenix (Sabia) conica, Mitridae and Nassariidae.
25' - 30'	Offwhite very slightly sandy shell bed, kunkarized in part. Sand fraction composed of fine to coarse wellrounded quartz grains. Molluscan fragments comprise 90%-95% of total sample, and include Batillaria (Zeacumantus) diemenensis, Gazameda iredalei, Diala lauta, Tawera gallinula and Dentalium flindersi. Foraminifera rare.
30' - 35'	Light grey slightly sandy shell bed, kunkarised in part. Sand fraction fine to coarse wellrounded quartz grains. Foraminifera slightly more abundant than in previous sample, and include Marginopora vertebralis, Discorbis cycloclypeus and Elphidium crispum. Mollusca abundant but well broken, with Diala lauta and Tawera gallinula the only recognisable species.

35' - 40'	Redbrown clayey fine to medium wellrounded quartz sand with abundant limestone fragments.
40' - 45'	Light brown and yellow brown very sandy limestone with some brown clay. Sand fraction is angular to wellrounded clear quartz grains. Molluscan fragments and sponge spicules fairly common. Foraminifera abundant in some limestone pieces, and include Operculina victoriensis, Crespinella sp. and with abundant Ditrupa.
Cored 60' - 65' (Recovery 15")	Yellow brown slightly sandy limestone, slightly glauconitic. Foraminifera, mollusca, echinoid spines and sponge spicules abundant, but very poorly preserved.
Cored 80' - 87' (Recovery 1')	Yellow brown slightly sandy limestone - glauconitic. Foraminifera, mollusca and echinodermata abundant, but very poorly preserved.
Cored 103'-108' (Recovery 2")	Light yellow brown slightly sandy glauconitic limestone. Faunally similar to80' - 87'.
131' (Cavings)	Light yellow brown slightly clayey very calcareous fine to coarse angular to wellrounded quartz sand with very minor pink garnet. Foraminifera abundant, and include Notorotalia howchini, Cibicides umbonifer, Cibicides pseudoungerianus, Calcarina verriculata, Trifarina bradyi and Anomalina cf. glabrata. Echinoid spines are common.
140' - 150'	Dark greenish grey slightly sandy and glauconitic marl. Foraminifera abundant and dominated by Cibicides umbonifer and Cibicides pseudoungerianus.

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