WELL ELEMENTARY REPORT

SOUTH AUSTRALIAN OIL WELLS

COLQUHOUN-2

(W 381)

PE904102

This is an enclosure indicator page.
The enclosure PE904102 is enclosed within the container PE904100 at this location in this document.

The enclosure PE904102 has the following characteristics:

ITEM_BARCODE	= PE904102
CONTAINER_BARCODE	= PE905093
NAME	= well card
BASIN	= OTWAY
PERMIT	=
TYPE	= WELL
SUBTYPE	= WELL_CARD
DESCRIPTION	= well card Sth Aust No 2
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W381
WELL_NAME	= Sth Aus No-2
CONTRACTOR	= South Aust Oil Wells
CLIENT_OP_CO	= South Aust Oil Wells

(Inserted by DNRE - Vic Govt Mines Dept)

W381

Bore 2

Surface level 145 ft. (Aneroid)

0	20	Sand, beach type
20	64	Yellow sand with streaks of yellow clay
64	70	Hard band of calcareous sandstone, pale yellow brown
70	75	Clay, calcareous, yellow
75	79	Harder with shells
79	100	" " "
100	130	Marl, blue grey with shells
130	174	do. do.
	150	Small water
174	256	Marl as above
256	304	", tougher
	304	Water rising to 130 ft. of surface
304	376	Limestone, white, polyzoal, crumbly with many shells
376	463	Blue grey marl
	564	Less gritty
	584	Sticky with lenses of blue clay
	640	Marl, sticky, blue
640	677	Marl, greenish, rotten, with white streaks
677	682	Marl, pale green
682	702	Marl, greenish, rotten
	722	do. do.
722	771	Marl, bluish grey, with greenish bands of rotten quality, caves badly
771	796	Marl, softer and easier to drill
796	808	Bluish marl, dark green glauconite intrusions, inflammable gas
808	837	Marl, paler bluish and very sticky
837	912	Marl, sticky, blue, with bands of lighter material and more porous and much gas
912	936	Marl, blue grey, with fossiliferous bands
936	1000	Marl, blue grey, fossiliferous
1000	1011	Clay, sandy, dark, with mica, very sticky, caves badly
1011	1086	Dark clay as above
1086	1087	Hard, calcareous sandstone with concretions and casts
1087	1106	Dark brown clay
1106	1107	Hard sandstone
1107	1145	Dark clay, sandy at times, with fossil fragments
1145	1147	Hard calcareous sandstone
1147	1169	Dark sandy clay
1169	1170	Hard calcareous band
1170	1185	Dark sandy clay with mica and pyrites
	1185	10 in. Limestone, hard
1186	1204	Dark sandy clay, then 2 in. hard limestone
1204	1232	Sandy, dark clay; oil and gas showed from 1219 down
1232	1233	Limestone, hard
1233	1243	Sandy clay, dark
1243	1281	Oil sand producing 100 gallons oil per day

1

Copy of Log

S. A Oil No. 2 Discovery Well W381.

Elevation 145'

Surface to 25'	Yellow Sand, with some Gravel
24' to 25'	Sand with Clay
25' " 60'	Yellow Sandy Clay
60' " 64'	Hard Sand-Stone
64' " 78'	Hard & soft do with Fossils
78' " 100'	Yellow Sandy Clay
100' " 137'	Blue sticky Marl - Fossiliferous
137' " 302'	Blue Marl, Fossiliferous & Harder
302' " 304'	Course Shell & Broken
	Water rose to 150' from Surface
Casing 8" set at 169', formation shut off	
304' to 390'	White Grey Marl from 305' to 380' fine & coarse. Broken Shell - Pulyzoal.
390' to 510'	Blue Grey Marl. Fossiliferous & Harder, on bottom portion
510' " 600'	" " " with streaks of Clay - no Fossils
600' " 645'	" " Marl
645' " 675'	Green Marl
675' " 700'	Pale green Marl - pottery Pulyzoal
700' " 725'	Blue Grey Marl - Caving
725' " 787'	" " " Sticky Streaks, strong flow of Gas
[illegible] "	
787' " 825'	Lighter with Gas, Blue Grey Marl
837' —	More Gas, Blue Grey Marl
866' —	Greenish Marl - Gas
895' —	Very Sticky
925' —	Blue Grey Marl, Fossiliferous in part, Very Sticky
950' —	Very sticky, Gas
975' to 1,000'	Gas
1000' to 1008'	Dark Sandy Clay, Fossiliferous - Caving
1008' " 1085'	Sand. Dark Brown Fossiliferous, Pyrite Nodules & Hard band at the 1085'
1085' " 1108'	~~Hard Band~~ Greenish Grey - Sandy Clay
1108' " 1146'	hard Band then Dark brown with Sand Fossiliferous & Pyrite
1146'	Hard Lime-Stone band 10"
1146' " 1170'	Brown & Grey Sand
1170' " 1170'.10"	Hard band Limestone
1170' " 1185'	Brown & Grey sandy Sand
1185' " 1185'.10"	Hard Limestone band 10"
1185'.10" " 1200'	Sandy dark
1200' " 1200'.1"	Limestone Band
1200'.1" " 1225'	Dark Brown Sandy Clay
1225' " 1225'.6"	Limestone Band 6"
1225'.6" " 1242'	Dark Brown Sandy Clay
Casing 6 3/8" Sealed at 1240'	
1242'	Bladerrule ~~[illegible]~~ 6" top of Oil Sand

