

W 484



WCA PORT CAMPBELL-4 W484
FROM-BROKEN HILL CO. LTD.

FROM-BROKEN HILL COMPANY PTY. LTD.

-7 JAN 1965
MINES DEPT.

WELL COMPLETION REPORT - PORT CAMPBELL NO. 4

SOUTHWEST VICTORIA

by
S. Benedek

OIL and GAS DIVISION

W484

80 Pages

FROME-BROKEN HILL COMPANY PTY. LTD. + ENCLOSURES

WELL COMPLETION REPORT - PORT CAMPBELL NO. 4
SOUTHWEST VICTORIA

by

S. Benedek

Melbourne

November, 1964

ILLUSTRATIONS (in pocket)

- ✓ 1. Geological and Locality Map - Port Campbell Embayment.
2. Stratigraphic Column Prior to Drilling. ✓
3. Geological Cross Sections Before and After Drilling. ✓
4. Composite Well Log. ✓
- ✓ 5. A graphical representation of all operations, including drilling and testing.

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CORE ANALYSIS REPORT

FOR

MINORA RESOURCES NL

09 JAN 1989

PORT CAMPBELL 4

PETROLEUM DIVISION

ADDED TO WCR

BY NRE

12/8/99

3 PAGES

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom; and for whose exclusive and confidential use; this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories Australia PTY., LTD. (all errors and omissions excepted); but Core Laboratories Australia PTY., LTD. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or formation in connection with which such report is used or relied upon.

1st August 1988

Minora Resources NL
7th Floor
Colonial Mutual Building
55 St. George's Terrace
Perth W.A. 6000

Attention: Mr T. Scholefield

Subject : Core Analysis
Well : Port Campbell #4
File : WA-CA-407

Dear Sir,

Core Laboratories received 4 samples from the subject well for analysis.

One-inch diameter plug samples were drilled from the core pieces using tap water as the bit lubricant. These plugs were dried at 115°C to constant weight. Permeability to air, helium injection porosity and grain density were then determined.

Core Laboratories thanks Minora Resources NL for the opportunity to have been of service.

Yours faithfully,
CORE LABORATORIES



Peter Lane
Petrophysical Laboratory Supervisor

PRL:jc:7

CORE LABORATORIES AUSTRALIA PTY., LTD.

Company : MINORA RESOURCES NL
 Well : PORT CAMPBELL 4
 Location :
 Country : AUSTRALIA

Field :
 Formation :
 Coring Fluid :
 Elevation :

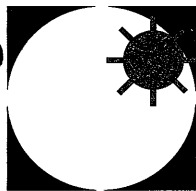
File No.: WACA407
 Date : 1-AUG-88
 API No. :
 Analysts: PL

C O R E A N A L Y S I S R E S U L T S

| SAMPLE NUMBER | DEPTH ft | PERMEABILITY (HORIZONTAL) | POROSITY (HELIUM) | GRAIN DENSITY | DESCRIPTION |
|------------------|--------------|------------------------------|----------------------|------------------|---------------------------------------|
| | | K_{air} md | % | gm/cc | |
| 1 | 7183.0- 92.0 | 0.03 | 11.5 | 2.70 | SST: grn- gry, vf gr, hd, wl srt, ang |
| 2 | 7690.0- 10.0 | 0.29 | 11.6 | 2.65 | SST: grn- gry, f gr, hd, wl srt, ang |
| 3 | 7889.0- 07.0 | 0.13 | 9.2 | 2.67 | SST: grn- gry, f gr, hd, wl srt, ang |
| 4 | 8279.0- 99.0 | 0.01 | 10.3 | 2.71 | SST: grn- gry, f gr, hd, wl srt, ang |

Received 15/3/95 JB

BA/KR
BB



G F E Resources Ltd

9 March, 1995

Department of Agriculture, Energy and Minerals
Petroleum Operations Branch
3rd Floor, 115 Victoria Parade
FITZROY VIC 3065

ATTENTION: Kathy Hill
General Manager

Dear Kathy,

Please find enclosed por/perm measurements and petrology studies for the core chips from Port Campbell-4 sampled by GFE late last year.

