41 032 Appendix 1

Rej N° 2156.

GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

LOG. OF VOYAGER 1, D.D.H. 1. ELLIOTT BAY E.L. 27/76.

coords 3775E 52428N

PLANNING

Proposer:	C.D. Strickland
Depth:	30m
Location:	Voyager 1 Area Grid
Purpose of hole:	Evaluation of narrow linear magnetic anomaly
Co-ordinates:	11800N, 9540E
Inclination:	-60^{o}
Bearing:	090^{o} TN
Approved by:	M.C. Rogers
Date:	30-1-1979

SUMMARY

Logged by:	C.D. Strickland
Results:	11.0m - 13.8m Magnetite-chlorite

DRILLING

Date terminated:	2-2-1979
Driller:	M.W. Longmore
Core:	A.Q. 8.2m - 30.8m
Final depth:	30.8m
Reasons for termination:	Intersected magnetite horizon
Water:	Normal water return throughout Hole drilled with sea water

Comments on Drilling Conditions:

1. Augered to 8.2m
2. Slow drilling in broken ground.

Core held M.

VOYAGER 1 D.D.H. 1 Geological Log.

0 - 8.2m No core. Auger pre-collared section.

8.2m - 11.0m Semi oxidized crystal tuff

Pale brown-green semi-oxidized rhyolitic pyroclastic extensively silicified with only small portions of the core showing any diagnostic relict textures. Sericitization occurs throughout this unit, and a rare pyrite crystal occurs within a quartz fragment at approximately 9.0m. Between 9.5m - 11.0m the chlorite content of the core increases, and at 11.0m a 1.5cm quartz vein occurs at 70° to L.C.A. This quartz vein is associated with magnetite, chlorite and minor pyrite. Core recovery throughout this interval is approximately 40%.

11.0m - 13.8m Magnetite-chlorite

Dark green-black massive Magnetite-chlorite containing bedded? horizons of pyrite mineralization irregularly throughout. The pyrite occurs predominantly as crystals varying from microscopic size up to angular fragments 5mm in diameter.
Bedding of pyrite units is as follows:

11.5m	46°	to L.C.A.
12.2m	52°	" "
12.5m	55°	" "
13.0m	52°	" "
13.8m	40°	" "

This unit is characterised by strong magnetics throughout, with the exception of the unit between 13.3m - 13.5m.
Carbonate (Dolomite) may be a constituent of this chemical sediment?
Core recovery throughout this interval is approximately 60%.

13.8m - 14.2m Chloritic Pyroclastics

Dark green non magnetic unit containing dominantly chlorite with bedded? pyrite crystals up to 2mm aligned at 45° to L.C.A. The chlorite content rapidly decreases through to 14.2m at which point relict pyroclastic textures (particularly quartz phenocrysts or crystals) are evident.
Core recovery approximately 50%.

14.2m - 30.8m Foliated Crystal Tuff

This massive unit consists of a semi chloritic green highly foliated (crenulated) pyroclastic. The original texture of the rock is almost destroyed by the intense foliation, the rock appears in part almost schistose. This unit is interpreted to be a crystal tuff pyroclastic based upon the quartz fragments within the rock and the banded nature of the texture, as distinct from the flow banded nature of a lava unit. The crenulations generally have a wavelength of between 4-6mm and the folation is aligned to the L.C.A. as follows:

15.1m - 45° to L.C.A.
16.5m - 45° " "
18.7m - 30° " "
20.0m - 70° " "
22.6m - 60° " "

41 035

The rock consists predominantly of quartz crystals up to 2mm, with also relict feldspar crystals now largely sericitized, both in fine grained semi chloritic-sericitic matrix, with a distinct foliation highlighted by chlorite and sericite.
Quartz veining occurs at 15.1m, 15.4m and 15.6 - 15.7m.
These white secondary quartz veins are aligned at approximately 90^{o} to the L.C.A.

The core recovery between 15m - 20m is excellent, averaging 95%, however considerable core loss occurs between 20m - 24m, and approximately 60% of the core is available.

Irregular increases in the chlorite occur over narrow zones up to 1cm parallel to the foliation and on a small scale can be seen to be crenulated. Examples of these chloritic zones occur at 16.15m, 17.15m, 17.85m, 18.0m, 23.4m, 23.7m, 24.6m and 26.8m.

The interval between 26.8m - 30.8m (E.O.H.) is similiar to the above zone, however is more intensly chloritzed and has a greater variation in grain size. The chloritization commonly is present in zones up to 10cm and within these units rare pyrite crystals occur parallel to the dominant foliation direction. Textured vaiations are subtle giving an overall interbedded nature to the unit with variations from pyroclastics with crystals up to 2mm abruptly changing to fine grained volcaniclastic greywackes - siltstones. Throughout this unit the dominant foliation is aligned at 60^{o} - 70^{o} to L.C.A.

E.O.H. 30.8m