1242'6" to 1283' Oil Sand, Dark Sun

1283' Water rose to 170' from surface - attempted shut off with Sucker Rods

1283' to 1300' Sand, Water finally connected & abandoned

41 Plugged

2

SOUTH AUSTRALIAN OIL CORPORATION LIMITED

(In Liquidation).

IMPORTANT NOTICE

Tel. MU 1040.

Room 15, Eighth Floor
Temple Court,
422 Collins Street,
Melbourne,

4/5/1937.

To the Shareholders,

Dear Sir or Madam,

Though it is unusual to make reports during the course of a liquidation, I feel that in this case I am justified in making this personal statement.

The position is as follows:—

The liabilities at the outset, amounting to £27,818 2s., have been reduced by the cancellation of Ramsay & Treganowan Ltd.'s agreement, the sale of the freehold property, which was being purchased under Contract of Sale, and the payment of Preferential creditors, to £7,272 4s. (excluding cost of Liquidation). Certain creditors have also agreed to accept shares in the new undertaking in payment of a proportion of this amount.

Now, against these liabilities, nearly the whole of the plant, four leases, the interest in the Midwest Oil Company No Liability, and other assets are held.

The formation and work of the Austral Oil Drilling Syndicate No Liability has improved the whole prospect of a successful realisation of these assets. Foster's Bore has been drilled, and is now producing crude oil at the rate of approximately three and a half barrels daily. By testing and by the research work of Mr. Frederick Chapman, A.L.S., F.G.S., etc., (late Palaeontologist to the Commonwealth Government of Australia), very valuable information has been gained, and the leases promise to be of considerable value. It is solely as a result of the existence of the Austral Oil Drilling Syndicate No Liability that I have been able to hold the assets. If these had been realised at the beginning of the liquidation in the ordinary way, the creditors might possibly have received 5s. in the £1, but there would have been nothing left over for the shareholders. As a result of the efforts to date, there is reasonable prospect of paying the creditors in full and of shareholders still retaining an interest in the leases.

If the Austral Oil Drilling Syndicate No Liability is as entirely successful as is hoped in developing the oil field, the money spent by the South Australian Oil Corporation Limited (In Liquidation) will not have been in vain.

The Federal Oil Advisory Committee has agreed to recommend advances on a £ for £ basis to the Austral Oil Drilling Syndicate N.L., but one of their stipulations is that the Company must have sufficient money in hand to proceed with drilling six wells before the Federal Government will make the advances.

It will thus be apparent to the 2,265 shareholders of the South Australian Oil Corporation Limited (In Liquidation) that, thanks to the formation and work of the Austral Oil Drilling Syndicate N.L., I have been justified in not rushing the realisation of assets. Whereas, as Liquidator, the matter is solely in my hands, I am taking this opportunity of informing shareholders of the position, and I am sure that they will be quick to realise that any interest which they may ultimately get is due to the whole-hearted assistance I have received from your late Directors and the Austral Oil Drilling Syndicate N.L.