Due to an inconsistency in labelling, one depth is given in metres while the others are given in feet. The samples were taken from cores 16, 24 and 25.

Yours sincerely,

ADDED TO WCR

BY NRE

12/8/99

3 PAGES

NOEL NEWELL
SENIOR EXPLORATIONIST

PETROLEUM DIVISION

NN/aj:j3475

15 MAR 1995

Level 6, 6 Riverside Quay, South Melbourne Victoria 3205 Telephone: (03) 684 4888 Facsimile: (03) 684 4897

Address all mail to Box 629, Market Street Post Office, Melbourne Victoria 3000 A.C.N. 005 469 581

TABLE: 1

CORE ANALYSIS

GFE RESOURCES LTD
 PORT CAMP 4
 CORE

21-Nov-94
 FILE NO:CAP-94-15

| Sample | Depth | Helium Porosity % | Summation of Fluids Porosity | Grain Density gm/cc | Air Perm md KH | Air Perm md KV | Residual SATS % pore vol Oil | Residual SATS % pore vol Water |
|--------|-----------|-------------------|------------------------------|---------------------|----------------|----------------|------------------------------|--------------------------------|
| | 2349.70m | 11.6 | | 2.68 | 0.16 | | | |
| | 5456-5458 | 19.8 | | 2.69 | 2.5 | | | |
| | 7895-7897 | 8.2 | | 2.65 | 0.10 | | | |
| | 7900-7902 | 11.6 | | 2.66 | 0.45 | | | |

* = no data

= irregular sample

TABLE: 1

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GFE RESOURCES LTD
 PORT CAMP 4
 CORE

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| | 5456-5458 | 19.8 | | 2.69 | 2.5 | | | |
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| | 7900-7902 | 11.6 | | 2.66 | 0.45 | | | |

* = no data

= irregular sample

GEOTECHNICAL SERVICES PTY LTD

Date: 24th February 1965

CORE ANALYSIS RESULTS

Notes:- (i) Unless otherwise stated, the porosities and permeabilities were determined on two small plugs (V & H) cut at right angles from the core or sample. Ruska porosimeter and permeameter were used, with ^{air} ~~mercury~~ at ⁷⁵⁰ ~~750~~ p.s.i.g. and dry nitrogen, respectively, as the saturating and flowing media. (ii) Residual oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates and fluorescence of solvent after extraction are recorded as, nil, trace, fair, strong or very strong.

| Well or Area | Core or Sample No. | Depth in ft. From:- To:- | Lithology | Effective Porosity in % by Vol. | | Absolute Permeability in Millidarcys | | Avg. density in gms./cc. | | Fluid Saturation in % Pore Space | | Acetone Test | | Solvent after Extraction | | Remarks |
|---------------------|--------------------|--------------------------|-----------------------------|---------------------------------|------------|--------------------------------------|------|--------------------------|----------------|----------------------------------|------|--------------|-------------|--------------------------|--------|------------------------------------|
| | | | | V | H | V | H | Dry Bulk | Apparent Grain | Water | Oil | Colour | Precipitate | Colour | Fluor. | |
| Port Campbell No. 4 | 1 | 2555' 2575' | INSUFFICIENT | SAMPLE | | REMAINING | | FOR | | TESTING | | | | | | |
| " | 2 | 2894' 2896' | Sandstone, friable | 35 | 35 | 702 | 803 | 1.72 | 2.65 | 2 | Nil | Nil | Nil | Nil | Nil | |
| " | 3 | 3206' 3226' | Sand grains only remaining. | | UNSUITABLE | | FOR | | TESTING | | | | | | | |
| " | 4 | 3232' 3234' | Sandstone, friable | 35 | N.D. | 3,100 | N.D. | 1.70 | 2.63 | Nil | Nil | Nil | Nil | Nil | Nil | Horiz. plug disintegrated |
| " | 5 | 3518' 3519' | Sandstone, siliceous | N.D. | 3 | N.D. | Nil | 2.66 | 2.75 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | Insufficient sample for Vert. plug |
| " | 6 | 3519' 3521' | Siltstone & sandstone | 25 | 25 | 2 | 31 | 2.08 | 2.77 | 9 | Nil | Nil | Nil | Nil | Trace | |
| " | 7 | 3835' 3837' | Siltstone | 27 | 25 | Nil | 1 | 2.13 | 2.86 | 23 | Nil | Pale Yellow | Nil | Trace | Trace | |
| " | 8 | 4112' 4114' | Sandstone (dark green) | 35 | 33 | 22 | 17 | 1.96 | 2.95 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |

