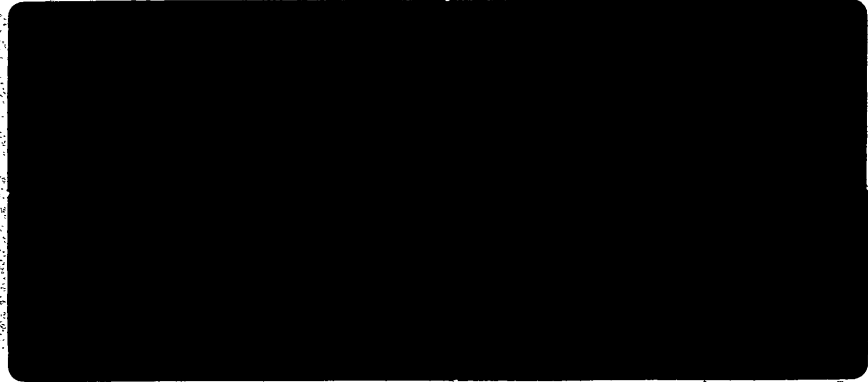


DEPT. NAT. RES & ENV



PE902709



BEACH PETROLEUM

W733

BEACH PETROLEUM NO LIABILITY

EAST SEACOMBE NO. 1

WELL COMPLETION REPORT

291080

OIL and GAS DIVISION

Prepared by J.D.C. Patchett

October, 1980

Distribution: Beach 2
Department of Minerals and Energy 1

SUMMARY

East Seacombe No. 1 was drilled to test the Latrobe Group on — a fault closed feature in the onshore portion of the petroliferous Gippsland Basin.

The well was abandoned as a dry hole after penetrating 877 feet (267 m) of Traralgon Formation. Total depth reached was 4466 feet (1361 m).

LIST OF FIGURES

FIGURE 1	East Seacombe Geographic Location Map
FIGURE 2	East Seacombe No. 1 Location Map (on Top Traralgon Formation).
FIGURE 3	East Seacombe No. 1 Actual Stratigraphy
FIGURE 4	Stratigraphic Correlation Spoon Bay No. 1 - East Seacombe No. 1 - East Reeve No. 1.

APPENDICES

APPENDIX 1	Specifications of Drilling Plant
APPENDIX 2	Halliburton Test Charts
APPENDIX 3	Velocity Survey Results

LIST OF ENCLOSURES

ENCLOSURE 1	Exploration Logging of Australia Inc. Mudlog
ENCLOSURE 2	Well Composite Log

1. PURPOSE OF WELL

East Seacombe No. 1 was programmed to test the hydrocarbon potential of the Traralgon Formation under structurally favourable conditions. Closure was provided by structural contours to the east, south and west. Faulting provided closure to the north. East dip is not as well controlled by seismic as south and west.

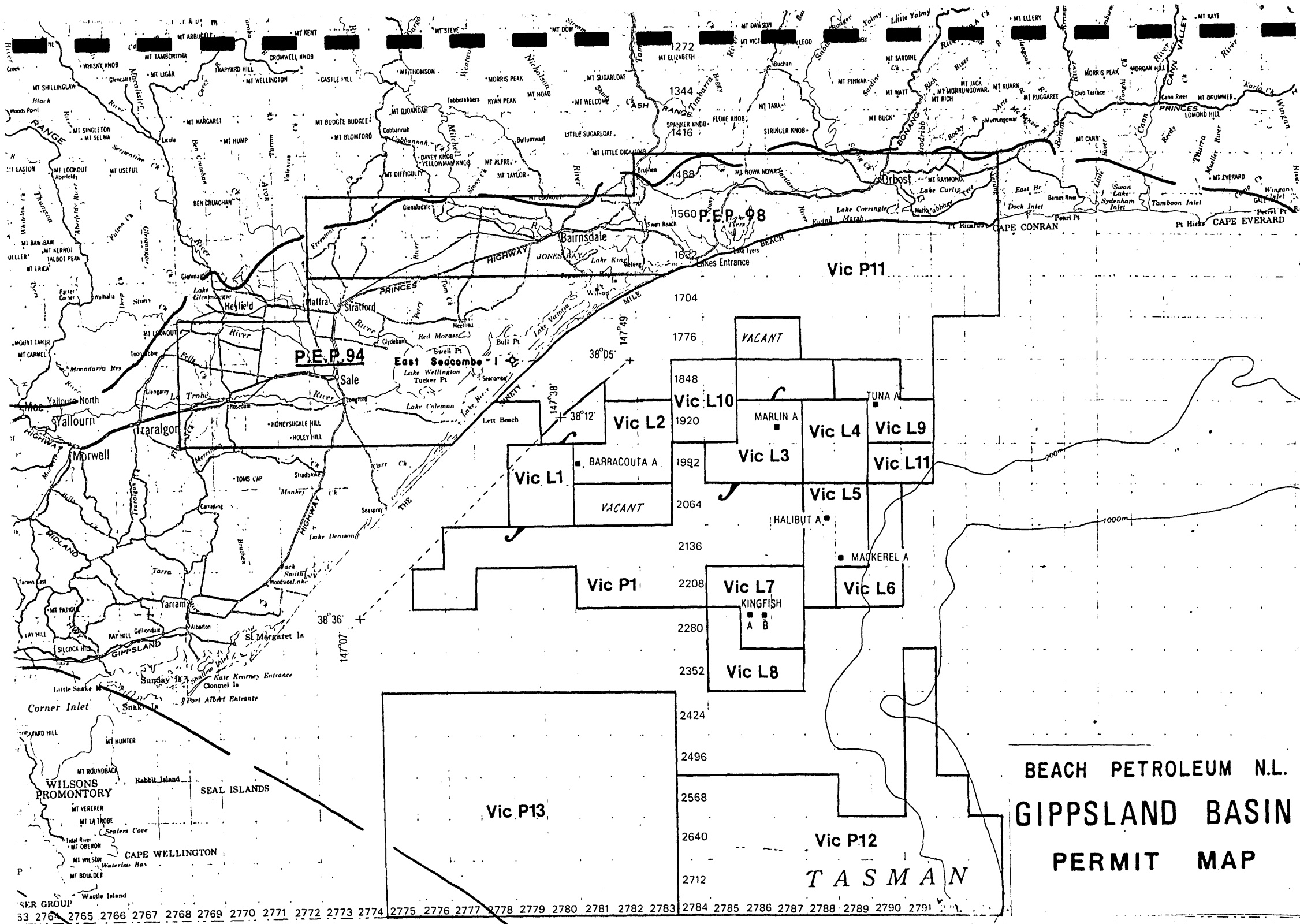
The East Seacombe prospect lies onshore within the Lake Wellington Depression which is on the northern flank of the Gippsland Basin. All the major stratigraphic units of the Gippsland Basin are present at this location - in particular the Latrobe Group which is the host formation of the prolific giant oil and gas fields in the offshore part of the basin. The well was programmed to test the Latrobe Group on a structural closure in part of the Gippsland Basin where source, reservoir and cap rocks are all present. The source rocks are considered to be thermally mature.

Structure in the Lake Wellington Depression is similar to that present on the northern flank of the basin offshore where fault-controlled features similar to East Seacombe are known to contain hydrocarbons. Our studies suggested that no previous well drilled onshore in this part of the Gippsland Basin was drilled to test the type of structural closure that was seen at the East Seacombe location.

2. WELL HISTORY

2.1. Location

The well was located 42 feet west of shot point SP47 on seismic line No. 69-66 of the Woodside 1969 Gippsland Basin Seismic Survey. The approximate geographic co-ordinates of the well are:-



P.E.P. 94

P.E.P. 98

Vic P11

Vic L10

Vic L2

Vic L4

Vic L9

Vic L3

Vic L11

Vic L1

VACANT

Vic L5

Vic P1

Vic L7

Vic L6

KINGFISH
A B

Vic L8

Vic P13

Vic P12

TASMAN

38° 05' 00" S
147° 31' 57" E

This is about 3 kilometres west of Loch Sport, just north of the main road.

2.2. General Data

- i) Well Name and Number
East Seacombe No. 1
- ii) Petroleum Title
Petroleum Exploration Permit No. 94.
- iii) Elevation
Ground Level - 6 feet above mean sea level (1.8m)
Kelly Bushing - 17 feet above mean sea level (5.2m)
- iv) Total Depth
4466' (Driller), 4467' (Logger) (1361m)
- v) Well Spudded
0800 Hours, 29th June, 1980
- vi) Well Reached T.D.
1930 Hours, 12th July, 1980
- vii) Well Abandoned
1000 Hours, 15th July, 1980
- viii) Status
Plugged and abandoned as a dry hole.

2.3. Drilling Data

- 2.3.1. Rig Owned By
O.D. & E. Pty. Ltd. of 50 Bridge Street, Sydney, N.S.W.
2000. Specifications set out as Appendix 1.

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2.3.2. Casing and Cementing Details

Conductor Pipe:-	Size:	19½ inches
	Set at:	40 feet (12m)
	Cement:	108 sacks construction cement with 2% CaCl ₂ .
Surface Casing:-	Size:	13 3/8 inch, 43.5 lb/ft, J55
	Set at:	154 feet (47m)
	Cement:	136 sacks Adelaide construction cement.
	Cemented to:	Surface
Intermediate Casing:	Size:	9 5/8 inch, 43.5 lb/ft. J55
	Set at:	965 feet (294m)
	Cement:	336 sacks of Adelaide construction cement at 15.2 lb/gal.
	Cemented to:	Returns to surface.

2.3.3. Drilling Fluids

A bentonite/water slurry was used to drill to 3500 feet (1067m). Below that depth a Spersene/XP20/CMC system was used. Mud properties were:-

Weight :	9.4 - 9.6
Viscosity ,	35-40 sec. API
Fluid Loss :	< 6 ml/30 min.

2.3.4. Water Supply

Water was obtained from Lake Victoria until 3500 feet (1067m). Below that depth fresh water from a water bore in Loch Sport was used.

2.4. Formation Sampling and Testing

2.4.1. Representative bagged cuttings were collected from the shale shaker at the following intervals during the drilling of the well.

Surface to 964 feet (293m) every 30 feet (9m).
964 to T.D. every 10 feet (3m).

2.4.2. Testing

Two DST's and four FIT's were attempted.

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Drill Stem Tests

DST No. 1A Interval to be tested 3580-3624 feet.
(1091-1105m). Misrun. Hit bridge at
3434 feet (1074m). Did not reach bottom

DST NO. 1B Interval Tested: 3580-3624 feet (1091-1106m)
Packers set at: 3572 and 3580 feet with no
cushion (1089 and 1091m)
Recovery: Nil. Test failed because
the packer failed to seat.
Pressures: Top gauge at 3580 feet (1091m)
IHP=FHP=1768psi
Bottom gauge at 3614 feet (1101m)
IHP=FHP=1818psi

The Halliburton Test Charts form Appendix 2.

Formation Interval Tests

FIT No. 1 (4267.5 feet) (1301m)
Recovered 10 litres of fresh water with a
very strong hydrogen sulphide odour and
trace of oil scum. $R_w=2.2$ at 67°F . (3,000
ppm NaCl equivalent). IHP=2043 psi. FFP=1826 psi.

FIT No. 2 (3952 feet) (1205m)
No recovery. Test tool failed to fill.

FIT No. 3 (3620 feet) (1103m)
Recovered 0.445 cubic feet of gas and 10 litres
of slightly blackish water with a very strong
hydrogen sulphide odour and a minor oil scum.
 $R_w=0.94$ at 65°F (7,000 ppm NaCl equivalent).
IHP=1789 psi FFP=665 psi.

FIT No. 4 (3952-3970 feet) (1205-1210m)
Successive intervals between 3952-3970 feet
(1205-1210m) were tested. However either the
packer failed to seat or no fluid ingress was
detected at any depth.

2.5. Logging and Surveys

2.5.1. Mud Logging

A standard Exploration Logging of Australia Inc. unit provided a mud logging service. The mudlog is included as Enclosure 1.

2.5.2. Go International Australia Pty. Ltd. provided wireline logging and testing of the well.

<u>Logs</u>	<u>Interval</u>	<u>Run No.</u>
Induction Electrical, BHC Sonic Log with Gamma Ray and Caliper (Gamma Ray to 60 feet)	964' - 154' (294 - 47m)	1
Induction Electrical, BHC Sonic Log with Gamma Ray and Caliper	4469' - 964' (1362 - 294m)	2
Compensated Density - Compensated Neutron Log with Caliper	4469' - 3450' (1362 - 1051m)	1

2.5.3. Deviation Surveys

During drilling deviation surveys were completed.

- 184' (56m) - $3/4^\circ$
- 412' (126m) - $1/2^\circ$
- 608' (185m) - $1/2^\circ$
- 784' (239m) - $3/4^\circ$
- 943' (287m) - $1/2^\circ$
- 1483' (452m) - $1/2^\circ$
- 1586' (483m) - $1/2^\circ$
- 2193' (668m) - $1/2^\circ$
- 2696' (822m) - $1/4^\circ$
- 3407' (1038m) - $1\ 3/4^\circ$
- 3916' (1194m) - 1°
- 4414' (1345m) - $3/4^\circ$

2.5.4. Velocity Survey

A velocity survey was run at T.D. by Velocity Data Pty. Ltd. 27 shots were fired for the velocity survey. A further 5 shots were used to form a refraction survey.

