



SA OIL WELLS MOUTAJUP-4 W340

WELL ELEMENTARY  
REPORT

S.A. OIL WELLS

MOUTAJUP-4

W340

Mountain 4.

W.C.R. - Section 24

Palynology by V. Archer

Depth: 15-18m, cutting sample

Lithology: Slightly calcareous coarse sand

Age: Indeterminate

Comments: Sample was barren.

Contents . . . . .

1) Well Card

2) WCR (text)

3) Lithology

4) Palynology

5) Composite Log / Geophysical Logs.

Well Card

PE904039

This is an enclosure indicator page.  
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The enclosure PE904039 has the following characteristics:

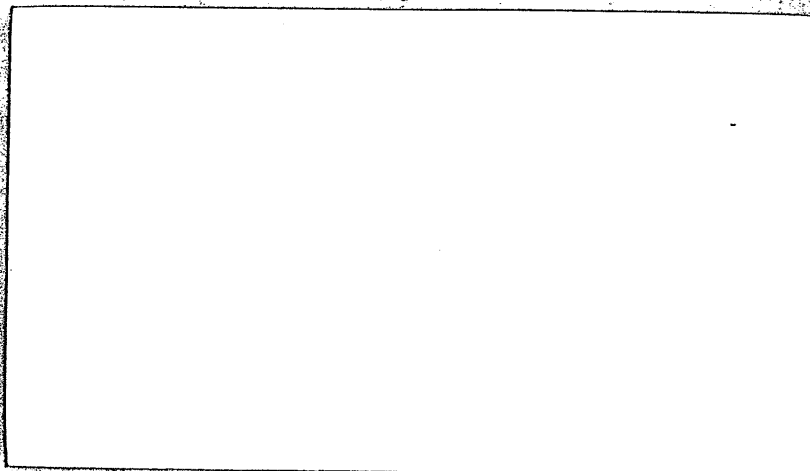
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PERMIT =  
TYPE = WELL  
SUBTYPE = WELL\_CARD  
DESCRIPTION = Well Card, South Australian Oil Wells  
No.4, Section 1188, (enclosure from Well  
Elementary) for Moutajup-4  
REMARKS =  
DATE\_CREATED = 31/01/22  
DATE\_RECEIVED =  
W\_NO = W340  
WELL\_NAME = South Australian Oil Wells Moutajup-4  
CONTRACTOR = Sth Australian Oil Wells Co. NL  
CLIENT\_OP\_CO = Sth Australian Oil Wells

(Inserted by DNRE - Vic Govt Mines Dept)



REF ID 6013

# Geological Survey of Victoria



Well Completion Report

WELL COMPLETION REPORT : MOUNTAJUP 4

GC13 : LIGNITE POTENTIAL OF THE NORTHERN MARGIN OF  
THE OTWAY BASIN

BY

D R STANLEY

UNPUBLISHED REPORT 1983/62

D/BASE CO-ORD:

N: 5835879.0

E: 613422.0

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CONTENTS

PAGE

1.	INTRODUCTION	1
2.	MOUTAJUP 4	3
2.1	BORE HOLE INFORMATION	3
2.2	COMPOSITE BORE LOG	4
2.3	DRILLERS LOG	5
2.4	PALYNOLOGY BY V ARCHER	5
2.5	GRAIN SIZE ANALYSES	6
MAPS	BORE LOCALITY MAP	2



## INTRODUCTION

This report contains basic data on holes recently drilled in the Parish of Moutajup, as part of an exploratory drilling program designed to test the brown coal potential of the northern margin of the Otway Basin. The area under investigation was reserved for Departmental Exploration in December 1980 by the presiding Minister for Minerals and Energy. The area was not previously under Exploration Licence.

The holes have been drilled in Tertiary sediments and in places volcanics, basinwards from outcropping Lower Carboniferous-Upper Devonian ferruginous sediments. The Tertiary sequence deepens to the south and south-west.