Additional Informations:

General File No. 62/399
Well File No. 64/4063

Date: 24th February, 1965

CORE ANALYSIS RESULTS

Notes:- (i) Unless otherwise stated, the porosities and permeabilities were determined on two small plugs (V & H) cut at right angles from the core or sample. Ruska porosimeter and permeameter were used, with ^{air}mercury at 750 p.s.i.g. and dry nitrogen, respectively, as the saturating and flowing media. (ii) Residual oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates and fluorescence of solvent after extraction are recorded as, nil, trace, fair, strong or very strong.

| Well or Area | Core or Sample No. | Depth in ft. From:- To:- | Lithology | Effective Porosity in % by Vol. | | Absolute Permeability in Millidarcys | | Avg. density in gms./cc. | | Fluid Saturation in % Pore Space | | Acetone Test | | Solvent after Extraction | | Remarks |
|---------------------|--------------------|--------------------------|------------------------|---------------------------------|----|--------------------------------------|-----|--------------------------|----------------|----------------------------------|------|--------------|-------------|--------------------------|--------|------------------------------------|
| | | | | V | H | V | H | Dry Bulk | Apparent Grain | Water | Oil | Colour | Precipitate | Colour | Fluor. | |
| Port Campbell No. 4 | 8 | 4122' 4124' | Sandstone (dark green) | 19 | 20 | Nil | Nil | 2.47 | 3.07 | 99 | Nil | Nil | Nil | Nil | Nil | |
| " | 8 | 4126' 4128' | As above | 18 | 18 | Nil | Nil | 2.63 | 3.19 | N.D. | N.D. | N.D. | N.D. | N.D. | ND. | |
| " | 9 | 4273' 4275' | Sandstone, friable | 28 | | N.D. | | 1.99 | 2.78 | " | " | " | " | " | " | Sample too friable to obtain plugs |
| " | 9 | 4283' 4284' | As above | 29 | | N.D. | | 2.03 | 2.86 | Nil | Nil | Nil | Nil | Nil | Nil | As above |
| " | 10 | 4580' 4600' | Shale | INSUFFICIENT | | SAMPLE | | REMAINING | | FOR | | TESTING | | | | |
| " | 11 | 4600' 4602' | Shale | 26 | | N.D. | | 2.20 | 2.96 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | Broken shale, pieces only. |
| " | 12 | 4894' 4896' | Shale | 22 | 27 | Nil | Nil | 2.32 | 3.08 | " | " | " | " | " | " | |
| " | 13 | 4977' 4985' | | NIL | | | | CORE | | RECOVERY | | | | | | |

Additional Information:

General File No. 62/399
Well File No. 64/4063

Date: 24th February, 1965

CORE ANALYSIS RESULTS

Notes:- (i) Unless otherwise stated, the porosities and permeabilities were determined on two small plugs (V & H) cut at right angles from the core or sample. Ruska porosimeter and permeameter were used, with ^{air} ~~mercury~~ at 750 p.s.i.g. and dry nitrogen, respectively, as the saturating and flowing media. (ii) Residual oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates and fluorescence of solvent after extraction are recorded as, nil, trace, fair, strong or very strong.