The results of the velocity survey form Appendix 3.

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3. Results of Drilling

3.1. Stratigraphy

(A Well Composite Log forms Enclosure 2).

3.1.1. Formation Tops

All depths from KB, 11 feet (3.3m) above permanent datum.
Permanent datum is ground level, 6 feet (1.8m) above sea level.

<u>Formation</u>	<u>Interval</u>		<u>Thickness</u>		<u>Depth Subsea</u>	
	Feet	Metres	Ft.	M.	Ft.	M.
Jemmy's Point	Surf- 712	Surf- 217	712	217	+6	+1.8
Gippsland Limestone	712-2740	217- 835	712	621	-695	-211
Lakes Entrance	2740-3533	835-1076	793	241	-2723	-829
Giffard	3533-3590	1076-1094	57	17	-3516	-1071
Latrobe Group						
Undifferentiated	3590-T.D.	1094-T.D.	877	267	-3573	-1089

Note:- The well was still in the LaTrobe Group at Total Depth.

3.1.2. Formation Lithologies

Jemmy's Point Formation (surface - 712 feet) (Surface-217m)

The Jemmy's Point Formation at East Seacombe No. 1 is a dominantly course grained sandstone unit with minor siltstones and mudstones in the upper 400 feet (122m). Below 400 feet (122m), the unit is dominated by marls and mudstones with relatively minor sandstones in the lower part. The marls are highly fossiliferous.

Gippsland Limestone (712 - 2740 feet) (217 - 835m)

The Gippsland Limestone is a calcium carbonate dominated sequence. Below 2570 feet (783m) the limestone becomes progressively more argillaceous and grades in part to marl.

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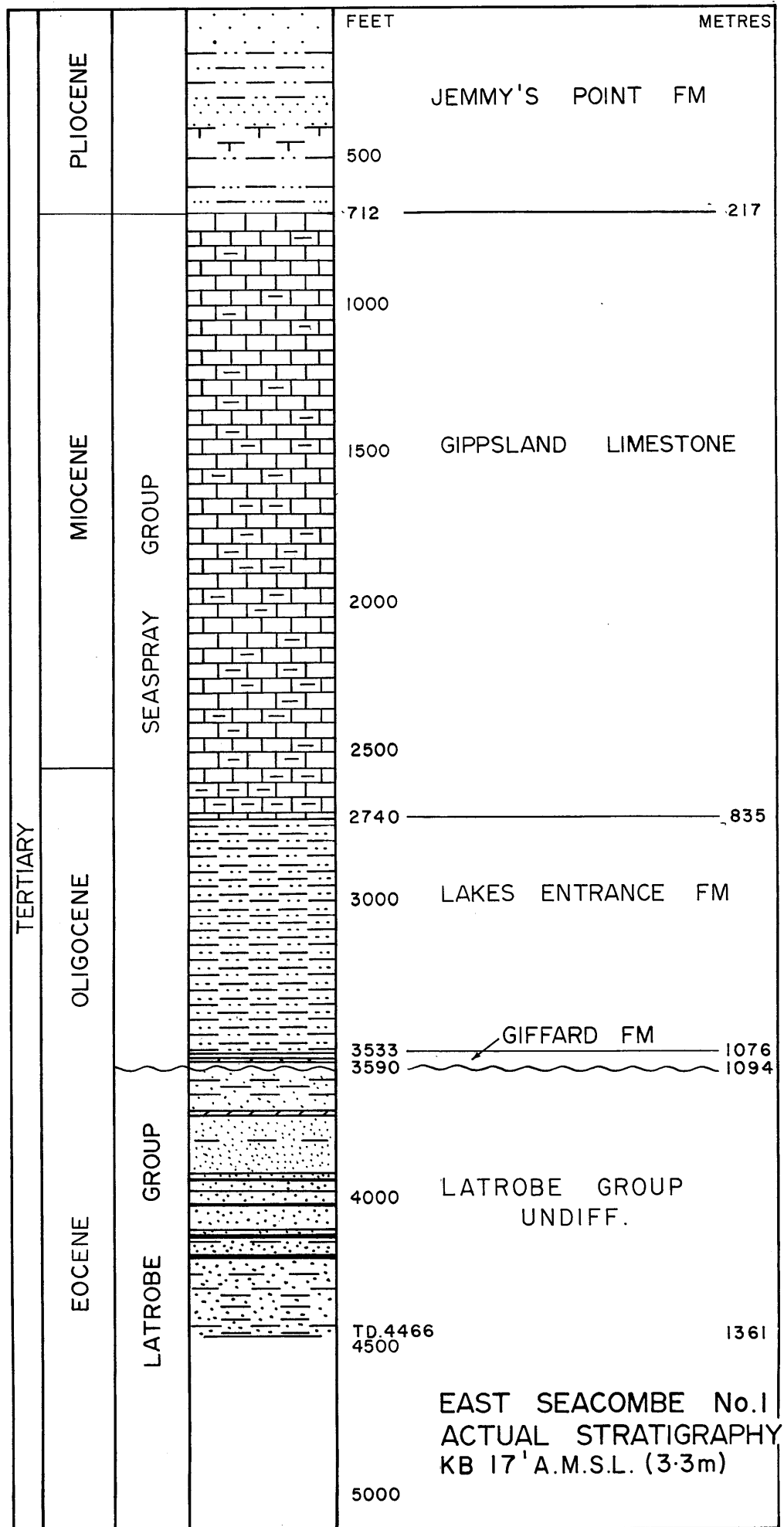


FIGURE No. 2

The Limestone shows a range of gradation through calcarenite to skeletal grainstone to calcilutite and to marl. The general trend of the unit however, is that of increasing argillaceous content with depth.

Faunal assemblage shows a great diversity and includes forams, plecyopods, gastropod fragments, corals, bryozoans and echinoid spines and plates. Shell fragments are generally broken and subsequently eroded.

Lakes Entrance Formation (2740 - 3533 feet) (835 - 1076m)

The contact with the overlying Gippsland Limestone is not clear from cuttings samples and the top was picked using wireline logs. The lithology of the Lakes Entrance Formation is of siltstone grading to silty mudstone. The siltstone is light grey to olive grey with calcareous matrix. Grains are silt size and composed of quartz and lithic material. There are occasional glauconite pellets and rare pyrite as nodules and in finely disseminated form. Because of the high clay content the Lakes Entrance Formation formed abundant cavings which masked deeper lithologies.

Giffard Formation (3533 - 3590 feet) (1076 - 1094m)

The Giffard Formation represents the transitional unit above the Traralgon Formation unconformity and below the Lakes Entrance. At East Seacombe No. 1, the Giffard Formation is represented by a fine grained dirty calcareous, glauconitic sandstone. Two thin limestones are also recognised within this formation.

LaTrobe Group (undifferentiated) (3590 - TD) (1094 - TD)

The LaTrobe Group at the East Seacombe No. 1 well has been subdivided into two basic lithologies. What is now recognised as a distinct upper lithological unit has not

PE904834

This is an enclosure indicator page.
The enclosure PE904834 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE904834 has the following characteristics:

ITEM_BARCODE = PE904834
CONTAINER_BARCODE = PE902709
NAME = Stratigraphic Well Correlation
BASIN = GIPPSLAND
PERMIT = PEP 94
TYPE = WELL
SUBTYPE = CROSS_SECTION
DESCRIPTION = East Seacombe 1 Stratigraphic Well
Correlation between Spoon Bay 1 - East
Seacombe 1 - East Reeve 1. Figure 4 of
WCR.
REMARKS =
DATE_CREATED = 29/07/80
DATE_RECEIVED = 29/10/80
W_NO = W733
WELL_NAME = East Seacombe-1
CONTRACTOR =
CLIENT_OP_CO = Beach Petroleum N.L.

(Inserted by DNRE - Vic Govt Mines Dept)

previously been described in reports on nearby wells. This unit is now considered to be present in these wells.

Unit 1 This unit is present between 3590 - 3690 feet (1094 - 1124m). It is recognised in the Spoon Bay No. 1, Dutson Downs No. 1 and East Reeve No. 1 wells. It is probably a coarsening upward sand unit with a high content of soluble clay matrix. The abundance of Lakes Entrance Formation cavings made identification of the lithology difficult. The gamma ray log shows quite high clay content (suggestive of shale) while other logs confirm the presence of sand.

Unit 2 This sequence of the LaTrobe group has been identified as the Traralgon Formation, recognised elsewhere in this part of the basin. The upper part of the unit is composed predominantly of thick sand beds. The central part is dominantly coals. The lowest part was interbedded sandstones, shales and minor coals. Toward the base of the unit an increasing number of lithic fragments grading to pebble size were recognised in the cuttings. The well was terminated while still within this unit.

3.2. Hydrocarbon Occurrences

Only minor gas levels were recorded by the gas detector while drilling this well. Tests were run to check all possible shows indicated on the wireline logs. There were no significant hydrocarbons recovered on any of the tests.

4. Conclusions

A. The East Seacombe No. 1 test was unsuccessful in finding hydrocarbons. The following reasons are put forward as possible explanations of that failure.

It is possible that:-

1. The structure was not closed. Prior to drilling it was recognised that closure in an easterly direction was not as fully controlled by seismic as one might wish. Further seismic surveys would be required to check this possibility.
2. The fault does not seal. This is a very likely possibility. There is no case offshore of a discovery in a structure entirely dependent on fault closure for entrapment but one would expect the Lakes Entrance Formation to provide seal if the throw on the fault did not exceed the thickness of this formation.
3. The structure has been flushed by the regional hydrodynamic flow gradient. Sandstones within the LaTrobe Group are fresh water filled. We believe that the possibility of flushing need not be a deterrent to exploration and point to the fact that most fields in the basin have fresh formation waters underlying the gas or oil. Providing that there is sufficient protection from the regional gradient traps can hold hydrocarbons.
4. There is no structural closure present at the top of the Latrobe Group. The Traralgon top came in about 200' high on prognosis and unexpected thick sequence of sandstone was encountered above the Traralgon Formation proper. This sequence could be a channel-fill deposit filling an erosional channel at the top of the Traralgon Formation. This type of post-Traralgon, pre-Giffard channel-fill deposit is recognised offshore.

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In our pre-drill interpretation we mapped at the coal measures within the Traralgon Formation and considered that this horizon reflected structure at the top of the Latrobe Group. Our post-drill interpretation of the results of the drilling and their relationship to the seismic is that the top of the Latrobe Group is probably erosional in nature and bears no relationship to the intra-Latrobe structure. To locate traps at the top of the Latrobe, and to find drilling targets predicated on hydrocarbons being trapped at this level, requires the ability to be able to map the top of the Latrobe Group. This is not possible on existing seismic data but may be possible with the use of modern data acquisition and processing. Structure within the Traralgon Formation is either not closed (see 1 above) or the fault does not seal at these levels.

- B. Before any further drilling could be undertaken in this part of the basin (which still must be regarded as being prospective) further seismic must be undertaken. It will be necessary for this seismic to repeat much of that shot earlier. With modern multiple fold seismic it may be possible to identify a seismic event originating from the top of the Latrobe Group.

APPENDIX 1

SPECIFICATIONS OF DRILLING PLANT

DRAWWORKS

Ideal type 50 with 16" x 34" spooling drum (1-1/8" lebus grooved) and 14" x 36" 9/16" Sandline drum with foster 24AD and 37AH Catheads and Parkersburg 36" single type R Hydromatic Brake.

MUD PUMPS

National K380. 7 1/2" x 14" powered by GM16V Series 71 engine with K 10 pulsation dampener. Ideco MM700 7 1/2" x 14" with K20 pulsation dampener and powered from compound 71 twin engines. (The Ideco MM700 was used as the No. 1 pump; the National K380 was used as the No. 2 pump.)

MIXING PUMP

Mission 5 x 6 Centrifugal pump powered by GM371 diesel engine.

MANIFOLD

Complete Manifold system for circulating mud and water.

ENGINES (DRAWWORKS)

2 GM12107 Series 71 twins with GM torque converters.

DRIVE GROUP

Ideal "BL Modified" 2 engine with #2 having pump countershaft drive (18" PD 10D Sheave).

MAST

131' Lee C. Moore Standard Canti-Lever equivalent to API Derrick capacity of 550,000 lbs. Racking capacity 12420' 4 1/2" drill pipe.

SUBSTRUCTURE - MAST

Lee C. Moore 10' high x 20' 9" wide x 31' long.

SUBSTRUCTURE-ENGINE

Lee C. Moore 10' high x 20' 9" wide x 11' 9" long.

INSTRUMENTATION

Martin Decker Type D Weight Indicator with 0/3000 lbs. mud pump gauge. Martin Decker tong torque gauge. Geolograph G3 Recorder.