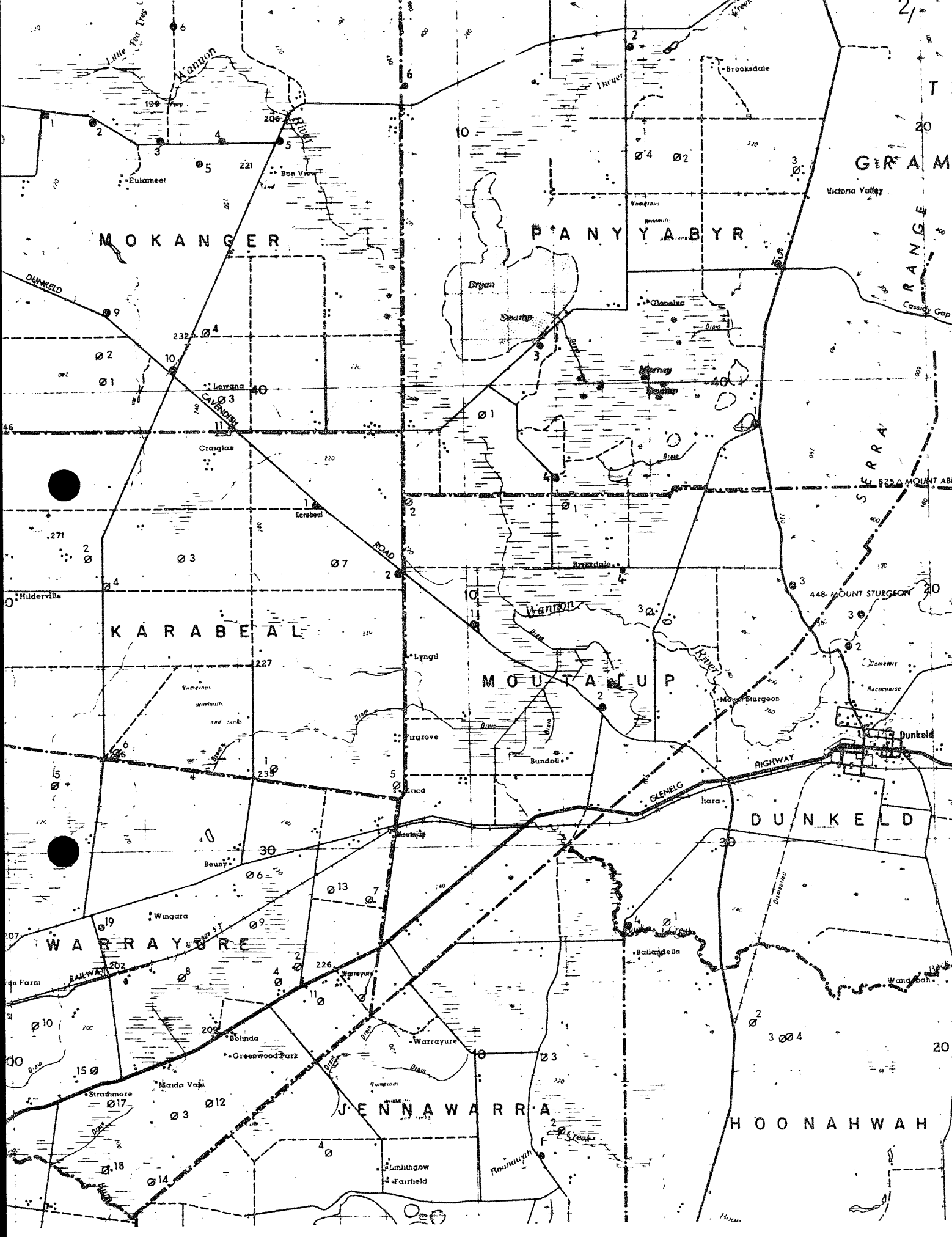
Superficial deposits are generally Plio-Pleistocene ferruginous sediments and volcanics and all holes bottomed in Pre-Tertiary basement.

The rig used was a truck mounted Mayhew 1000 (Drill 31), a rotary drill equipped with down-hole percussion capabilities, operated by the Drilling Branch. Chip samples were taken at about 3 meter intervals and transported to the Port Melbourne Core Store where they were washed and bagged. Cores were taken at intermittent intervals and in Pre-Tertiary basal intersections. The cores are also stored at Port Melbourne. Water samples were also collected from each intersected aquifer.

At the completion of each hole Geophysical logs were run by the Department using truck mounted Gerhardt Owen 800 series equipment. The original logs are now held by the Groundwater Section.