Support for the Austral Oil Drilling Syndicate N.L. should go a long way to expedite a satisfactory conclusion to this liquidation.

Yours faithfully,

R. H. WILLIS, Chartered Accountant (Aust.),
Liquidator.

W381 ?

Geological Survey Laboratory,
Department of Mines,-
Melbourne.
April 19th, 1920.

Report No. 192

Sample	---	Crude petroleum
Locality	---	Bore No.2, South Australian Oil Wells Co., 20 chains S.E. from north corner of Allot.71, Parish of Colquhoun
Depth of bore	---	1250 feet
Collected by	---	J.S.Watson, Dept. of Mines

Acting under instructions and accompanied by J.S.Kinney, Engineer-for-Boring, I visited, on the 8th inst., the site of the South Australian Oil Wells Company's No.2 bore, which is situated about 1 mile north of Lakes Entrance.

On arrival at the scene of operations, I found the bore locked by means of chain and padlock. We were informed by the officials of the company that the bore had not been worked since the 6th inst., which would allow 2 days for any oil to seep in from the strata.

Bailing operations were commenced late in the afternoon. Clean receptacles were prepared to receive the contents of the bailer, which was lowered into the oil sand zone. When raised to the surface, each of the five bailings showed a quantity of oil which was mixed with a small percentage of water. When freshly released from the bailing apparatus the oil has a distinctive characteristic petroliferous odour. It was noticeable also that the oily matter was slightly warm to the touch. The warm conditions would account for the active and mobile nature of the oil when liberated from the bailer. Strong iridescent colours were present upon the surface of the freshly discharged oil.

Representative samples of the crude oil, measuring approximately 2 gallons, were collected. The oil was brought to the Geological Survey Laboratory for analysis.

Examination of the oil

Properties		
Colour	--	dark brown
Fluorescence	--	" green
Odour	--	characteristic of crude petroleum
Transparency	--	opaque
Condition	--	moderately fluid
Specific gravity 60°F.	--	0.951
°Baume	--	17
Calorific value (Mahler Bomb Calorimeter)	--	18,360 B.T.U. (gross) per lb.
Sulphur	--	1.53%
Asphaltenes	--	0.64%
Viscosity 100°F. (Redwood)	--	372 seconds
" 140°F. "	--	126 "
" 212°F. "	--	45 "
Saponifiable matter	--	nil.

Fractional distillation

Initial Boiling Point - 220°C.

Fraction	Boiling Pt. Range	%	Remarks
Water		2.0	
Light oil (benzine)	to 170°C.	nil.	
Intermediate oil (kerosene)	170-230°C.	tr.	
Mineral seal oil (fuel oil)	230-300°C.	24.0	amber-coloured, mobile
Light lubricating oil	to 250°C., vacuo 24" Hg	18.0	pale yellow, blue fluorescence
Medium " "	250-300°C., vacuo 24" Hg	12.0	do. do.
Heavy " "	over 300°C., vacuo 24" Hg	27.0	reddish-brown, green "
Bitumen	residue	16.0	black
Gas and loss		1.0	
	T o t a l	100.0	

The crude oil occurs in a free condition and will flow readily. Analytically it is classified as a medium to heavy grade asphaltic base, crude petroleum. The oil belongs to the same class or type as that previously obtained in this district. This sample, however, shows a slight improvement in quality when compared with the previous samples obtained from other bores at Lakes Entrance. This sample has a lower initial boiling point, a larger heavy kerosene fraction and slightly lower specific gravity. The crude oil is free from the lighter fraction and carries only a trace of kerosene. A small percentage (2%) of mechanically combined water was found to be present; this impurity probably exists in an emulsified form and could be liberated by heating.

As the result of laboratory tests the following methods of dealing with this class of crude oil suggest themselves:-

1. as a fuel oil
2. " " residual oil, and
3. the possibility of recovering lubricating oil and bitumen.

Analytical data indicate the presence of 16% of bituminous matter and 5% of lubricating oil stock.

If this crude oil was occurring in large quantity, it would be possible to produce high-grade lubricating oils from it. It is, however, doubtful whether that procedure would be an economic one without the presence of the lighter fractions.

Samples of the various fractions are forwarded herewith for inspection.

J. H. Watson
Chief Chemist
15/4/1936

W381

NO. 197.