KELLY COCK

1 Omsco unit with 6-5/8" LH Box up x 6-5/8" LH pin down.

DE-SANDER

Cyclone unit with 3 x 6" and 2" x 8" cones and mission 5 x 6 centrifugal pump powered by GM371 engine.

DEVIATION INSTRUMENT

Sure Shot 0° - 7° unit

Oh [Handwritten initials]

1-12 3000 psi WP Cameron "SS" Double gate with C.S.O. & 4½" Rams.
1-12 3000 psi WP Hydril
1-K80 Hydril Accumulator with 2 Nitrogen Bottle emergency closing system
1-Set BOP Hoses and steel lines (latter installed in walkways)

DRILL PIPE

6000' - 4½" OD x 16.60 lb/ft grade E Range 2 with 4½" FH connections.
6 Joints - 4½" Hevi-Wate

DRILL COLLARS

6-8" OD x 30' with 6-5/8" regular connections.
18-6½" OD x 30' with 4½" IF connections.

CHOKE MANIFOLD

1-5000 psi dual choke unit

ROTARY TABLE

Ideal type 20½" complete with master bushing

TRAVELLING BLOCK AND HOOK

National 436 'E' 140 rated capacity 140 tons.

CROWN BLOCK

Lee C. Moore with 5 x 42" OD and 1 x 56" OD sheaves

SWIVEL

National Ideal Type 'D'

GENERATORS, COMPRESSORS AND CIRCULATING PUMP (Installed in Generator House)

2 Delco-GM 92.5 KVA generators powered by GM671 engines.
2 Ingersoll Rand air compressors.
2 Southern x 1½" x 2" centrifugal water pump powered by electric motor.

SHALE SHAKER

2 Link belt type NR145 model 53A.

RIG LIGHTING

Hutchinson "Flo-Light" flame-proof complete for National 50 rig and Lee C. Moore Mas

MUD TANKS

2 Mild Steel with walk partitions and guns - each 30' x 8' x 6' high.

WATER TANKS

2 mild steel each 30' x 8' x 6' high.

PIPE RACKS AND WALK

90 ft Tumble type pipe racks complete with steel decked walk.

FISHING TOOLS

1 set Bowen or McCullough Mechanical Hydraulic Jars.
Overshot to catch Drill Pipe and 6½" Drill Collars
Overshot to catch 8" Drill Collars.

SPOOLS

As required to cross over between Contractors BOP's and Operators Casing BOP's.

- 1 Dog House 14' x 8'
- 1 Generator shed 24' x 8'
- 1 Utility Shed 27' x 8'
- 1 Spares/Tool shed 26' x 8'

MUD TESTING EQUIPMENT.

Magcoar rig laboratory

WELDING EQUIPMENT

- Oxy/acetylene set
- 1 H6 Lincoln electric set

CASING AND DRILL PIPE HANDLING TOOLS:

- 1 set (2) Tongs with jaw range 3½" - 13-3/8"
- 2 Sets 4½" drill pipe slips
- 1 Set 5½" - 7" drill collar slips
- 1 Set 6-3/4" - 8½" drill collar slips
- 1 Set 7" Casing Slips
- 1 Set 9-5/8" Casing Slips
- 1 Set 13-3/8" Casing Slips
- 1 Set CR drill collar safety clamps
- 2 Sets 4½" Drill pipe Elevators
- 1 Set 7" Casing Elevators (single joint)
- 1 Set 7" Casing Elevators (running)
- 1 Set 9-5/8" Single Joint Casing Elevator
- 1 Set 9-5/8" Casing Elevator (running)
- 1 13-3/8" Single Joint Casing Elevator
- 1 13-3/8" Casing Elevator (running)
- 1 Set each 2-7/8" Tubing Elevators & Slips

ELEVATOR LINKS

- 1 Set 2½" x 72" 110 ton capacity
- Set 2-3/4" x 84" 150 ton capacity

SUBSTITUTES

All necessary lifting, crossover and bit substitutes for 4½" drill pipe; 6" & 8" drill collars, and drill collars to other down hole tools furnished by Contractor with National 50 rig.

KELLY AND KELLY DRIVE

- 1 4½" Square Kelly with 6-5/8" LH Box Up
- 1 Baash Ross 2RBS6 Kelly Drive

JUNK BOX

Skid Mounted 14' x 8' x 4'

RATHOLE DRILLER

Unit Rig digger with drive for 4½" square kelly.

MUD SAVER

"OKEH" mud saver bucket for 4½" drill pipe.

TTING

Hardwood matting for National 50 Sub-base and pump area.

DAY TANK

- 1 - 2000 gallon diesel day tank

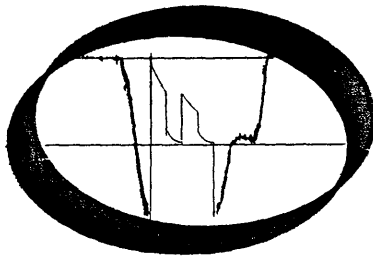
FIRE EXTINGUISHERS

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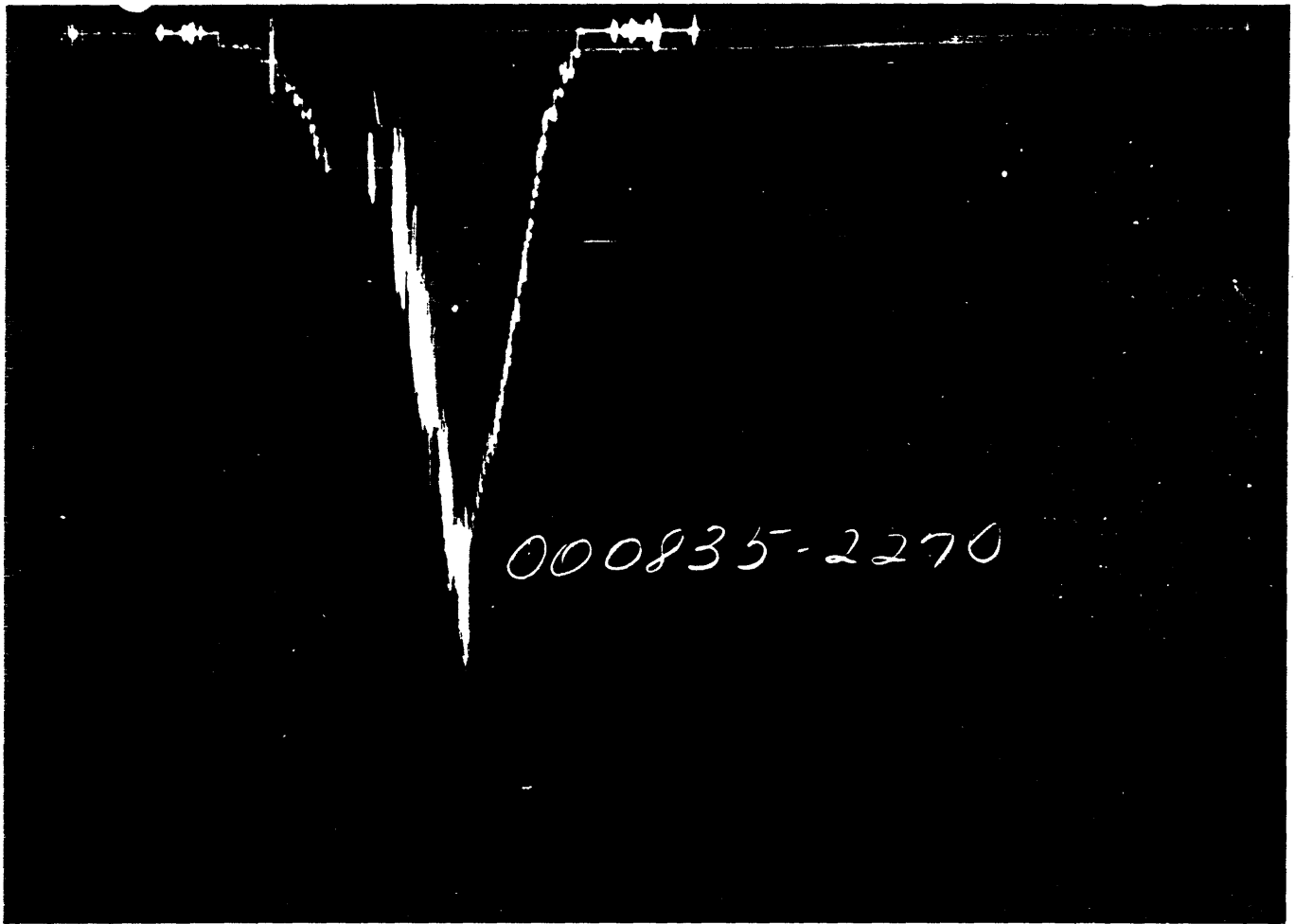
APPENDIX 2

HALLIBURTON TEST CHARTS

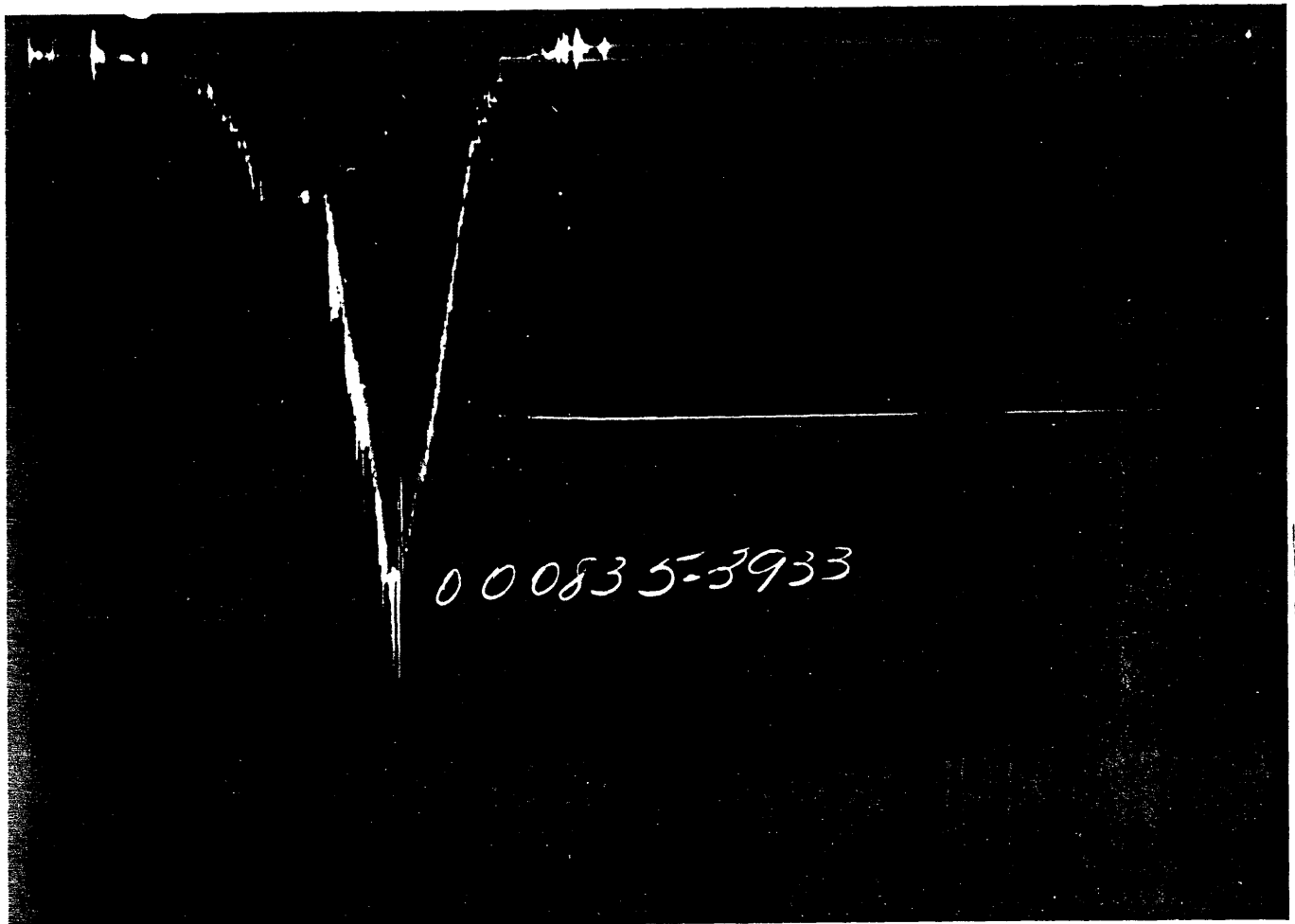
Formation Testing Service Report



HALLIBURTON SERVICES
DUNCAN, OKLAHOMA



TIME →



Each Horizontal Line Equal to 1000 p.s.i.