Sample analyses consisted of logging with the aid of a binocular microscope and sizing of sediments utilizing the Departments' Settling Column. Suitable samples, were identified palynologically by V Archer and thin section slides out from basement cores were examined petrographically by R Ramsey. Water samples, if intersected, were analysed by the Chemical Branch.

A geological synthesis, which will include data contained in this report, is to be presented in a forthcoming Unpublished Report.



BORE LOCATION MAP Scale 1:100,000

MOUTAJUP 4            31/81/7

Bore Hole Information    2.1

Zone                                : 54

Co-Ordinates                        : E 613499 m, N 5835842 (digitised)

RLNS                                 : 215 m (from topo map)

Drilling Period                      : commenced onsite 28th July 1981  
    left site                        5th August 1981

Total Depth Drilled                : 32.0 m

Hole Data                             : 18.7 cm dia. casing placed to 1.5 m.  
    17.8 cm dia. open hole to 7.0 m  
    15.2 cm dia. open hole to T.D.

Water Intersections                 : None reported

Cored Intervals                      : -

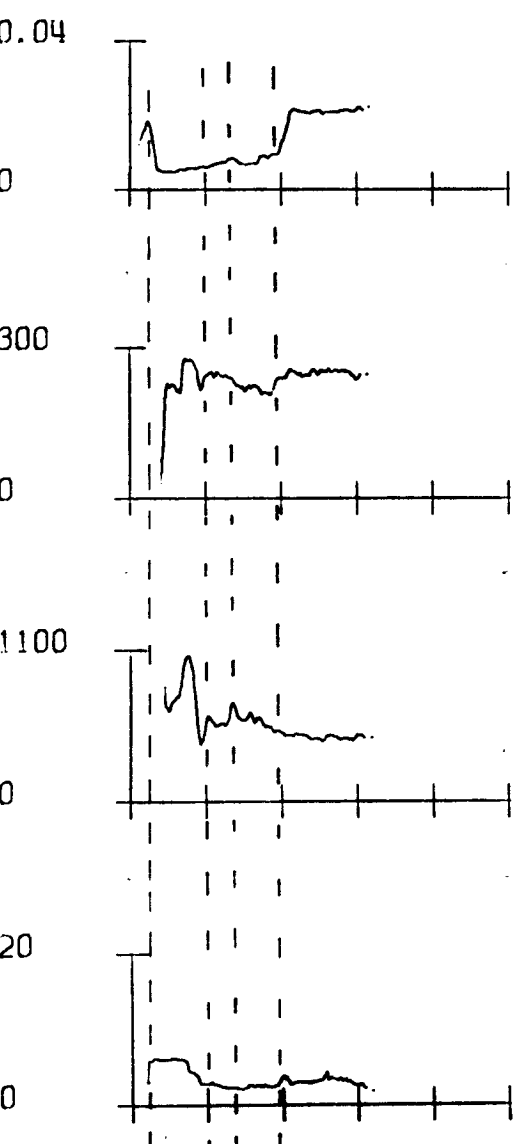
Hole Completion                     : Abandoned, casing removed and bore backfilled with  
    cuttings.

Geophysical Logs Run                : Gamma            0    -    31.09 m  
    Neutron           0    -    31.09 m  
    Density           0    -    31.09 m  
    Caliper           0    -    31.09 m

Bottom Hole Temperature :- 18°C

2.2  
 MOUTAJUP 4  
 613499  
 5835842  
 N  
 RL + 215

AGE	GENERAL LITHOLOGY	DESCRIPTION	METRES	DATE	CORE
LOWER PLIOCENE			0		3 2 1 0
NEWER VOLCANIC SAND		Mottled yellow-brown fine grained sandy clay	0		V V V V V V V V
		Blue-black basalt. Highly weathered to ~6m with a resultant breakdown to a brown clay fraction.	0		V V V V V V V V
		Moderately sorted yellow-brown medium sand, subrounded, medium sphericity, subangular.	2		V V V V V V V V
		Moderately sorted light grey coarse sand, subangular, subrounded, medium-low sphericity.	30		
		Large grains translucent-angular, fine fraction rounded, frosted. Slightly carbonaceous 15-18m.	40		
		Moderately sorted fine grained silty sandstone. Light grey in colour. Sand fraction is dominantly quartzose, subrounded, has medium sphericity, is frosted white-grey, and is united by a white silica cement. The unit has been weathered from 19.5m to approximately 29m to a firm silty sand.	50		
			60		
			70		
			80		
			90		
			100		
			110		
			120		
			130		
			140		
			150		
			160		
			170		
			180		
			190		
			200		
			210		
			220		
			230		