13th June, 1946.

An inspection of the South Australian Oil Wells Company No. 2 bore near Lakes Entrance was made by Mr. J. W. Binney who reported as follows:- April 1930

"On 8th inst., accompanied by Mr. J.C.Watson, Chief Chemist, I made an inspection of the No. 2 bore of the South Australian Oil Wells Company near Lakes Entrance. The bore is situated about 20 chains southeast of the @@@ north corner of Allot. 31, Parish of Colquhoun. We were informed that boring had proceeded to a depth of 1250 feet and that the bore had penetrated 5 feet into oil-bearing sands, the last foot or so showing glauconite. The bore had been locked since midday on Sunday, 6th inst., and on our arrival on Tuesday it was opened up for inspection. An examination was made of the bailer, which was then lowered into the hole. The time occupied in lowering the bailer was about 30 seconds and for pulling it to the surface about two and a half minutes. When the bailer came up, the outside of the barrel for about 8 ft. from the bottom was oily and when it was emptied into a clean drum, it produced 3 gallons of crude oil. Bailing operations were repeated 4 or 5 times and the total amount of oil recovered amounted to 12 gallons. The bore was again locked until the following morning (Wednesday, 9th) and on our arrival was opened for further tests. Bailings brought a further 5 gallons of crude oil to the surface. It was then decided to drill cautiously for another 2 feet. After drilling for 30 minutes, the tools were withdrawn. @@ The bit was coated with a thick layer of oily emulsion for about 6 ft. 6 in., and it brought up some dark green glauconitic material. The hole was again bailed to remove the slurry caused by the drilling and more oil was recovered. After this the bore was locked in order to allow oil to seep in, pending the Departmental report. We collected typical samples of the crude oil each day (about 2½ gallons in all) and this material will be analysed by Mr. Watson without delay.

An important and satisfactory feature of boring operations to date is the small quantity of water in the hole.

Tests and observations indicate that the oil is seeping into this borehole much more freely than it has in any other bore in Victoria. In my opinion drilling should be continued slowly and cautiously to ascertain the thickness of the oil-bearing glauconite."

An account of this bore was given in the "Herald" May 6th 1930:-

"The increase recorded daily in the flow of oil that has been tapped by the South Australian Oil Wells Company's No. 2 bore at Lakes Entrance has been the most favourable indication yet obtained in Australia to encourage hope that petroleum will be discovered in commercial quantities.

The first oil was bailed from the bore at a depth of about 1243 feet early in April. Since then boring has been continued for 38 feet through oil sands, with improvements in the volume of oil flow.

At the beginning of last week the oil had risen to a level of 50 feet from the bottom of the hole. By Saturday it had increased to 126 feet All the oil was then bailed out, and after standing for 36 hours, the bore showed 260 feet of oil, equal to about 300 gallons, when reopened yesterday.

W381 ?

Geological Survey Laboratory,
Department of Mines,
MELBOURNE.
May 5th, 1930.

Report No.253

Sample	----	Crude oil
Locality	----	Bore No.2, South Australian Oil Wells Co., Allot.31, Parish of Colquhoun
Depth	----	1267 feet
Sender	----	F.S.Bell, Manager, South Australian Oil Wells Co.

Analysis-

Fraction	Boiling Pt Range	%
Water	-	9.1
Light oil	to 170°C.	nil.
Intermediate oil	170-230°C.	trace
" "	230-300°C.	24.5
Heavy oil	over 300°C.	66.4
	T o t a l	100.0

Calorific value (Mahler Bomb Calorimeter)	--	16,660 B.T.U.(gross) per lb.
Total sulphur	--	0.43%
Asphaltenes	--	0.87%
Specific gravity	--	0.958
Degrees	--	16°B.
Viscosity (Redwood) 100°F.	--	374 sec.
" " 140°F.	--	125 "
" " 212°F.	--	45 "
Fire test (open)	--	155°C.
Colour	--	dark brown
Fluoresence	--	" green
Odour	--	characteristic
Condition	--	viscous, heavy

This sample is classified as a medium to heavy grade asphaltic base petroleum.

The main value of this class of material would be as a fuel oil. Any heavy crude oil which is free from lighter distillates, such as motor spirit and kerosene, is classified as fuel oil.