Legal Location Sec. - Twp. - Rng. **ASI SEA CUMBE**
 Lease Name **1-A**
 Well No. **1**
 Test No. **1**
 Tested Interval **---**
 Country **---**
 State **VICTORIA**
 Lease Owner/Company Name **BEACH PEIKOLEUM**

FLUID SAMPLE DATA		Date 9-7-80	Ticket Number 000835
Sampler Pressure _____ P.S.I.G. at Surface		Kind of D.S.T. OPEN HOLE	Halliburton Location AUSTRALIA
Recovery: Cu. Ft. Gas _____		Tester P.LARKINS	Witness HAWKIN
cc. Oil _____		Drilling Contractor O.D.E. RIG # 12 DR	
cc. Water _____		EQUIPMENT & HOLE DATA	
cc. Mud _____		Formation Tested Giffard	
Tot. Liquid cc. _____		Elevation 17' Ft.	
Gravity _____ ° API @ _____ °F.	Net Productive Interval _____ Ft.		
Gas/Oil Ratio _____ cu. ft./bbl.	All Depths Measured From _____		
RESISTIVITY		Total Depth 3614' Ft.	
CHLORIDE CONTENT		Main Hole/Casing Size 8 1/2"	
Recovery Water _____ @ _____ °F. _____ ppm	Drill Collar Length 432.88' I.D. 2.375"		
Recovery Mud _____ @ _____ °F. _____ ppm	Drill Pipe Length _____ I.D. _____		
Recovery Mud Filtrate _____ @ _____ °F. _____ ppm	Packer Depth(s) _____ Ft.		
Mud Pit Sample _____ @ _____ °F. _____ ppm	Depth Tester Valve _____ Ft.		
Mud Pit Sample Filtrate _____ @ _____ °F. _____ ppm			
Mud Weight 9.3 vis 47 sec.			

TYPE	AMOUNT	Depth Back Pres. Valve	Surface Choke	Bottom Choke
Cushion			-	.75"
Recovered	Feet of			
Recovered	Feet of			
Recovered	Feet of			
Recovered	Feet of			
Recovered	Feet of			

Remarks **Misrun. Hit bridge at 3434'. Did not reach bottom**

TEMPERATURE	Gauge No. 2270		Gauge No. 3933		Gauge No.		TIME (00:00-24:00 hrs.)		
	Depth: _____ Ft.	Depth: _____ Ft.	Depth: _____ Ft.	Depth: _____ Ft.	Hour Clock	Hour Clock	Hour Clock	Tool	
Est. °F.	Blanked Off NO		Blanked Off Yes		Blanked Off		Opened		
Actual °F.	Pressures		Pressures		Pressures		Opened Bypass		
	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes	
Initial Hydrostatic									
First Period	Flow Initial								
	Flow Final								
	Closed in								
Second Period	Flow Initial	UNABLE TO READ, COULD NOT GET TO BOTTOM							
	Flow Final								
	Closed in								
Third Period	Flow Initial								
	Flow Final								
	Closed in								
Final Hydrostatic									



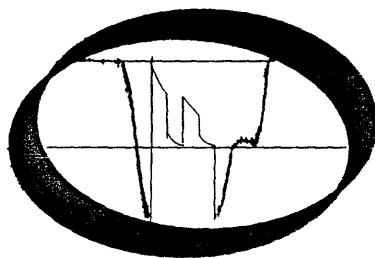
	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars	6.25"	2.25"	1'	
Reversing Sub				
Water Cushion Valve	4.5"	3.826"	??	
Drill Pipe	6.25"	2.375"	432.88'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve				
Dual CIP Sampler	5"	.75'	6.37'	
Hydro-Spring Tester	5"	.87"	5' Extension joint	
Multiple CIP Sampler	6.125"	2.375"	84.62'	
Extension Joint	5"	.87"	5'	
AP Running Case	5"	3.06"	4'	
Hydraulic Jar	5"	1.75'	5'	
VR Safety Joint	5"	1"	2.9'	
Pressure Equalizing Crossover				
Packer Assembly	7.75 "	1.62"	6'	
Distributor	5"	1.65 "	2'	
Packer Assembly	7.75'	1.62"	6'	
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint	5"	2.25 "	4'	
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.37"	25'	
Blanked-Off B.T. Running Case	5"	2.44 "	4'	
Total Depth				

NOMENCLATURE

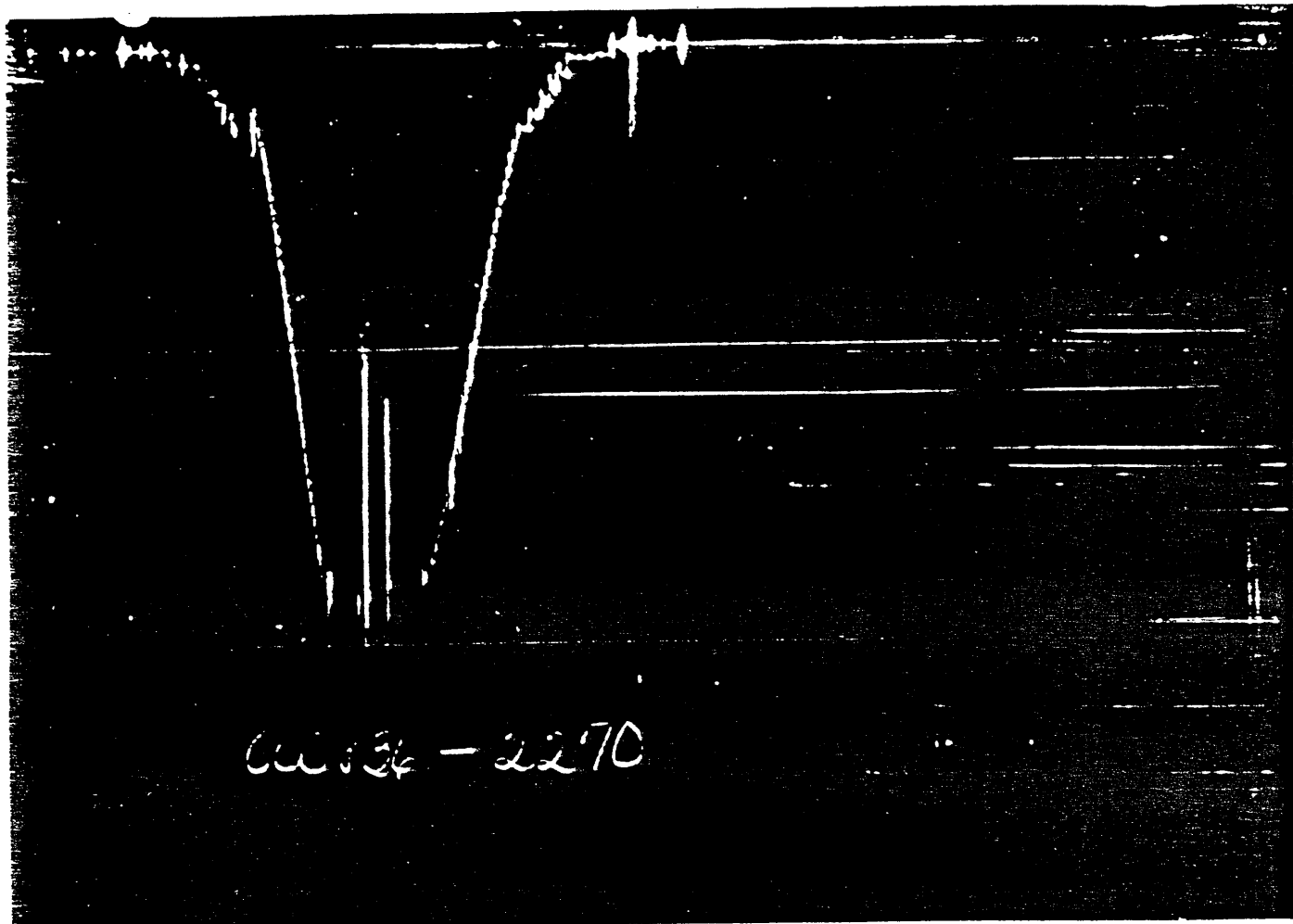
b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h ₁)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h₁	= Net Pay Thickness	Feet
K	= Permeability	md
K₁	= Permeability (From Net Pay Zone h ₁)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF₄	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_f	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water *)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q₁	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.

Formation Testing Service Report



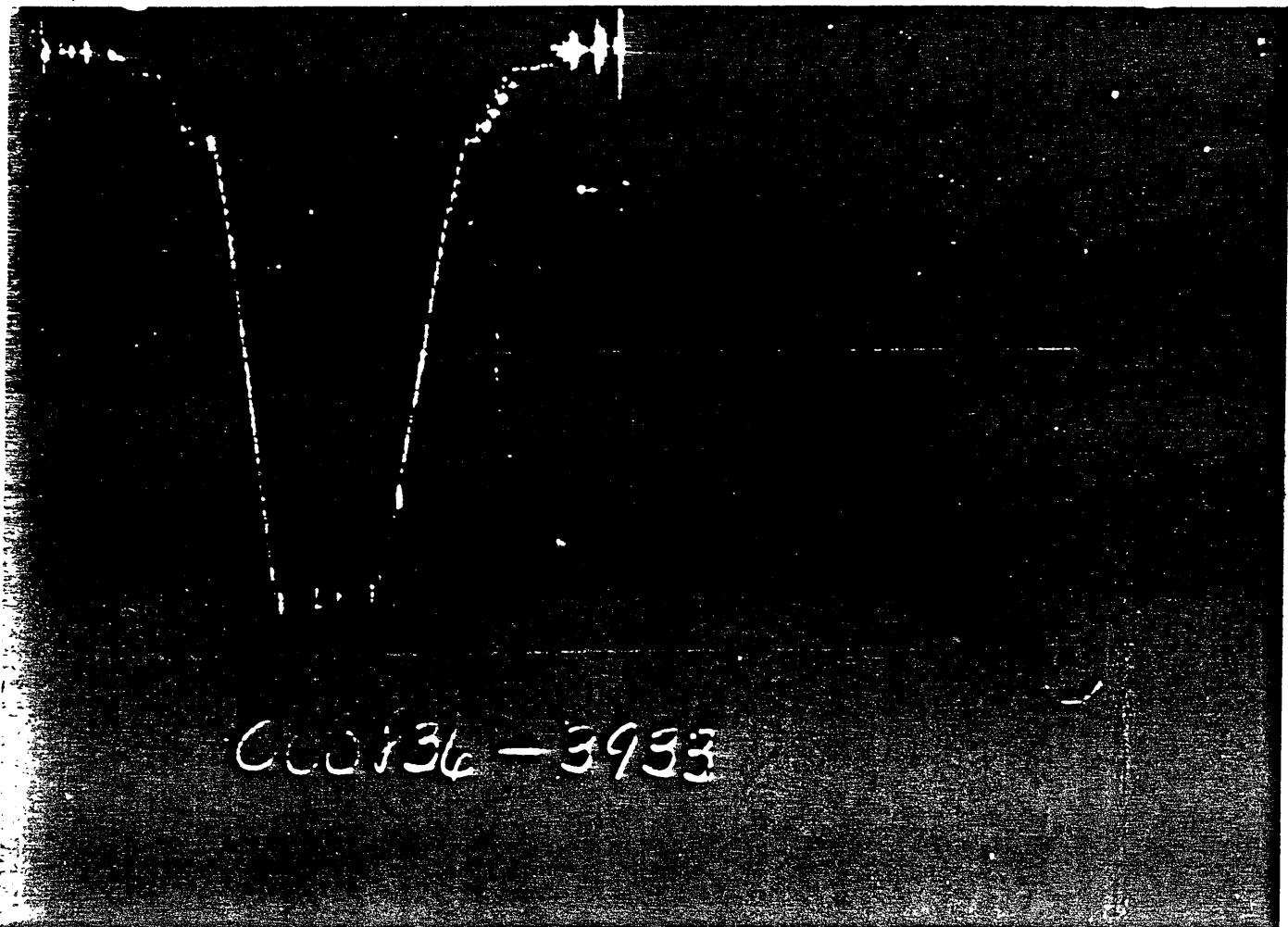
HALLIBURTON SERVICES
DUNCAN, OKLAHOMA



CO236-2270

PRESSURE

TIME



CO236-3933

Each Horizontal Line Equal to 1000 p.s.i.

FLUID SAMPLE DATA		Date	7-10-80	Ticket Number	000836
Sampler Pressure _____ P.S.I.G. at Surface	Kind of D.S.T.	OPEN HOLE	Halliburton Location	AUSTRALIA	
Recovery: Cu. Ft. Gas _____	Tester	MR. LARKINS	Witness	MR. RANKIN	
cc. Oil _____	Drilling Contractor	O. D. & E. DRILLING COMPANY RIG #12			
cc. Water _____	EQUIPMENT & HOLE DATA bj				
cc. Mud _____	Formation Tested	Giffard			
Tot. Liquid cc. _____	Elevation	17'	Ft.		
Gravity _____ ° API @ _____ °F.	Net Productive Interval	25'	Ft.		
Gas/Oil Ratio _____ cu. ft./bbl.	All Depths Measured From	Kelly Bushing			
RESISTIVITY _____	Total Depth	3614'	Ft.		
CHLORIDE CONTENT _____	Main Hole/Casing Size	8.5"			
Recovery Water _____ @ _____ °F. _____ ppm	Drill Collar Length	433.00'	I.D.	2.375"	
Recovery Mud _____ @ _____ °F. _____ ppm	Drill Pipe Length	3019'	I.D.	3.826"	
Recovery Mud Filtrate _____ @ _____ °F. _____ ppm	Packer Depth(s)	3572'	3580' Ft.		
Mud Pit Sample _____ @ _____ °F. _____ ppm	Depth Tester Valve	3459'	Ft.		
Mud Pit Sample Filtrate _____ @ _____ °F. _____ ppm					
Mud Weight _____ 9.7 vis _____ 36 sec.					