| Well or Area | Core or Sample No. | Depth in ft. From:- To:- | Lithology | Effective Porosity in % by Vol. | | Absolute Permeability in Millidarcys | | Avg. density in gms./cc. | | Fluid Saturation in % Pore Space | | Acetone Test | | Solvent after Extraction | | Remarks |
|---------------------|--------------------|--------------------------|-------------------------------|---------------------------------|----|--------------------------------------|-----|--------------------------|----------------|----------------------------------|------------|--------------|-------------|--------------------------|--------|---------|
| | | | | V | H | V | H | Dry Bulk | Apparent Grain | Water | Oil | Colour | Precipitate | Colour | Fluor. | |
| Port Campbell No. 4 | 14 | 4985' 4987' | Sandstone, carbonaceous bands | 22 | 21 | 34 | 426 | 2.06 | 2.62 | 5 | Trace only | Yellow | Fair | Yellow | strong | |
| " | 14 | 4993' 4995' | Shale | 22 | | N.D. | | 2.28 | 2.92 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| " | 15 | 5154' 5156' | Sandstone | 25 | 23 | 264 | 302 | 2.00 | 2.64 | 1 | Nil | Nil | Nil | Nil | Nil | |
| " | 16 | 5460' 5462' | Sandstone | 22 | 22 | 8 | 4 | 2.14 | 2.73 | 23 | " | " | " | " | " | |
| " | 17 | 5756' 5758' | Sandstone and siltstone | 21 | 23 | Nil | 2 | 2.16 | 2.78 | 36 | " | Pale Yellow | " | " | Fair | |
| " | 18 | 6078' 6080' | Sandstone | 20 | 20 | 2 | 5 | 2.17 | 2.71 | 8 | " | Nil | " | " | Nil | |
| " | 19 | 6357' 6359' | Siltstone | 19 | 18 | Nil | Nil | 2.30 | 2.82 | 22 | Trace only | Pale Yellow | Faint trace | Pale yellow | Strong | |
| " | 20 | 6665' 6667' | Siltstone | 16 | 17 | Nil | Nil | 2.36 | 2.82 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |

Additional Information:

General File No. 62/399
Well File No. 64/4063

Date: 24th February

CORE ANALYSIS RESULTS

Notes:- (i) Unless otherwise stated, the porosities and permeabilities were determined on two small plugs (V & H) cut at right angles from the core or sample. Ruska porosimeter and permeameter were used, with mercury at 70 p.s.i.g. and dry nitrogen, respectively, as the saturating and flowing media. (ii) Residual oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates and fluorescence of solvent after extraction are recorded as, nil, trace, fair, strong or very strong.

| Well or Area | Core or Sample No. | Depth in ft. From:- To:- | Lithology | Effective Porosity in % by Vol. | | Absolute Permeability in Millidarcys | | Avg. density in gms./cc. | | Fluid Saturation in % Pore Space | | Acetone Test | | Solvent after Extraction | | Remarks |
|---------------------|--------------------|--------------------------|-------------------------|---------------------------------|----|--------------------------------------|-----|--------------------------|----------------|----------------------------------|------------|--------------|-------------|--------------------------|--------|---------|
| | | | | V | H | V | H | Dry Bulk | Apparent Grain | Water | Oil | Colour | Precipitate | Colour | Fluor. | |
| Port Campbell No. 4 | 21 | 7051' 7067' | | NIL | | CORE | | RECOVERY | | | | | | | | |
| " | 22 | 7187' 7189' | Siltstone and sandstone | 18 | 25 | N.D. | Nil | 2.29 | 2.92 | 57 | Trace only | Pale Yellow | Faint trace | Pale yellow | strong | |
| " | 23 | 7692' 7694' | Sandstone | 11 | 11 | Nil | " | 2.34 | 2.64 | 11 | Nil | Nil | Nil | Nil | Nil | |
| " | 23 | 7700' 7702' | Sandstone | 12 | 12 | " | " | 2.36 | 2.69 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| " | 23 | 7708' 7710' | Sandstone | 12 | 14 | " | " | 2.35 | 2.70 | " | " | " | " | " | " | |
| " | 24 | 7895' 7897' | Sandstone | 9 | 11 | " | " | 2.41 | 2.67 | 15 | Nil | Nil | Nil | Nil | Nil | |
| " | 25 | 7907' 7909' | Sandstone | 9 | 9 | " | " | 2.43 | 2.67 | 16 | " | " | " | " | Trace | |
| " | 26 | 8279' 8281' | Sandstone | 11 | 11 | " | " | 2.51 | 2.81 | 42 | " | " | " | " | Nil | |