The presence of 9.1% of water is an objectionable feature of this sample. It lowers the calorific value and tends to make the oil heavy and sluggish in its movement or flow. Most of the water is combined mechanically in the form of an emulsion.

The decrease in heat units when compared with previous sample (192/1930) is due to the increase in water content.

American specifications for petroleum products such as fuel oil indicate that the oil should not contain more than 1% of water. In the lower grades of fuel oil, known as Bunker fuel "C" class, oil containing up to 2% of water is accepted. This would indicate that the sample as received is slightly inferior to ordinary fuel oil. In most of its properties this oil closely resembles that sample collected by myself on the 8th ult.

H.C. Watson

HC Watson
CHIEF CHEMIST
5/5/30

on the old shore-line,
it at present forming
'arish of Bumberrah),
k by the Point Addis
t, showed similar con-
d artesian water was
no oil was noted.

drilled in the Lakes
d that the glauconitic
h ca[illegible]he oil in its
nigra[illegible]—exist for a
will be traced for a
idth of about 2 miles,

d to folding as is the
elds in other parts of
its are as originally
ey are oil bearing has

mmonwealth Geological

nsively examined and
s been done, mostly on
se Tertiary rocks have
devoid of those types
dration and retention

conditions for oil for-
egree of success which
Vict[illegible] where small
tained from relatively
erived from a green
tom of the Tertiary
with artesian and sub-

LABORATORY DETERMINATIONS OF OIL OBTAINED.

The following show the nature of the oil obtained from typical samples at Lakes Entrance, and analysed by the Mines Department Chemist, Mr. J. C. Watson, viz.:—

No. 2 Bore—Lakes Entrance Development Co.

Depth, 1,210 feet. Collector—Mr. J. C. Watson.

	Degrees.	Per cent.
Light oil (benzine)	to 170 C.	Nil
Intermediate oil (kerosene)	.. 170 230 C. ..	Nil
Intermediate oil (gas oil)	.. 230 300 C. ..	13·0
Heavy oil (fuel oil)	over 300 C.	87·0
		100·0

No. 2 South Australia Company, Lakes Entrance.

W381 Depth, 1,305 feet. Collector—Mr. J. C. Watson.

	Degrees.	Per cent.
Light oil (benzine)	to 170 C.	Nil
Intermediate oil (kerosene)	.. 170 230 C. ..	Trace
Mineral seal oil	.. 230 300 C. ..	24·0
Light lubricating oil (vacuo) ..	to 250 C.	18·0
Medium lubricating oil (vacuo)	.. 250 300 C. ..	12·0
Heavy lubricating oil (vacuo)	.. 300 C.	27·0
Bitumen (residue)	.. ..	16·0
Water	.. ..	3·0
		100·0

No. 1 Bore Texland Oil Co., Lakes Entrance.

Depth, 1,264 feet. Sender—Mr. H. Greville.

	Degrees.	Per cent.
Light oil (benzine)	to 170 C.	Nil
Intermediate Oil (kerosene)	.. 170 230 C. ..	Nil
Intermediate Oil (gas oil)	.. 230 300 C. ..	17·4
Light lubricating oil (vacuo)	.. to 300 C.	22·4
Heavy lubricating oil (vacuo)	.. over 300 C.	41·1
Bitumen (residue)	.. ..	15·2
Gas and loss	.. ..	3·9
		100·0

Carpenters Dome Pty. Ltd., Lakes Entrance.

Depth, 1,280 feet. Sender—Mr. R. W. McCulloch.

	Degrees.	Per cent.
Light oil (benzine)	to 170 C.	Nil
Intermediate oil (kerosene)	.. 170 230 C. ..	Trace
Mineral seal oil	.. 230 300 C. ..	26·0
Light lubricating oil (vacuo)	.. under 300 C.	22·0
Heavy lubricating oil (vacuo)	.. above 300 C.	32·0
Bitumen (residue and loss)	.. ..	20·0
		100.0

The oil present in all the samples is classified as a heavy grade, asphaltic base, crude mineral oil.