2.3 DRILLERS LOG

Top soil	0.00
Yellow and brown clay	0.20
Fractured basalt	1.00
Mudstone	2.50
Bluestone gravel	5.00
Blue-grey basalt	7.50
Yellow and grey clay	11.00
Fine grained grey sand	14.75
Medium grained brown sand	16.50
Stiff white clay	19.00
Cemented sand	29.00 - 32.00
	T.D.

2.4 PALYNOLOGY BY V. ARCHER

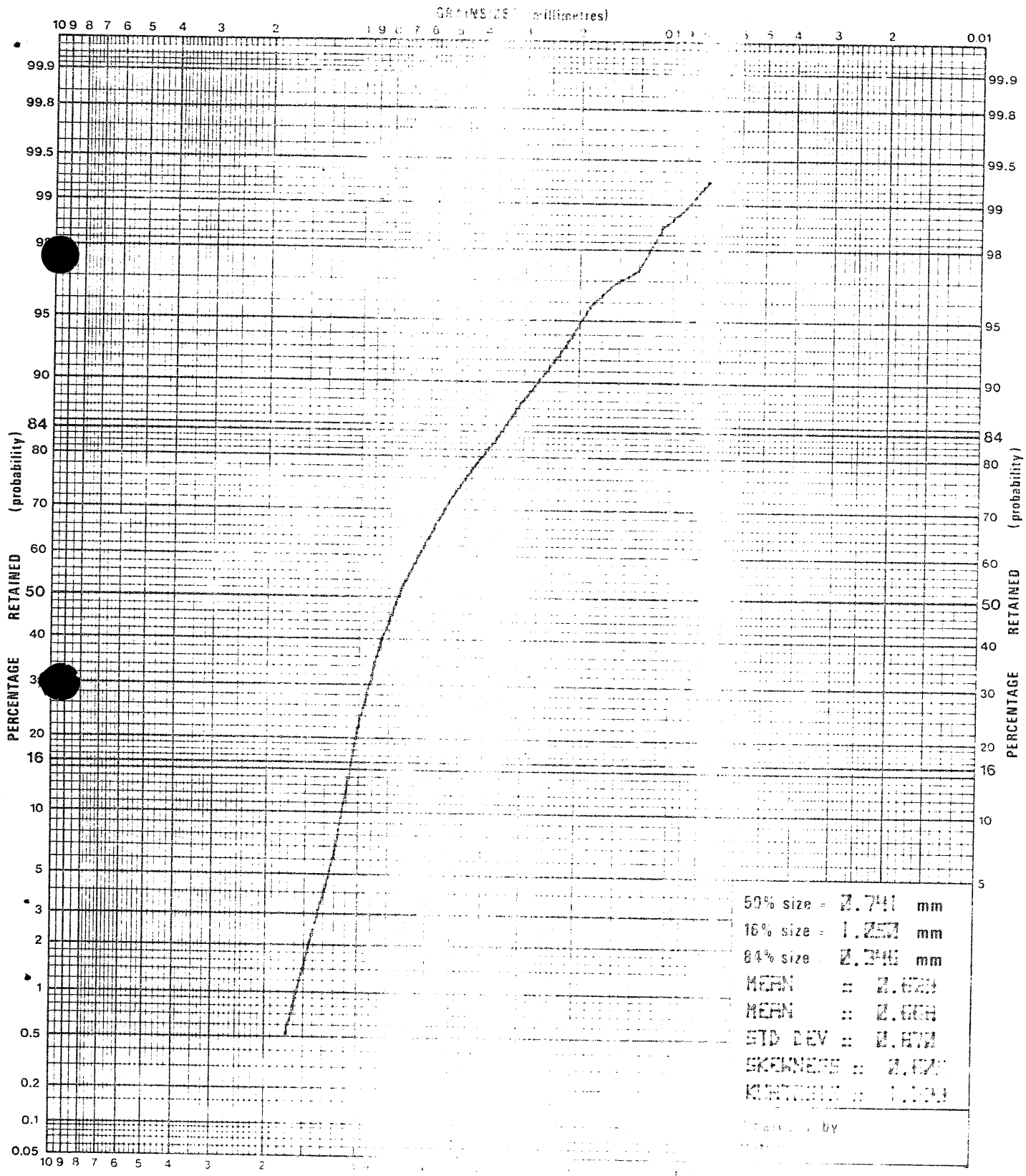
Depth: 15-18m, cutting sample  
Lithology: Slightly carbonaceous coarse sand  
Age: Indeterminate  
Comments: Sample was barren