TYPE	AMOUNT	Depth Back Pres. Valve	Surface Choke	Bottom Choke
Cushion			1/2"	3/4"
Recovered	630 Feet of mud			
Recovered	Feet of			
Recovered	Feet of			
Recovered	Feet of			
Recovered	Feet of			

Remarks MISRUN....NO PACKER SEAT....

TEMPERATURE	Gauge No. 2270		Gauge No. 3933		Gauge No.		TIME (00:00-24:00 hrs.)	
	Depth:	Ft.	Depth:	Ft.	Depth:	Ft.		
Est. 130 °F.	3554'		3610'					
	24 Hour Clock		24 Hour Clock		Hour Clock		Tool Opened 0825	
	Blanked Off NO		Blanked Off YES		Blanked Off		Open Bypass 0826	
Actual °F.	Pressures		Pressures		Pressures		Reported Minutes	Computed Minutes
	Field	Office	Field	Office	Field	Office		
Initial Hydrostatic	1785	1791.1	1818	1820.3				
Flow Period	Initial							
	Final							
	Closed in							
Flow Period	Initial							
	Final							
	Closed in							
Flow Period	Initial							
	Final							
	Closed in							
Final Hydrostatic	-	1791.1	-	1820.3				

Legal Location Sec. - Twp. - Rng. EAST SEACUMBE
 Lease Name I
 Well No. I
 Test No. I-B
 Tested Interval 3580' to 3614'
 Field Area WILDCAT
 County
 State VICTORIA
 Lease Owner/Company Name BEACH PETROLEUM

2

Ticket No. 000836

Casing perfs. _____ Bottom choke _____ Surf. temp. _____ °F
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED

Date	Time	a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
7-10-80							
	0515		3/4"				Tools ran in hole.
	0825		3/4"				Opened tool. Lost packer seat. Closed tool.
	0840		3/4"				Reset packer-opened tool-lost packer seat-pulled free. Pulled out of hole.

PRODUCTION TEST DATA

2



	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars				
Reversing Sub	6.25"	2.25"	1.00'	
Water Cushion Valve				
Drill Pipe	4.50"	3.826"	3019'	
Drill Collars	6.125"	2.375"	433'	
Handling Sub & Choke Assembly				
Dual CIP Valve				
Dual CIP Sampler				
Hydro-Spring Tester	5.00"	.75"	6.37'	3459'
EXTENSION JOINT	5.00"	.87"	5'	
Multiple CIP Sampler DRILL COLLARS-	6.125"	2.37"	84.62'	
Extension Joint	5.00"	.87"	5.00'	
AP Running Case	5.00"	3.06"	4.00'	3554'
Hydraulic Jar	5.00"	1.75"	5.00'	
VR Safety Joint	5.00"	1.00"	2.90'	
Pressure Equalizing Crossover				
Packer Assembly	7.75"	1.62"	6.00'	3572'
Distributor	5.00"	1.68"	2.00'	
Packer Assembly	7.75"	1.62"	6.00'	3580'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint	5.00"	2.25"	4.00'	
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5.00"	2.37"	25'	
Blanked-Off B.T. Running Case	5.00"	2.44"	4.00'	3610'
Total Depth				3614'

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h ₁)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
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OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF₄	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
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R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
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t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.

APPENDIX 3

VELOCITY SURVEY RESULTS

WELL VELOCITY SURVEY

EAST SEACOMBE NO. 1

PEP 94

VICTORIA

for

BEACH PETROLEUM NO LIABILITY

by

VELOCITY DATA PTY. LTD.

Brisbane, Australia

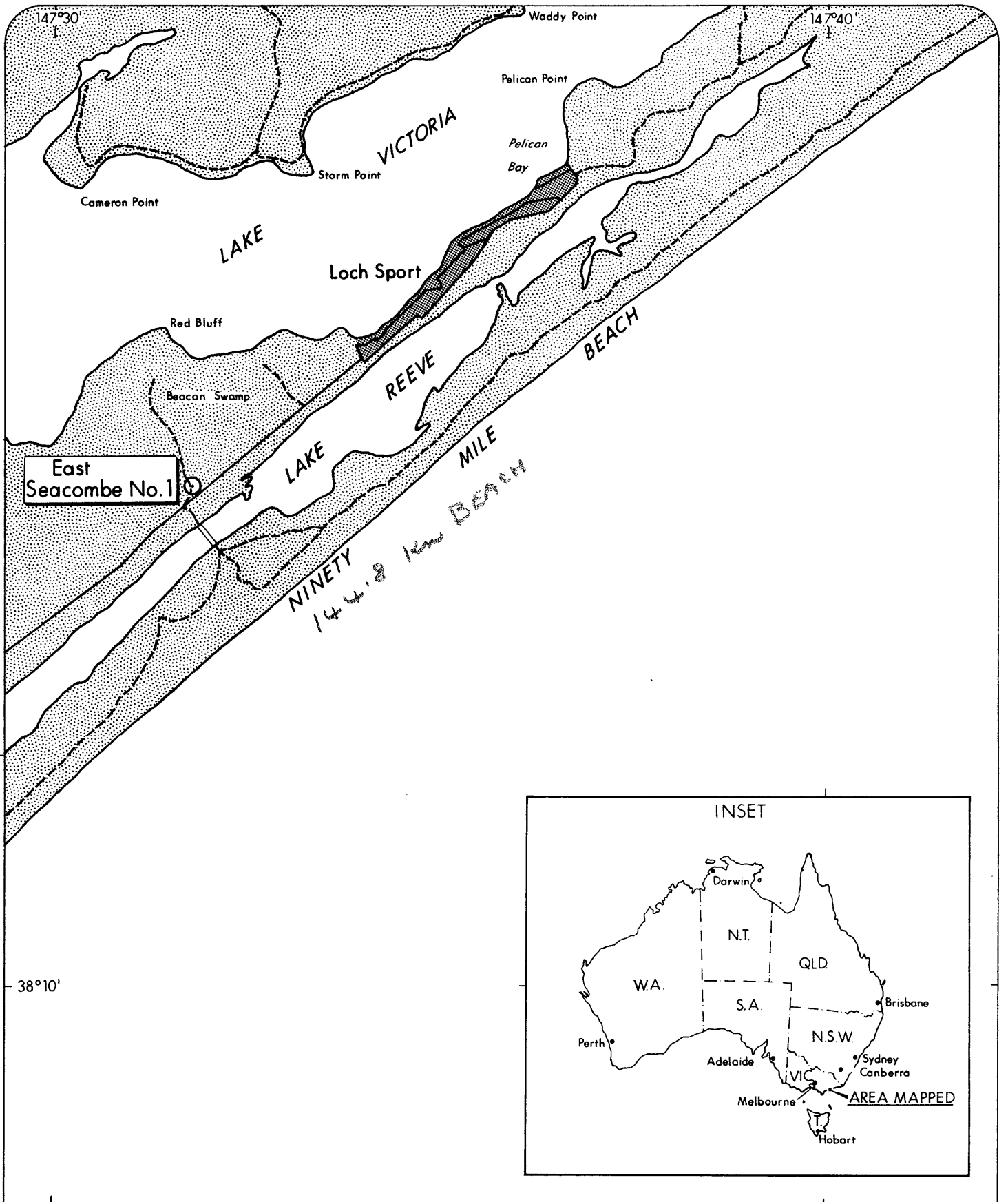
July 14, 1980

INDEX

	<u>Page</u>
SUMMARY	1
GENERAL COMMENTS	1
EQUIPMENT	2
RECORDING	2
COMPUTATIONS	3
COMPUTATION SHEETS	

Figures:

Figure 1	Location Map
Figure 2	Shot Location Sketch
Figure 3	Time-depth points and velocity functions
Figure 4	Time-depth, average velocity and interval velocity curves
Figure 5	Shallow Refraction Profiles Sample Records



BEACH PETROLEUM NO LIABILITY
EAST SEACOMBE No.1
 WELL LOCATION MAP

Scale 1:100 000

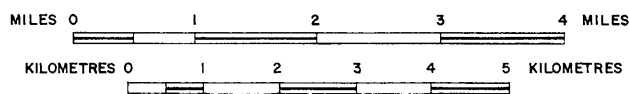
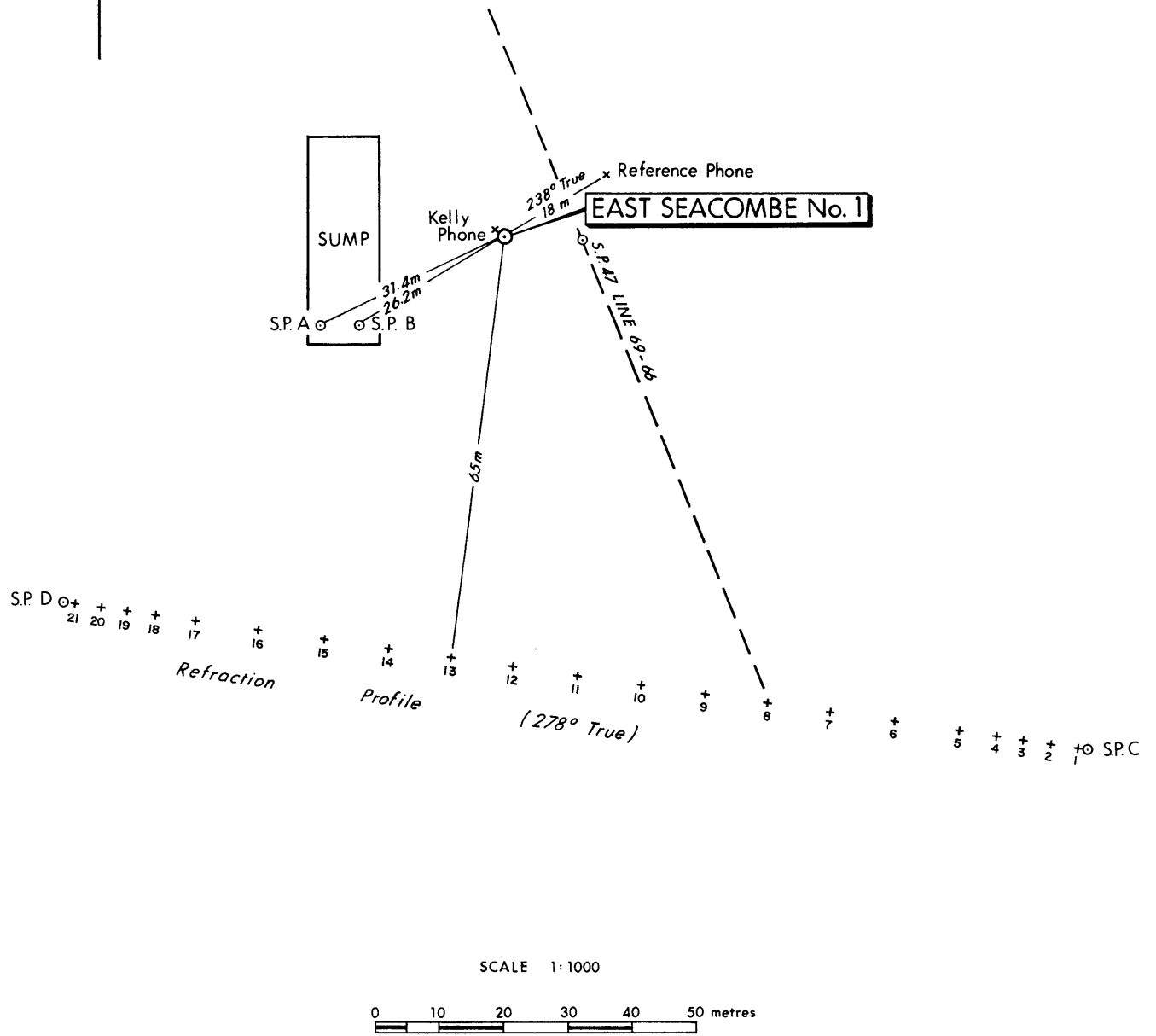
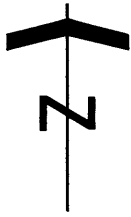


Figure 1



BEACH PETROLEUM NO LIABILITY
EAST SEACOMBE No. 1
SHOT POINT LOCATION SKETCH

Figure 2

SUMMARY

Velocity Data Pty. Ltd. conducted a velocity survey for Beach Petroleum No Liability in the East Seacombe No. 1 well, PEP94, Victoria. The date of the survey was July 14, 1980.