BULLETIN

of the

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

VOLUME 14

JANUARY—DECEMBER 1930

PART 2

PAGES 829-1610

ASSOCIATION HEADQAURTERS
OFFICE OF THE BUSINESS MANAGER
BOX 1852, TULSA, OKLAHOMA

GEOLOGICAL NOTES

OIL WELL IN AUSTRALIA

After a search during a period of more than 16 years, the South Australian Oil Wells Company has succeeded in discovering crude oil in Australia. Although the well is a small one, with a production capacity of only approximately 10 barrels of oil a day, it proves that, contrary to the opinion of some local and visiting geologists, petroleum does exist in Australia.

Location.—The field is situated in the district of Gipsland, 200 miles east of Melbourne, the capital of Australia, and a mile from the seaside town, Lakes Entrance. The drilling site is 1 mile north of the coast. It is reached by steamer from Melbourne, or by train to Bairnsdale 23 miles away and thence by steamer or by car to Lakes Entrance.

Topography.—The field is in a flat and low-lying plain for a mile inland from the shore; thence there is a gradual rise to rolling country with a maximum elevation of 200 feet above sea-level, intersected by small, steep water courses draining to the coast. The region has a generally mild climate, with a very mild winter climate. The rainfall is 12-14 inches per year.

Geology.—The country from Sale to Orbost along the sea-coast, comprising an area more than 100 miles long (east-west) and 20-40 miles wide, is covered with light-colored, soft sands, gravels, and marls. Their maximum thickness is 100 feet. They overlie unconformably the Miocene, which is 1,100-1,300 feet thick and which lies on the granite. The hole passes through the following sediments: 100 feet of sand and gravel; 1,000 feet of white-to-gray fossiliferous marls; dark, sandy clays with several bands of hard limestone as much as 12 inches thick; a hard glauconite bed; and the oil-bearing sand, dark green because of its glauconite. The oil sand is 38 feet thick, with a few ½-inch bands of hard glauconite. There is gas with the oil, but not sufficient to make a flowing well.

Strata.—The strata have a general dip southward of approximately 130 feet per mile, with gentle monoclinal folding. This seems to be an edge well, and the main concentration will probably be found at the north.

Crude oil.—The crude oil is dark green, with strong petrol-kerosene odor; it contains about 0.5 per cent gasoline, 24 per cent heavy kerosene,

18 per cent light lubricating oil, 12 per cent medium lubricating oil, 27 per cent heavy lubricating oil, and 16 per cent bitumen. The average gravity is about 20° Bé.; the calorific value, 18,360 B.T.U.

Drilling.—Oil occurs at a depth of 1,250 feet. Drilling was done with a portable percussion plant, during a period of two months. Rotary plants are not suitable, as water is very scarce, and all water for boiler feed has to be carried by truck to the bore. This bore is now being put on the pump, and the rig moved to a new location 200 yards north. Another well is being drilled 2 miles west by the same company. This company owns 4 square miles in the center of this field.

The discovery of this well marks an important point in the history of Australia, because it shows that crude oil does exist. The writer is sure that after more development work crude oil will be found in commercial quantities.

H. S. LYNE

LAKES ENTRANCE, VICTORIA, AUSTRALIA
May 7, 1930

Lucas S. A. Oil Well No 2.

SLATE QUARRY, GLENMAGGIE.

By W. Baragwanath.

The Gippsland Slate company is opening up a quarry at Glenmaggie, near Heyfield. Since my last visit at the end of 1925 the erection of machinery, cutting down of incline, and opening up of the quarry, have been carried out.

At the time of my visit the floor of the quarry at the tram level was some 30 feet in length by a maximum width of 20 feet, but averaged about 10 feet. The western edge of the pit is crushed slate; the eastern side shows larger slates, and there is every indication that as work progresses in this direction a bed of larger sized slates will be met with. The face has been disturbed by surface breaks and cracks which disjoint and colour the slates. To quickly test the slates two methods are suggested, viz., to drive the crosscut tunnel further east, and to open out and test the quality, or to sink a shaft near the foot of the incline on the floor of the quarry, and test the slates therein. The removal of the overburden from a funnel-shaped pit requires much labour that is without result, but it will provide for safer working when completed.

A more expeditious removal of the upper part could be performed by employing more men and working from an upper bench. [14.4.26.]

SOUTH AUSTRALIAN OIL WELLS, No. 2 BORE, LAKES ENTRANCE.

By J. W. Binney.