# 2-5 GRAIN SIZE ANALYSIS

PROJECT: Brown Coal Investigation of the Northern Margin of the  
 LOCATION: Ohway Basin  
 REMARKS: Moutajup 4 - 31/8/77  
Interval from 15-18 m

NO. 1839  
 DATE: \_\_\_\_\_  
 DIST AND: 215 m  
 CO ORDS: 613499E, 5835842N  
 MAP: 7322

DESCRIPTION: light grey-brown coarse sand, moderately sorted, strongly fine skewed extremely leptokurtic.



August:- The Commonwealth Government offer for oil in payable quantities attracted attention, and ~~and~~ it was stated in August, 1921, that in a shallow bore near Moutajup, a small township on the railway line between Dunkeld and Hamilton in Western Victoria, ~~that~~ petroleum had been found. This was referred to by Mr. H. C. Dod, B.Sc., who, in a report to the Directors on the South Australian Oil Wells Company, recommended the exercising of an option over the holdings of the Western District Oil Syndicate, with the object of immediately developing the area. The Directors adopted his recommendation, and secured leases to the extent of 5,000 acres in the vicinity. ~~and~~ [When boring for water about 1910, a contractor observed indications of "oil." Nothing was done until 1921, when a syndicate was formed and the matter was brought under the notice of the South Australian Oil Wells Company who secured an option over the leases. A bore which had reached a depth of 175 feet was ~~deepened~~ deepened. Samples of the material from the bore were tested in the field and it was reported that positive petroleum results were obtained. Mr. Dod stated ~~that~~ that the work already done had proved "the presence of thick beds of carbonaceous shale containing all the organic matter necessary for the formation of oil in quantity, also the proper series of strata favorable to the concentration of oil. The ground consists of alternating sands, clays, and shales covered by thick layer of basalt." "The basalt and layers of clay," he asserts, "account for the absence of surface indications and the presence of oil sand containing visible oil in small percentage was only proved by chance while boring for water." Reports received in Melbourne at the end of July that "oil had been discovered" led to speculation in South Australian Oil Wells shares, which rose from 18d. on 19th July to 12/- on the 10th August. On the receipt of Dod's report, however, share values declined sharply to 9/-. The following day, 11th August, 1921, Mr. Barnes, Minister for Mines, said ~~that~~ when commenting upon the claim that petroleum had been discovered at Moutajup "that he would advise the public to exercise caution. The Mines Department, he explained,

did not wish to damp the ardour of oil searchers or to force its <sup>views</sup> ~~views~~ upon those who thought their knowledge was superior to that of the geological staff, but he would urge that those who claimed to have discovered free mineral oil and to be in possession of samples should submit them for test to Commonwealth or State Government analysts."

A Company, the Moutajup Oil Wells, N.L., was formed in September, 1921; the legal Manager was Mr. H. E. Connelly, and boring operations were commenced on Mt. Sturgeon Estate. The South Australian Oil Wells Company was interested in the <sup>adjoining</sup> area, and the drilling was carried out by the Goldfields Diamond Drilling Company. Huts ~~was~~ for the men, an office, and a laboratory were erected.

Mr. Charles <sup>McLennan</sup> ~~McLellan~~, the discoverer of the oil indications, was the Field Superintendent of Moutajup Oil Wells Company.