Additional Information:

General File No. 62/399
Well File No. 64/4063

Date: 24th February, 1965

CORE ANALYSIS RESULTS

Notes:- (i) Unless otherwise stated, the porosities and permeabilities were determined on two small plugs (V & H) cut at right angles from the core or sample. Ruska porosimeter and permeameter were used, with mercury at 730 p.s.i.g. and dry nitrogen, respectively, as the saturating and flowing media. (ii) Residual oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates and fluorescence of solvent after extraction are recorded as, nil, trace, fair, strong or very strong.

| Well or Area | Core or Sample No. | Depth in ft. From:- To:- | Lithology | Effective Porosity in % by Vol. | | Absolute Permeability in Millidarcys | | Avg. density in gms./cc. | | Fluid Saturation in % Pore Space | | Acetone Test | | Solvent after Extraction | | Remarks |
|---------------------|--------------------|--------------------------|---------------------|---------------------------------|----|--------------------------------------|------|--------------------------|----------------|----------------------------------|------|--------------|-------------|--------------------------|--------|---------|
| | | | | V | H | V | H | Dry Bulk | Apparent Grain | Water | Oil | Colour | Precipitate | Colour | Fluor. | |
| Port Campbell No. 4 | 26 | 8297' 8299' | Shale | 11 | 10 | Nil | Nil | 2.52 | 2.82 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| " | 27 | 8500' 8502' | Shale | 8 | 9 | " | " | 2.53 | 2.76 | " | " | " | " | " | " | |
| " | 27 | 8504' 8506' | Sandstone | 10 | 10 | " | " | 2.47 | 2.74 | 25 | Nil | Nil | Nil | Nil | Nil | |
| " | 27 | 8516' 8517' | Shale and Siltstone | 5 | 9 | N.D. | N.D. | 2.57 | 2.76 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

Additional Informations

General File No. 62/399
Well File No. 64/4063

Date: JULY 15/64

CORE ANALYSIS RESULTS

Notes:- (i) Unless otherwise stated, the porosities and permeabilities were determined on two small plugs (V & H) cut at right angles from the core or sample. Ruska porosimeter and permeameter were used, with mercury at ^{air} 750 p.s.i.g. and dry nitrogen, respectively, as the saturating and flowing media. (ii) Residual oil and water saturations were determined using Soxhlet type apparatus. (iii) Acetone test precipitates and fluorescence of solvent after extraction are recorded as, nil, trace, fair, strong or very strong.

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|---------------------|--------------------|--------------------------|---|---------------------------------|------|--------------------------------------|-----|--------------------------|-------|----------------------------------|-----|--------------|-------------|--------------------------|--------|---------|
| | | | | V | H | V | H | Dry Bulk | Grain | Water | Oil | Colour | Precipitate | Colour | Fluor. | |
| Port Campbell No. 4 | 23 | 7690 7710 | Sandstone-Medium Grain, Arkosic, Firm, Silty Matrix | 14.3 | 13.9 | Nil | Nil | 2.35 | 2.73 | 72 | Nil | Nil | Nil | Nil | Trace | |
| " | 24A) | 7889 | Sandstone as Above | 11.1 | 11.1 | Nil | Nil | 2.43 | 2.73 | 51 | Nil | Nil | Nil | Nil | Trace | |
| " | 24B) | 7907 | " | 10.8 | 10.4 | Nil | Nil | 2.39 | 2.68 | 55 | Nil | Nil | Nil | Nil | Trace | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

Additional Information: CORE 23 WAS A PRESERVED (TINNED) SAMPLE
CORE 24 (TWO PIECES) WAS NOT PRESERVED

General File No. 62/399
Well File No.