Twenty-six shots were taken over twenty-two levels in the well. Record quality was fair to good and the results are considered to be reliable. Two short surface spreads were shot to obtain near surface velocity information.

Explosives were used as an energy source, with charges varying between 1/2 and 6 sticks of A.N.60. Shots were taken in the mud pit at a depth of 6 feet.

The survey was used to calibrate sonic logs. A calculated depth function of $Z = 8831t^{1.167}$ is a fair fit to the time-depth curve.

The well was surveyed to a depth of 4465 feet below kelly bushing.

GENERAL

Velocity Data Pty. Ltd. of Brisbane, Australia, conducted a velocity survey for Beach Petroleum No Liability on July 14, 1980. Two men and the equipment travelled by commercial airline.

Name of Well	: East Seacombe No. 1
Location	: PEP94, Victoria
Co-ordinates	: Lat. 38°05'00"S. Long. 147°31'57"E.
Date of Survey	: July 14, 1980
Elevation of K.B.	: 17 feet A.S.L.
Logging	: Go-International
Weather	: Fine
Sonic Log Interval	: 154' to 4467' below K.B.
Depth Surveyed	: 4465' below K.B.
Operator	: H. Hunt

2.

EQUIPMENT

Energy Source : Dynamite, A.N.60
Recording Instruments : S.I.E. RS4
Downhole Geophone : Geospace 1000 Wall-Lock
Reference Geophone : Hall Sears HSl

RECORDING

Charge Size : 1/2 to 6 sticks A.N.60
Depth of shots : 6 feet
Shot offset : 103 feet
Reference sensors : Refer Figure 2.

Downhole sensor:

6 HSl 4.5 Hz-215 ohm, high temperature detectors in series parallel. Frequency response 8-300Hz within 3db.

Preamplifier -48db fixed gain. Frequency response 5-200Hz within 3db.

Record Traces:

- 1 Well Geophone - high gain
- 2 Well Geophone - medium gain
- 3 Well Geophone - low gain
- 4 Reference phone - Well Head
- 5 Reference phone
- 6 Not used
- 7 Time Break

Records were produced photographically.

COMPUTING

Sonic times are adjusted to check-shot times using two methods.

- 1) A linear correction

$$\frac{(t_{L_2} - t_{R_2}) - (t_{L_1} - t_{R_1})}{Z_2 - Z_1} = \text{correction in } \mu\text{secs/ft.}$$

- 11) A differential correction

$$100 \left(1 - \frac{(t_{R_2} - t_{R_1})}{(t_{L_2} - t_{L_1})} \right) = \% \text{ decrease in interval time}$$

where t_L = sonic log time

t_R = record time

and $Z_2 - Z_1$ = depth interval

Where check-shot interval times are longer than corresponding sonic interval times, errors are assumed to be instrumental and are adjusted using the linear correction. However, if formation characteristics, such as high porosity or the presence of gas are suspected, the differential correction is used.

The differential correction is also applied where check-shot interval times are shorter than corresponding sonic times and these differences are assumed to arise from caving or mud cake effects.

Since shots were taken at sea level, there is no correction to datum.

Shallow refraction profiles about 65 metres south of the well (refer Figure 2) indicate a weathering of about 1.75 metres on the western end and 7 metres on the eastern end of the profiles. Weathering velocities are about 1640 feet per second and the sub-weathering velocities average 5543 feet per second. The offset in times apparent on the shots from the eastern end of the profiles does not appear to have any geological significance, but is possibly the result of hole fatigue or cable layout problems.

Discrepancies between shot interval times and corresponding sonic interval times are moderate, with the shot interval times generally being longer in that section above the top of the Thick Coal. An exception to this is the interval 3140 to 3533 feet where the shot interval times are shorter than the corresponding sonic interval times. The largest time discrepancy occurs within the Gippsland Limestone over the interval 712 to 1000 feet, the difference here being 23.9 μ secs./ft.

A calculated depth function of $Z = 8831t^{1.167}$ is a fair fit to the time-depth curve, the largest deviations occurring at the 2413 and 2723 foot levels.

Time-depth and velocity curves are submitted with this report along with copies of the field records.



L.W. Pfitzner

PE904835

This is an enclosure indicator page.
The enclosure PE904835 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE904835 has the following characteristics:

ITEM_BARCODE = PE904835
CONTAINER_BARCODE = PE902709
NAME = Computation Sheets
BASIN = GIPPSLAND
PERMIT = PEP 94
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = East Seacombe 1 Computation Sheets.
Appendix 3 of WCR.
REMARKS = Sheet 1 of 2.
DATE_CREATED = 14/07/80
DATE_RECEIVED = 29/10/80
W_NO = W733
WELL_NAME = East Seacombe-1
CONTRACTOR =
CLIENT_OP_CO = Beach Petroleum N.L.

(Inserted by DNRE - Vic Govt Mines Dept)

PE904836

This is an enclosure indicator page.
The enclosure PE904836 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE904836 has the following characteristics:

ITEM_BARCODE = PE904836
CONTAINER_BARCODE = PE902709
 NAME = Computation Sheets
 BASIN = GIPPSLAND
 PERMIT = PEP 94
 TYPE = WELL
 SUBTYPE = DIAGRAM
DESCRIPTION = East Seacombe 1 Computation Sheets.
 Appendix 3 of WCR.
REMARKS = Sheet 2 of 2.
DATE_CREATED = 14/07/80
DATE_RECEIVED = 29/10/80
 W_NO = W733
 WELL_NAME = East Seacombe-1
CONTRACTOR =
CLIENT_OP_CO = Beach Petroleum N.L.

(Inserted by DNRE - Vic Govt Mines Dept)

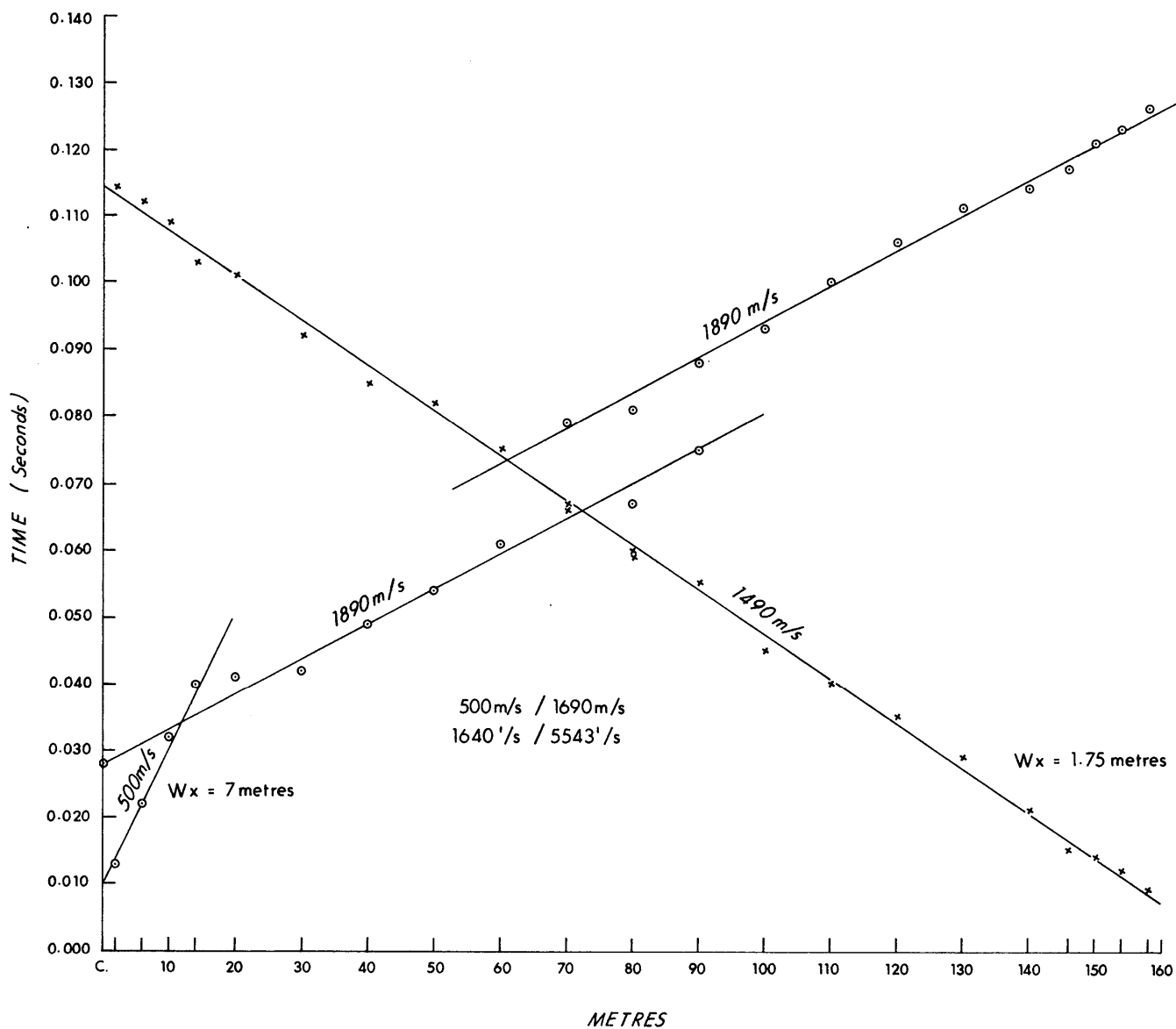
PE904837

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The enclosure PE904837 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE904837 has the following characteristics:

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CONTAINER_BARCODE = PE902709
NAME = Time-Depth points & Velocity Function
BASIN = GIPPSLAND
PERMIT = PEP 94
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = East Seacombe 1 Time-Depth Points &
Velocity Function. Figure 3 of Appendix
3 of WCR.
REMARKS =
DATE_CREATED = 14/07/80
DATE_RECEIVED = 29/10/80
W_NO = W733
WELL_NAME = East Seacombe-1
CONTRACTOR = Velocity Data Pty. Ltd.
CLIENT_OP_CO = Beach Petroleum N.L.

(Inserted by DNRE - Vic Govt Mines Dept)



BEACH PETROLEUM NO LIABILITY
EAST SEACOMBE No.1

REFRACTION PROFILES

Figure 5

SAMPLE	PERCENTAGE					SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST	PAGE
	SST	SHALE	LNST.	COAL	OTHER				
30-50'	100%					Sandstone: white to dark brown, loosely consolidated, very fine grained pebble grain size, subrounded, poorly sorted, mainly quartzose. Minor Mudstone, black carbonaceous good visual porosity	East Seacombe No 1	P.J.L. / J.D.P	1
60-90'	10%	tr.			90%	Sandstone: clear to white to light tan, loosely consolidated, very fine grained to coarse grained, subrounded, well sorted, mainly quartzose, some minor grains are iron stained Mudstone light brown, very soft, sticky, hydratable			
90-120'	20%				40	Sandstone: As above, with minor calcite material Mudstone: As above			
					40	Siltstone: light brown, unconsolidated. Similar to claystone ^{mudst} above, but silt size grains.			
120-150	40%					Sandstone: As above			
					20%	Muddy Siltstone: ^(from 140') grey, soft to firm, with abundant fossil fragments (mainly bivalva with common gastropods, and echinoid spines).			
					40%	Mudstone: As above			
150-180	60%				40%	Mudstone: black, firm-soft, carbonaceous Sandstone: As above, predominately very coarse grained.			
180-210	10%				90%	Mudstone: light brown, very soft, sticky Sandstone: As above Mudstone: (tr) As above.			
210-240						As for 180-210'			
240-270	tr				100%	Mudstone: light brown, very soft sticky Sandstone: As above			

SAMPLE	PERCENTAGE					DESCRIPTION	WELL NAME	GEOLOGIST	PAGE
	SST	SHALE	LMS	COAL	OTR				
270-300	95%					Sandstone: Clear to white, loosely consolidated, angular to rounded, medium to coarse well sorted, quartzose, minor grey green lithic grains. Good visual porosity.	Cap 500 mile #1	WJL	2
300-330'						5% Mudstone A: black, firm - soft, carbonaceous, 'coaly' As for 270-300'			
330-360'	60%					20% Mudstone B: light grey, firm, matrix slightly calcareous, with small white quartz grains. 20% Mudstone A: As above Sandstone: As above			
360-390'	50%					Silty Mudstone: light grey, soft, abundant fossil fragments (echinoid spines, forams, bivalves, calcite fragments.) (becoming marly) 40% Sandstone: clear, white to light brown, loosely consolidated, subangular to rounded, ^{dom subangular,} coarse to very coarse, moderate sorting, 10% Mudstone A: as above			
390-420'						90% Marl: lgt gry to gry, soft, abundant fossil frags. Similar to silty mud, but marly. (Fossils inc. echinoid, spine + plate, ^{bryzoan} bivalves, turrella, smashed shells as calcite fra.) Sandstone: As above (predominantly angular) 10% Mudstone A: As above.			
420-450'						100% Marl: As above Sandstone: As above.			
450-480'						70% Marl: As above (fossil frags, dom calcite pieces. Pdb broken lge shells.) Sandstone: Clear to milky dom milky, loose, vfg - vcg dom cg, rounded to angular, dom sub rounded, mod sorting (SST could well be cavings). 30% Mudstone A A/A (not characteristic of env dep)			

SAMPLE #	PERCENTAGE					SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST	DATE
	SS	SHALE	LN	COAL	OTR				
480-				10		Lignite: black firm, fibrous, plant material evident minor pyritization. (equiv to prev black mudst) (Thin stringer).			3
				85		Marl: grey-dark grey, soft abundant fossils, fossil fragments. Fossils are well preserved ∴ quiet env dep.			
	5					Sandstone: A/A, grains up to pebble (possible cavings).			
510-540				90		Marl: A/A.			
				10		Mudstone: A/A			
	tr					Sandstone: A/A.			
540-570				50		Marl: A/A. becoming darker grey, weakly calc			
	50					Sandstone: Clear, milky to orange, dom milky, vfg to vcg dom cg, subang to rounded dom subround, moderately well sorted, some iron stained grains			
				tr		Pyrite: nodules,			
				tr		Lignite: A/A.			
570-600	50					Marl: A/A but quite silty, only slightly calc (649 1/2° dev)			
				tr		Pyrite: nodules			
	40					Sandstone: A/A.			
				10		Mudstone: A/A smaller rounded grains			
600-630	10					Sandstone B: White to grey, firm-hard, fg, subangular, moderate sorting, quartzose, calcareous matrix, cemented			
	10					Sandstone: A/A dom iron stained			
				80		Marl: A/A back to mud grain size, weakly calc.			