Another Company, the Jennawarra Oil Wells, 40,000 shares at 5/- each, was formed to test a large area of country adjacent to the South Australian Oil Wells and Moutajup Oil Wells holdings at Moutajup. This property was reported on by Mr. <sup>McLennan</sup> ~~McLellan~~, and the prospectus set out that "immediately on the formation of the company, a site would be chosen for a bore." By the beginning of November, 1921, <sup>companies</sup> ~~four companies~~, the Moutajup, South Australian, and Jennawarra, had been formed, while the Rockefeller Oil Wells and the Meudell Standard Oil Wells were being floated to prospect on properties adjacent to that of the South Australian Oil Wells. A rotary plant, capable of drilling to a depth of 4,000 feet, was to be used.

Another Company, the Boonah <sup>Wah</sup> Oil Wells N.L. located at Moutajup was floated with a capital of £10,000 <sup>in</sup> ~~and~~ 40,000 shares at 5/-. Twenty-five thousand of these shares <sup>were</sup> issued to the public at 6d. per share on application. The company was formed to acquire <sup>boring</sup> ~~options~~ options over property ~~near~~ Moutajup in the vicinity of the bores being operated by the South Australian Oil Wells, the Moutajup Oil Wells, and the Jennawarra Oil Wells Companies, where discoveries of petroleum have been reported over a wide area.



This letter was held over until the return to office of the Minister.

SAOW MOUTAJUP  
No 1 No 1A, 2, 3, 4, 5, 6

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SOUTH AUSTRALIAN OIL WELLS

Covering work done at Moutajup to January 31st, 1922.

W336 No. 1 Bore: Water well. Sanded up so pulled all casing and abandoned.

W337 No. 1 A: Cement set well, but did not shut off water. Left 5" casing to 327 feet cemented. Now pulling out 8" and 6 $\frac{3}{8}$ " casing.

W338 No. 2: Water well.

W339 No. 3: Log - 222-228 Sand soft and white with hard layers; 228-239 Quartzite grey and hard; cementing failed. Pulled 6 $\frac{3}{8}$ " casing and put in 200 feet of 5" pipe. Left hole as a water well.

W340 No. 4: 66-213 ft. - sand and gravel;  
213-216 ft. - Calcareous sand with shell fragments.  
(Upper Tertiary)  
216-223 Sandstone grey and hard;  
223-230 Sand fine white cemented by pale blue clay;  
230-256 Shale pale blue.  
256-260 Sandstone white and hard;  
260-283 Shale blue with quartz inclusions, also layers of fine blue sandstone.

Left 222 ft. of 6 $\frac{3}{8}$ " casing in the bore for a water well.  
Water at 90 ft. and 214 ft.; a large supply at latter level.  
Oil films 123 ft. onward to 216 ft. patchy.  
Gas bubbles 123 to 230 ft. patchy.

W341 No. 5: On allotment 1 of section 9, Parish of Junnawarra.  
Owner N. Young.

Log - 0-3 ft. sandy soil;  
3-4 $\frac{1}{2}$  gravel  
4 $\frac{1}{2}$ -8 Clay buff, soft  
8-18 Basalt decomposed  
18-34 Sand, hard and then soft  
34-35 Sand bar cemented by iron oxide  
35-36 Soft sand

South Australian Oil Wells (Contd.) -

No. 2 Bore, on Sec. 115, Parish of Moutajup -

W338  
3' - 39' Basalt  
220' - 222' Sandstone and tuff; fossil shells and corals  
(Tertiary)  
223' - 239' Sand and gravel with corals  
265' - 274' Limestone pale and fine grained. Base of  
Miocene strata?  
280' - 303' Blue shale (probably Jurassic?)

W339 No. 3 Bore, on Sec. 113, Parish Moutajup, Elevation 765 feet -

Sands and gravel to 219 feet  
219' - 222' Hard white sandstone.

No. 4 Bore, Sec. 118B, Parish Moutajup, 790 feet above sealevel.

W340

0' - 66' Clay and sand  
66' - 213' Sand within 100 yds. of high knob of basalt  
but bore showed none.  
213' - 216' Shell fragments.  
260' - 283' Blue shale with quartz.

Moutajup Oil Co. -

Bore No. 1, Parish Jennawarra, near northwest corner Allot. 4, Sec. G. -

6' - 11' Basalt Aneroid 740 feet  
Clay and sand to 181 feet.