Accompanied by Mr. J. C. Watson, Chief Chemist, an inspection was made of the No. 2 bore of the South Australian Oil Wells company, near Lakes Entrance. The bore is situated about 20 chains south-east of the north corner of allotment 31, Parish of Colquhoun. We were informed that boring had proceeded to a depth of 1,250 feet, and that the bore had penetrated 5 feet into a glauconitic oil-bearing sand. The bore had been locked since mid-day on Sunday, the 6th inst., and on our arrival on Tuesday it was opened up for inspection. An examination was made of the bailer, which was then lowered into the hole. The time occupied in lowering the bailer was about 30 seconds, and for pulling it to the surface about two and a half minutes. When the bailer came up, the outside of the barrel for about 8 feet from the bottom was oily, and when it was emptied into a clean drum, it produced 3 gallons of crude oil. Bailing operations were repeated four or five times, and the total amount of oil recovered was 12 gallons. The bore was again locked until the following morning (Wednesday the 9th), and on our arrival was opened for further tests. Bailing brought a further 5 gallons of crude oil to the surface. It was then decided to drill cautiously for another 2 feet. After drilling for 30 minutes the tools were withdrawn. The bit was coated with a thick layer of oily emulsion for 6 ft. 6 in., and it brought up dark-green glauconitic material. The hole was again bailed to remove the slurry caused by the drilling, and more oil was recovered. After this the bore was locked in order to allow oil to seep in, pending the departmental report. We collected typical samples of the crude oil each day (about 2½ gallons in all), and this material will be analyzed by Mr. Watson without delay.

An important and satisfactory feature of boring operations to date is the small quantity of water in the hole.

Tests and observations indicate that the oil is seeping into this borehole much more freely than it has in any other bore in Victoria. In my opinion, drilling should be continued slowly and cautiously to ascertain the thickness of the oil-bearing glauconite. [10.4.30.]

SOUTH GOLDEN GATE MINE, REEDY CREEK.

By J. P. L. Kenny, B.C.E.

At the South Golden Gate mine, on the Prince of Wales line at Reedy Creek, the prospecting shaft has been sunk to 37 feet, and a level driven south at this depth. At 37 feet a slide was cut in the shaft, strike N. 31° W. and dip 25 deg. south-west. Above the slide and 18 inches east of the shaft, a reef with a clean, well-defined hanging wall, was intersected and driven on south for 20 feet. The reef channel is 1 foot wide, with two veins of quartz from a thread to 3 inches thick. The hanging wall country also carries quartz seams giving prospects of gold. From the drive, and a short stope below it, 3 tons of ore were crushed at the Maldon State Battery, and yielded 10 oz. 14 dwt. of gold from the plates. Including the sand and specimens dollied, the average value of the ore would be 4 oz. per ton. Twenty feet easterly from the prospecting shaft is an old shaft from which 5 dwt. of ore is said to have been crushed, and 35 feet easterly is Gladman's shaft, from which 7 tons averaged 9 oz. per ton. A cross section at the prospecting shaft indicates that Gladman's reef is 10 feet east of the new reef, though it is possible that they are the same. A crosscut should be driven easterly to further prospect the country above the slide. This crosscut should be at least 40 feet south of the shaft; it would then pass through the slide at about 30 feet, and beyond this point it would be traversing the country below the slide. The south drive from the prospecting shaft on the new reef could be extended another 75 feet, or to 95 feet from the shaft. A slide which is showing in the Balmer United north workings would then be met. As the slide in the prospecting shaft is pitching south, there would be available at 95 feet south of the shaft 60 or 70 feet of the new reef below the level of the drive, in addition to the stone overhead. If the extension of the drive proved stone of similar value to that already crushed, profitable work for some time is assured, and further crosscutting may be expected to reveal other bodies of payable ore.

The present prospects of the mine certainly justify further developmental work. [3.4.33.]

SOUTH LONG TUNNEL GROUND, WALHALLA.

By J. P. L. Kenny, B.C.E.

The outcrop of Cohen's line crosses Stringer's Creek near the Walhalla railway station, and from this point to the main Long Tunnel shoot is a distance of 2,500 feet. A good deal of prospecting has been done at various times in this area, and the available information is recorded in the Report on the Walhalla Goldfield by H. Herman,