SAMPLE	PERCENTAGE					SAMPLE	DESCRIPTION	LOG	PAGE
	SST	SHALE	LNST	COAL	OTHR				
620-630	10%						Sandstone: clear-milky-yellow, loose, fg to vc; dom coarse, sub ang to round, dom subnd. mod sort		4
	45%						Calcarenite: wh-gy, firm-hrd, fg, subang, mod sort, quartzose, calc. matrix, cement		
					slat 40		slat grey-alk grey, soft, contains fos frags, hydratable, silty, moderate calcareous content		
				10%			Lignite: black, firm, fine grains. Minor pyritization		
				tr			Pyrite nodules:		
	3			3	90				
	3							remember volume in sieve before weighing after ^{upfront} returned	
560-590							siltstone mod-blue grey gd in part to upfront suba-subr chn sst. b a.a. abn small macro-micro foss to woody lignitic mat. Tr py and sl calc mtx		
							<u>GIPPSLAND?</u>		
590-720			100				calci siltite like grey mtr of silt size qtz grains + shell frags no of calc mtx firm ? br glauc + dk mafic mins. Top prob within zone (gradat)		
720-750			100				calci siltite gradat; calcarenite otherwise a.a. glauc to positive tite. no f/c (grainstone)		
750-780			100				as above		
780-810			100				as for 720-750		
810-840							as for 720-750		
840-870			100				" " "		
870-900			100				as above (~3% qtz grains) clean grainstone		
900-930			100				becomes skeletal limest with only very minor fossils minor 2° calcite		
930-960			100				Limestone: lgt grey, mod hrd, skeletal, some grain supported, minor quartz		

P. NTA					WELL NAME		GEOLOGIST		PAGE
SAMPLE	SST	SHALE	LMST.	COAL	OTHER	SAMPLE DESCRIPTION			5
960-80			100			Limestone: lgt gry - wht, firm, skeletal grainstone. Minor accessory iron stained quartz, dom vcg. Fossils include shell frags, bryzoan, calcite pieces, echinoid spines.			
			r			Calcarenite: lgt gry, mod hd, matrix vfg qtz grains. Lgt grn lithics & very minor drk grns as access.			
970-80						A/A.			
980-90						A/A.			
990-1000			60			Limestone: A/A.			
			38			Calcarenite: A/A.			
	21.					Quartz: Yellow-brn, dom vcg, sub ang - subrnd, dom subang. Grns single & discrete, iron stained.			
1000-10						A/A.			
1010-20						A/A.			
1020-30			10			Limestone A/A.			
			30			Calcarenite AA (quartz abs).			
1030-40						A/A.			
1040-50						A/A.			
1050-60			40			Limestone: A/A			
			60			Calcarenite: A/A becoming very hard. (lge pieces 10mm coming up.)			
	r					Quartz: Orng-clear, subang-rnd, dom sub-rnd, med-vcg dom eg, med sorting. Grns single & discrete, some iron stained.			
1060-70						A/A. Rare Quartz			
1070-80						A/A "			
1080-1090						A/A "			

SAMPLE	PERCENTAGE				SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST	6
	EST	SHA	LMST.	COA				
100-100			40		Limestone: lgt gry-wht, firm, skeletal grainst. Foss frags inc Bryzoan (some black shell frags, calcite chips, echeinoid spines.			
			60		Calcarenite: lgt gry, v hrd., matrix vfg qtz. Acces lgt grn lithics, minor drk lithics			
1100-1110			40		Limestone: A/A rar: <i>Frams quinqueloculina</i>			
			60		Calcarenite: A/A			
	hr				Quartz: Orng-dr, ang-rounded, dom sub rnd, med-vcg dom cg, mod sorting. Crns single & discrete, some iron stained.			
1110-1120					A/A			
1140-50					As for 1110-1120			
1150-60					" " " "			
1160-70					" " " "			
1170-80					" " " "			
1180-90			70		Calcarenite: A/A			
			30		Limestone: A/A			
1190-1200					As for 1180-90			
1200-10					As for 1180-90			
1210-20			10	35	Calcitertite: drk gry, firm-stf, calcite matrix clay size grains, possibly quartzos.			
			55		Limestone: A/A			
					Calcarenite: A/A.			
1220-30					As for 1210-20			
1230-40					" " " "			

SAMPLE	PERCENTAGE				DESCRIPTION	WELL NAME	GEOLOGIST	PAGE
	SSL	SH	LMSL	OS				
1240			10%		Limestone: lgt gry-wht, fm, skeletal grainst. Foss frags inc bryzoan, echinoid spines, shell frags, calcite chips			
			50%		Calcarenite: lgt gry vhrd matrix vfg, Acces lgt grn, dark lithues, visible upc dissolution			
			40%		Calclentile: drk gry, fm sft, matrix clay size grains possibly quartz			
1250-60					As Above			
1260-70					" "			
1270-80								
-90					limestone skeletal lmsl grading to calcilutite			
-1300					see my sa qtz grns clear			
1300-1330					limestone ca (70-00)			
1330-50					lmsl becoming progressively calcilutite.			
1350-80								
1380-1410								
1410-20								
1420-1450								
1450-41					lmsl as mud grading to mud & calcarenite with shell frags.			
1490-1410					lmsl becoming more skeletal.			
1510-40					lmsl ca.			
1540-60					lmsl ca with thin interbeds of marl grey calc			
1560-70					lmsl sl more argill.			
1570-1600					lmsl gradist & calcilutite & skeletal? to glauc replacement / infill etc			
1600-20/20					lmsl ca			

shell frags deepods, lime mud pellets, echinoid spines, shell frags w/rd, forams.
 10% dolomite mtx
 lmsl fine grey microx dew after CO₂
 trend of gradual increase in org factor
 in part grading to v calc marl.
 remain similar.

SAMPLE	LITHOLOGY				SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST	PAGE
	SST	SHALE	LMST.	COAL				
1620-40			150			East Genesee #1	JPL	8
1640-1660					limestone			
1660-1680					limestone			
1680-1700					limestone			
1700-20					limestone			see to mark
1720-40					limestone			
1740-60					limestone			
1760-80								
1780-100								
1800-20								
1820-40								very little interbedding of venetian as above in
1840-60								eg. uniform
1860-80								
1880-100								
1900-20								
1920-40								
1940-60								
1960-80								
1980-100								
2000-20								prob. more calc.
2020-40			100		limestone			
2040-60					limestone: a/a. ← becoming more marly			
2060-80					" "			
2080-100					as for 2040-60			
2100-20					ATA			
2120-40					ATA			

SAMPLE	SS	SHAL	LMS	COAL	OTHER	SAMPLE DESCRIPTION	WELL NAME	GELOC
2130-40			100			Limestone: consists; (i) Calcareite, white to lgt brn, loose, skeletal. Fossil frags inc bilvalves, echinoid spines + plates, calcite frags, bryozoan. (ii) Calcilutite, lgt gy, v hrd, matrix vfg, and		1/24 / 1/L
2140-50			100			A/A		
2150-60			100			A/A		
2160-70			100			A/A		
2170-80			100			As above to		
2180-90						A/A		
2190-200						A/A		
2200-10						A/A rare forams.		
2210-20						A/A		
2220-30						A/A		
2230-40						AA trace fossils gradng to mud-grey, v calc, sl silty (calc. gray) to g/l		
2240-50						as ab becoming more muddy. increasing thin mud shaly		
2250-60						AB ABOVE		
2260-70						A/A		
2270-80						A/A		
2280-90						A/A		
2290-300						A/A		
2300-10						A/A all not calcitic		
2310-20						"		
2320-30						"		
2330-40						AP		

LE	SHALE	COAL	DES	TIC	10
234-10					limestone (calcareous - calcitic - marl) light medium blue grey. fern to base fauna - corals bryozoan, pleurozoa, gastropods (fossils); forams. Poor p. str py, clay to glass, see the interbeds of marl and fine grey. silty. lenses of dol. Mx in pt mica & talc in part of argil. Pyrite in part of joint frag. has large rounded.
2360-80					ca
240-240					limestone
2400-20					ca
2420-40					ca
2440-60					ca
2460-80					ca
2480-250					
2500-20					limestone containing 15-20% marl grey silty
2520-40					
2540-60					
40-60					
60-70					
70-90	50	50			soft marl c.c. with calc laminae
-10	60	20			col. gd to silty
-20	75	25			soft 25% marl yellow to silty
-30	60	40			40% silty
-40	70	30			30% silty
-50	95	5			st silty
-60	95	5			limestone only minor silty
-70					

↑ more pyrite
↑ more silty

SAMPLE	SS	SH	LS	OT	OTHER	SAMPLE DESCRIPTION	WELL NAME	SECTION	n
2670-80			70		70	Marl: lt gry - gry, soft, weak - mod calc cont; Limest: calcisiltite, lg gry - white, fossil frags abund, inc Bryozoa, bivalves, echinoid spines, forams, gastropods, ^{corals} Calcisiltite, gry, sft fm, some ^{with} interbed calc frags. Access pyrite, nodular + disseminated, glauconite; sp after forams	9th Can Sewer	12/11	11
2680-90						A/A.			
2690-100			30		70	A/A, marl appears less calcareous, ^{rare} spicules prob are fossil frags			
2700-10						A/A			
2710-20					Marl	A/A inc in pyrite, both nodular + disseminated			
2720-30			30		70	Limestone calcisiltite - calcarenite lt grey - olive white gms mud pellets, shell frags > 10/ g/2 gms. low of Fe dol, Fe py inc with dol Marl soft - sft fm calc content abundant shell frags > 10 frags. comment base bed lithology is probably marl with thin lm stringers			
2730-40			30		20	as for 20-30			
2740-60			70		80	as above			
2750-80			70		80	as above			
2780-280			80		90	as above			
2800-10			85		95	as above			
2810-30			8		95	as above			
2830-40			15		85	as above			
2840-50			-		100	marl gradng in part to very calcareous siltstone. ^{arg eol. fct. re.} gms calcareous pellet			
2850-60					100	marl aa			
2860-70					100	marl aa			
2870-80					100	Marl: lt gry, mod soft - fm, mod calc, a/a			
2880-90					100	as			

SAMPLE	PERCENTAGE					SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST
	SST	SHA	LMST	COA	OTHER			
2890-900					100	Marl: lgt gry, mod soft firm, mod calc	Tag Sarambel	JDCP/PJL
2900-10					100	Marl: A/A		
2910-20					100	Marl: A/A		
2920-30					100	A/A		
2930-40					100	A/A		
2940-50					100	A/A		
2950-60					100	A/A. approx 20-40% calcareous.		
2960-70						A/A		
2970-80						grading to calc siltstone		
2980-90						A/A		
2990-200					100	Calcareous Siltstone: lgt gry, firm to mod hrd. Calc content \approx 10%. minor forams		
						Pyrite: nodular, and more commonly, finely disseminated, increasing c		
3000-10						As for 2990-2000		
						tr Glauconite: vfg-st, ^{flakes} associated with Calcisiltite, wht, hrd, cemented?		
3010-20						As Ab		
-30						calc silt lgt gry blue tan to mod hrd calc: grad above into calc & org silt		
-40						org for mass & mass		
-50						silt		
-60								
-70								
-80								
-90								
3070-320						silt		
-20						!!		