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S.A.O.W. Moutajup  
1, 1A, 2, 3, 4, 5, 6, 7, 8, No. 52

16th January, 1945.

SOUTH AUSTRALIAN PETRO OIL WELLS COMPANY

Covering work done to 28th February, 1922.

W336	No. 1 Bore, Moutajup	-	Abandoned.
	G		
W337	1A " "	-	Water well, 327' of 5" casing left in cemented.
W338	2 " "	-	Water well
W339	3 " "	-	Water well
W340	4 " "	-	Water well
W341	5 " "	-	Abandoned
W342	6 " "	-	

Log Contd.

- 80' - 154' .. Basalt
- 154' - 163' .. Fine white sand
- 163' - 188' .. hard blue sand
- W342 188' - 195' .. Fine grey sand
- 195' - 225' .. Limestone grey granular, becoming a mass of shells towards the base.
- 225' - 236' .. Shale, pale blue, mudstone becoming darker. Veins of calcite, black scum on mud and a little gas.

Remarks: No oil. Pulled casing, left 30' of 6 $\frac{3}{8}$ " in at top for a water well. Fine supply of water from 194' and onwards.

No. 7 Bore, Moutajup; on ~~CC3300~~ Allotment 8 of Section 14, Warrayure Parish; owner E. B. Noske.

Log:

- 0' - 1' 6" .. soil, dark
- 1' 6"-4' .. Clay, yellow
- W343 4' - 17' .. Clay and decomposed basalt
- 17' - 124' @ .. Basalt, hard
- 124' - 140' .. Sand, fine brown. 6" lignite at 135'.
- 140' - 143' .. Clay, blue
- 143' - 175' .. Shale, dark blue with quartz veins.

Remarks: Water at 24' (sub-artesian, strong) and at 113'. No oil. Pulled casing; left as a water well.

207-213, Sand, grey and gravel.  
213-219, Sand, fine greenish gray.  
219-222, Sandstone hard white, with soft sandy bars. Gas bubbles in water. Cementing off the  $6\frac{3}{8}$  casing at 219 feet.  
Water at 82 feet (a little) and 197 feet (a lot) - Good. Landed  $6\frac{3}{8}$  casing on sandstone at 219 feet after driving it.

No 4 Bore. Section 118B, Parish of Moutajup- Owner Mrs.  
Elevation about 790 feet above sea level.

W340

log-  
0-2 Sandy soil.  
2-5 Clay, sticky yellow.  
5-53 Sand with red clay. ( Red beds as in No 3.)  
53-60 Sand, pale reddish yellow.  
Put in  $6\frac{3}{8}$  casing to the bottom.

This well is within a hundred yards of high knob of recent basalt yet showed none. This knob seems to be like a volcanic neck.

.....

1921. Spooled Dec. 1921 El = 790'

Abandoned Jan 1922. T.D 283.

*Concluded*

Ph. Mantajip.

Location Section 1188. Ph. Mantajip.

Casing 6 3/8" to 8 1/2" 222'

- Sandy Soil 0-2.
- Clay, sticky, yellow 2-5.
- Sand w/ red clay (red beds) 5-53.
- Sand, pale red-yellow. 53'-66
- Sand + gravel 66-213'
- Calcareous sand w/ shell fragments 213-216 (tertiary)
- Sandstone, grey, hard 216-223
- Sand, fine, white, pale blue clay <sup>matrix</sup> 223-230
- Shale, pale blue. 230-256
- Sandstone white, hard 256-260
- Shale blue w/ quartz inclusions + layers of fine blue ss. 260-283

*Concluded*

Left 222' 6 3/8" casing in bore for water well. - (under

Water at 90' and 214' (good supply)

Oil films 123 to 216', patchy.

Gas bubbles 123 to 230, patchy.

*Concluded*

Palynology

## INTRODUCTION

The bores studied are located on the onshore Otway Basin, south-east of Hamilton, Victoria. All samples examined are cuttings with the exception of core material for Yatchow West 2 (201 - 202 m).

Samples were examined at the request of D Stanley of the Basin Studies Section, Victorian Geological Survey.

The zonation schemes used are those of Dettmann and Playford 1969 for the Otway Group sediments and Stover and Partridge 1973 for the Tertiary sediments.

