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PR 82-138.

SOURCE-ROCK EVALUATION
FOR
PANCONTINENTAL PETROLEUM LTD
WELL: WEST WATERHOUSE NO. 1
AMADEUS BASIN
AUSTRALIA

Geochemical Services



DEPT OF MINES & ENERGY
DO NOT REMOVE



P00938

1 December 1982

CORE LABORATORIES



Mr. John Gorter
PanContinental Petroleum Ltd
20 Bond Street
Sydney, NSW 2000
AUSTRALIA

Geochemical
Services

Subject: Source-Rock Evaluation
Well: West Waterhouse No. 1
Amadeus Basin
Australia
Our File No. GCS 82136

Dear Mr. Gorter,

The following final report presents the results on the ten (10) drill cuttings samples from the PanContinental Petroleum Ltd's West Waterhouse No. 1 well. This source-rock evaluation consisted of determination of organic richness and Rock-Eval pyrolysis. The SI results on a few samples appeared unusually high and these samples were rerun as a check. The values reported here are the check runs and vary slightly from those reported by telex.

We appreciate this opportunity to be of service to PanContinental Petroleum Ltd in providing petroleum geochemistry analyses. Should there be any questions on the enclosed data, please contact us.

Yours very truly
CORE LABORATORIES INTERNATIONAL LTD

A handwritten signature in dark ink, appearing to read "D Kirk Cromer". The signature is fluid and cursive.

For: D Kirk Cromer
Manager - Geochemical Services
Eastern Hemisphere

DKG:cy

3 cc: Addressee

This report based on observations and materials supplied by the client is prepared for the exclusive and confidential use by the client. The analyses, opinions or interpretations contained herein represent the judgement of Core Laboratories, Inc. and its employees assume no responsibility and make no warranties or representations as to the utility of this report to the client or as to the productivity, proper operation, or profitability of any oil, gas or other mineral formation or well in connection with which such report may be used or relied upon.

Table 1

Lithology and Total Organic Carbon (TOC)

Depth (ft)	Sample Type	Lithology	TOC (wt %)
5600- 5630	ctgs	90% Sd: v lt gy, transl, colorless, f-c gn, ang-sub rnd, mod-w srted 10% Pyrite Pres: sh Tr: ss, sltst	N.R.
5630- 5660	ctgs	80% Ss: v lt gy, wh, v f gn, sub ang-sub rnd, w srted, hd, cmted w/dol, occ intbd w/sh 10% Sd: v lt gy, transl, colorless, f-c gn, ang-sub rnd, mod-w srted 10% Sh: dk gy, n calc, sl dolc, mica, sl carb, frm-hd Pres: dol	N.R.
5660- 5690	ctgs	50% Ss: v lt gy, wh, v f gn, sub ang-sub rnd, w srted, hd, cmted w/dol, occ intbd w/sh 50% Sh: dk gy, n calc, sl dolc, mica, sl carb, frm-hd Pres: dol, sd	0.15
5690- 5720	ctgs	70% Sh: dk gy, n calc, slty, mica, sl carb, frm-hd 30% Ss: v lt gy, wh, v f gn, sub ang-sub rnd, w srted, hd, cmted w/dol, occ intbd w/sh Tr: pyr	0.28
5720- 5750	ctgs	90% Sh: dk gy, n calc, occ sl dolc, slty, sl mica, sl carb, frm-hd 10% Dol: m dk gy, v lt gy, mic xln, ahrl, hd Pres: ss	0.46

N.R = Not Run

Table 1
Lithology and Total Organic Carbon (TOC)

Depth (ft)	Sample Type	Lithology	TOC (wt %)
5750-5780	ctgs	Sh: dk gy, n calc, occ sl dolc, slty, sl mica, sl carb, frm-hd Pres: dol Tr: pyr	0.32
5780-5810	ctgs	Sh: dk gy, n calc, occ sl dolc, slty, sl mica, sl carb, frm-hd Pres: dolc, ls	0.25
5810-5840	ctgs	90% Sh: dk gy, n calc, occ sl dolc, slty, sl mica, sl carb, frm-hd 10% Ls: lt gy, mic xln, ahrl, dolc, occ sl pyr, hd Tr: sd	0.16/0.16
5840-5870	ctgs	90% Sh: dk gy, n calc, occ sl dolc, slty, sl mica, sl carb, frm-hd 10% Ls: lt gy, mic xln, ahrl, dolc, occ sl pyr, hd Tr: sd	0.15
5870-5900	ctgs	60% Ss: wh, v lt gy, f gn, sub ang-sub rnd, w srtd, mod hd, cmtd w/sil, occ sl mica 30% Sh: dk gy, n calc, slty, occ abdnt mica, sl carb, occ sl pyr, frm 10% Sltst: dk rd brn, n calc, sl dolc, sl mica, w ind	0.10

Table 2

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Rock-Eval Pyrolysis

<u>Sample Depth (ft)</u>	<u>TOC (wt.%)</u>	<u>S1</u>	<u>Mg/Gm Rock S2</u>	<u>S3</u>	<u>Hydrogen Index</u>	<u>Oxygen Index</u>	<u>Oil and Gas Shows</u>	<u>Potential</u>	<u>Transformation Ratio</u>	<u>Tmax (°C)</u>
5690-5720	0.28	0.02	0.20	0.19	71.4	67.9	0.02	0.22	0.09	445
5720-5750	0.46	0.02	0.39	0.19	84.8	41.3	0.02	0.41	0.05	443
5750-5780	0.32	0.02	0.21	0.23	65.6	71.9	0.02	0.23	0.09	440
5780-5810	0.25	0.01	0.15	0.26	60.0	104.0	0.02	0.16	0.13	441*

* Tmax not reliable because of low S2 peak