Sample	Depth (m)	spore-pollen Zone
Moutajup 4	15 - 18	Indeterminate
Murndal 1	51 - 54	<u>M. diversus</u> Zone (late Paleocene - Early Eocene)
	105 - 108	"
	156 - 159	<u>C. paradoxa</u> Zone (Middle Albian)
Panyyabyr 3	12 - 15	Upper <u>N. asperus</u> Zone (Late Eocene - Early Oligocene)
Panyyabyr 5	13	Indeterminate
Yatchaw West 2	170 - 180	<u>P. tuberculatus</u> Zone (Early Oligocene - Early Miocene)
"	201 - 202	<u>C. hughesi</u> Subzone (Neocomian - Aptian)
"	222 - 225	<u>D. speciosus</u> Zone Neocomian - Early Albian
Linlithgow 1	100 - 105	Pliocene

PE907941

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CONTAINER\_BARCODE = PE906787  
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BASIN = OTWAY  
PERMIT =  
TYPE = WELL  
SUBTYPE = DIAGRAM  
DESCRIPTION = Species List 1 of 3 (enclosure from  
Well Elementary) for Moutajup-4  
REMARKS =  
DATE\_CREATED = 31/12/83  
DATE\_RECEIVED =  
W\_NO = W340  
WELL\_NAME = South Australian Oil Wells Moutajup-4  
CONTRACTOR = Sth Australian Oil Wells Co. NL  
CLIENT\_OP\_CO = Sth Australian Oil Wells Co. NL.

(Inserted by DNRE - Vic Govt Mines Dept)



PE907942

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PERMIT =  
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SUBTYPE = DIAGRAM  
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Well Elementary) for Moutajup-4  
REMARKS =  
DATE\_CREATED = 31/12/83  
DATE\_RECEIVED =  
W\_NO = W340  
WELL\_NAME = South Australian Oil Wells Moutajup-4  
CONTRACTOR = Sth Australian Oil Wells Co. NL  
CLIENT\_OP\_CO = Sth Australian Oil Wells Co. NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907943

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CONTAINER\_BARCODE = PE906787  
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BASIN = OTWAY  
PERMIT =  
TYPE = WELL  
SUBTYPE = DIAGRAM  
DESCRIPTION = Species List 3 of 3 (enclosure from  
Well Elementary) for Moutajup-4  
REMARKS =  
DATE\_CREATED = 31/12/83  
DATE\_RECEIVED =  
W\_NO = W340  
WELL\_NAME = South Australian Oil Wells Moutajup-4  
CONTRACTOR = Sth Australian Oil Wells Co. NL  
CLIENT\_OP\_CO = Sth Australian Oil Wells Co. NL.

(Inserted by DNRE - Vic Govt Mines Dept)

Composite / Geophysical Logs

logs

PE907944

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The enclosure PE907944 is enclosed within the  
container PE906787 at this location in this  
document.

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CONTAINER\_BARCODE = PE906787  
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Logs  
BASIN = OTWAY  
PERMIT =  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Composite Bore Log, Downhole  
Geophysical Logs, Sheet 1 of 2  
(enclosure from Well Elementary) for  
Moutajup-4  
REMARKS =  
DATE\_CREATED =  
DATE\_RECEIVED =  
W\_NO = W340  
WELL\_NAME = South Australian Oil Wells Moutajup-4  
CONTRACTOR =  
CLIENT\_OP\_CO = Sth Australian Oil Wells Co. NL.

(Inserted by DNRE - Vic Govt Mines Dept)

PE907945

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The enclosure PE907945 is enclosed within the  
container PE906787 at this location in this  
document.

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CONTAINER\_BARCODE = PE906787  
NAME = Composite Bore Log/Downhole Geophysical  
Logs  
BASIN = OTWAY  
PERMIT =  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Composite Bore Log, Downhole  
Geophysical Logs, Sheet 2 of 2  
(enclosure from Well Elementary) for  
Moutajup-4  
REMARKS =  
DATE\_CREATED =  
DATE\_RECEIVED =  
W\_NO = W340  
WELL\_NAME = South Australian Oil Wells Moutajup-4  
CONTRACTOR =  
CLIENT\_OP\_CO = Sth Australian Oil Wells Co. NL.

(Inserted by DNRE - Vic Govt Mines Dept)