SAMPLE	PE	SHALE	LNST.	COAL	OTHR	SAMPLE	DESCRIPTION	LL	ME	OLC	FA
								Land Sec comb No 1	90/112	12	
3120-50							red c.c.				
40-50											
50-70											
70-80											
80-3200											
3200-20											
20-40											
40-60											
60-80											
80-3300											
3300-70											
70-80											
80-3300											
3300-70											
70-80											
80-3300											
3300-3400											
3400-10	1000						Calcareous siltstone, lgt grey-gry, fm mod hrd, calc cont ≈ 20% - 10% tr Pyrite, common + finely disseminated, rare glauconite.				
3410-20							A/A.				
3420-30							A/A, minor forams, tr glauconite				
3430-40							A/A, interglauc, assoc with calc siltstone A/A + calc mudst, wht-v lt grey, v sft				
3440-50	60						Calc. Sst A/A - tr disseminated pyrite				with glauc grains throughout
3450-60	40						Calc Mudst A/A: ^{heavy trace 23%} glauconite glauc cont, tr				
3460-70							calc silt gy c.c. calc - v calc				

SAMPLE	SST	SHAL	LN	LMST	COAL	OTHER	SAMPLE DESCRIPTION	East Seawater 01	WEL	AME	GEO	SI
3470							calc sst cc					
-90												
3490-3510							glauco + dec to trace					
3510-30							calc sst cc + minor (<35% limst l't cream - buff (qtz grains in calc mtx) no vis of glauc, py +					
3530-40							calc sst cc - limst + dirty sst grading from limst, ss					
3540-50							cc					
50-70							calc sst + limst (<35% sst of arenite with calc cement) <20% sst glauc low -					
70-80						sst	calc sst cc glauc + py - calc					
3589-91	80					20	sandstone fine grained, firm - wh. gran abundant glaucer mtx prob siliceous low vis of. Prob relates to buffed. T1 sst.					
3591-3600	100					100	sandstone clear, sub- - rd qtz grains, loose well sorted no mtx good vis of clear coarse with ss + f4/r d.b.					
3600-10	100					100	sandstone cc					
3610-20							sandstone cc					
3620-30							sandstone cc but has become very fine - fine grained, well rd well sorted fine, comes up in discrete zones. probably related to - ss + bad embedded with very hard rictalite					
3630-40												
3640-50	60					40	silt H brown ^{brown grey} of qtz with ? carb frags a rictalite l. rictalite but prob fq. of sub-					
3650-60-70	10					40	silt cc					
3660-70-80	40					50	silt + sst cc with fr - if lignite brown soft dirty returns					
3680-90	100					100	ret coarse - sand, well sorted, clear, good vis of no mtx fine					

3590

SAMPLE	PERCENTAGE					SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST	PAGE
	SST	SHA	LNST	COA	OTHER				
3690						sd(1) coarse graded a.c. → also sst(2) fine graded sub-r-r clear	East Seacombe #1	JK	15
3700-10						sd(1) & (2) ca. ^{see more body sorted.} lignite ca 5% ; dolomite 2% brown (doc) L (dol not in fact)			
3710-20						sd become more fine grained fine-course and see more angular sub-r-r is more body sorted. in sd that has entirely done of bright blue-white flour with good fine streamers blue white at rest.			
3720-30						dolomite a.c. (25-33')			
3730-40	100					sd cg sub-r-r well sorted clear loose gr. zone.			
3740-50	100					sd - -			
3750-60	100					sd of-fg sub-r-r well sorted			(poor samples)
3760-70	100					sd - -			
3770-80						sd clear course gr. ^{course 5'} sub-r-r well sorted loose matrix good vis of			no flk
3780-90						sd - - dol 100% 3783-88 sd (88-90) clear large grains, good well id, well sorted no mtx no flk			good vis of
3790-100						sd a.c.			
3810-30	100					<u>Sandstone</u> : wh-grey, loose, vfg - vcg dom cg, subang-rnd dom rnd. <u>Lignite</u> : drk brn-blk, firm, fine diss pyrite, plant mat visible in 500 grms. well-sorted, good vis of, no matrix, flk			good infere porosity
3820-40	95					5 Sandstone: A/A			
						10 Dolomite: firm, well sorted (fine streamers) silty, brown firm, carb fr			
						8 Lignite: A/A ^o ; also prob assoc nodular py.			
3840-60	95					Sandstone A/A dom vcg, rounded.			
						8 Lignite A/A			
						15 Dolomite A/A			

SAMPLE	PERCENTAGE				SAMPLE DESCRIPTION	WELL NAME	GEO. LIST	16
	SST	SHA	LMST	COAL				
3870-80					Sandstone: clr - milky, fg - vcg. dom vcg, sub ang - md dom ind, well sorted good inferred porosity.			
				5	Lignite: blk - brn, frm, fibrous, fine diss pyrite very common, assoc nodular pyr			
					Dolomite: brn, v hrd, (poss cavings)			
	tr				Sandstone (2): assoc with lignite, vfg, clr, submd, mod sorted, !: ssts possibly interbedded.			
3870-80				5	Lignite A/A, v common nodular py			
	90				Sandstone A/A			
	tr			1	Sandst B: A/A.			
				5	Dolomite: A/A			
3880-90	100				Sandstone: Milky, loose, vfg - cg, dom cg.			
3890-00	100				red cg silt (2)			
3900-10	30			20	red ss 3909 - dolo.			
3910-20				100	dol 3809-19 brn bed ss			
3920-30	5			75	Lignite brown, fibr, cherty fin < 5% red ss.			
3930-40				10	Lignite ss			
3940-50		50		40	Lignite - ss red chert brown very carb fr py fin			
3950-60	100				sandstone coarse gr sub-r well sorted ss f/c no red x vfg v.s.f			
3960-70	60				red ss bright blue to show white milky cut + milky residues			
3970-80	50			30	red + silt ss			
3980-90	100				red ss			
3990-00					red ss < 5% , red (ss) vfg - dg well sorted silica little matrix poor v.s.f grades to siltstone			
					from to carb med the clay? mat for white - grey. brn.			
					red cg variety			

No lignite has
has milky cut and

SAMPLE	PERCENTAGE				SAMPLE DESCRIPTION	WELL NAME	DATE
	SH	LN	OM	OTHER			
402					rest lignite		
30-4					rest lig		
40-10					lig		
50-60					lig		
60-70					lig		
70-80					lig		
4080-90			50		^{- sub bitum coal} Lignite: drk brn - blk, mod hrd - fm, sub bitumous, some cut (grn-slit) slight sheen on tal faces, common diss pyrite, slightly fibrous.		
	50				Sandstone: Milky, loose, mg-vcg dom veg, sub ang - sub md dom abrnd, mod sorting, quartzose, good vis ϕ		
4090-00			100		Lignite a/a.		
4100-10			100		Lignite a/a (drk brn - blk)		
4110-20			100		a/a		
4120-30			100		a/a		
4130-40			100		a/a		
4140-50					Sandstone: Clr - mlky, loose, fg - vcg dom veg, sub ang - rounded dom subnd mod sort, good vis ϕ		
	70%						
	20%				Dolomite: grn - gry, v hrd, ^{vtg} prob dolomitic, poor ϕ , minor carb mat, ^{mineral} minor floresc, no cut		
	10%				grading to brn - grn, fm - hrd, dol in pit, diss glauconitic		
					Siltstone Pyrite: nodular		
4150-60	40				Sandstone: A/A		
	40				Dolomite: A/A dolomitic, minor ^{mineral} florescence, no cut		
		10			Siltstone: brn, soft - fm, minor facility, micaceous carb		
					Pyrite / A/A		

SAMPLE	PERCENTAGE					SAMPLE DESCRIPTION	WELL NAME	GEOLOGIST	IN
	SST	SHAL	LSST	COAL	OTHER				
4160-00	30					Sandstone A: clr milky, loose, fg-vcg dom vcg, subang-rounded dom subind, mod cont carb. vis ϕ .			
			60			Dolomite: lgt brn, very hrd, vfg, dolomitic, poss glauconitic mineral fluorescence, no cut.			
				10		Siltstone: brn, sft fm, minor facil, micaceous.			
4170-80	50			50		^{fine} Sub Bit Coal: Blk-drk brn, sft fm, disseminated py, sft grn cut, dirty, low gas assoc. Sandst: lgt brn clr milky, ang-subrnd dom subrnd, fg-vcg dom cg, moderate sort. Silt			
4180-90				100		Sub Bit Coal: a/a dirty, low gas read assoc.			
4190-00				100		A/A.			
4200-10		50				Mudstone: fawn, soft, sticky			
				50		Sub Bit Coal: a/a			
4210-20						Sandst vfg-fg well sorted less clay int.			
4210-20		50				Muddy siltstone: fawn-lt brn, soft, sticky			
		50				Sandstone: milky, loose, vfg-fg, subrnd, well sort			
4220-30	100					Sandstone: clr-milky, loose, cg-vcg dom vcg, subrnd-sub ang dom subrnd, quartzose.			
4230-40	100					Sandst: A/A			
4240-50	100					Sandstone: ϕ a/a fg			
4250-60	100					A/A			
4260-70	100					Sandstone: clr-milky, loose, cg-vcg, subang ^{-granule}			
4270-80	100					a/a			
4280-90	100					a/a			

SAMPLE'S	PER	TAG	LL	ME	OLC	PA
SST	SHALE	LNST.	COAL	OTHR	SAMPLE	DESCRIPTION
4200-0	100					Sandstone: clr-milky, loose, mg - vcg dom vcg, mod sort, quartzose sub ang - subrnd, dom. sub ang.
4300-10	20	80				Sandstone: a/a (inferred from dfr; siltst/mudst prob lost in mud stream) 21 JUN 19
4310-20	100					Sandstone: a/a eg - gran
4320-30	100					Sst: a/a
4330-40		80				Muddy Siltstone: lgt brn, soft, sticky Sandst: a/a
4340-50	100					Sandst: a/a, fg - vcg (inferred dom fg)
4350-60				100		Siltstone: lght-med brwn + dk chn siltst/fg (fully calc. bedded, non calc. chn. shatter) calc mat on bedding planes 57-71 Int 71-99 Brn sst with thin silt stringer 99-4400 silt → silty sst.
4360-70						Snd vcg ang - subr well sorted matrix in soft. dr. soluble white clay (Kistm?) also in sample in thin clay as for matx occ brn staining
4370-80						sandst or. up to granular.
4400-10						sst or with occ lithic granules (grey opaque micro stellite)
4410-30						sst or
4430-40						sst or occ brn staining
4440-50	20	80				Sst or with occ pyrite cont + invs l.lk pebbles Siltst l grey, non calc, dispersive, mod tostr on vesing, soft-firm. Fusarile slightly silty Siltst or py invs l.lk frags mat
4450-60						

OIL and GAS DIVISION

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CR-G-63/D

PE904838

This is an enclosure indicator page.
The enclosure PE904838 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE904838 has the following characteristics:

ITEM_BARCODE = PE904838
CONTAINER_BARCODE = PE902709
 NAME = Geographic Location Map
 BASIN = GIPPSLAND
 PERMIT = PEP 94
 TYPE = WELL
 SUBTYPE = MAP
 DESCRIPTION = East Seacombe 1 Geographic Location
 Map. Figure 1 of WCR.
 REMARKS =
 DATE_CREATED =
 DATE_RECEIVED = 29/10/80
 W_NO = W733
 WELL_NAME = East Seacombe-1
 CONTRACTOR =
 CLIENT_OP_CO = Beach Petroleum N.L.

(Inserted by DNRE - Vic Govt Mines Dept)

PE902710

This is an enclosure indicator page.
The enclosure PE902710 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE902710 has the following characteristics:

ITEM_BARCODE = PE902710
CONTAINER_BARCODE = PE902709
NAME = Time-Depth & Velocity Curves
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Time-Depth & Velocity Curves
REMARKS =
DATE_CREATED = 14/07/1980
DATE_RECEIVED = 29/10/1980
W_NO = W733
WELL_NAME = East Seacombe-1
CONTRACTOR = Beach Petroleum NL
CLIENT_OP_CO = Beach Petroleum NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE601403

This is an enclosure indicator page.
The enclosure PE601403 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE601403 has the following characteristics:

ITEM_BARCODE = PE601403
CONTAINER_BARCODE = PE902709
 NAME = Exploration Logging Mudlog
 BASIN = GIPPSLAND
 PERMIT =
 TYPE = WELL
 SUBTYPE = MUD_LOG
 DESCRIPTION = Exploration Logging Mudlog
 REMARKS =
 DATE_CREATED = 12/07/1980
 DATE_RECEIVED = 29/10/1980
 W_NO = W733
 WELL_NAME = East Seacombe-1
 CONTRACTOR = Exploration Logging
 CLIENT_OP_CO = Beach Petroleum NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE601404

This is an enclosure indicator page.
The enclosure PE601404 is enclosed within the
container PE902709 at this location in this
document.

The enclosure PE601404 has the following characteristics:

ITEM_BARCODE = PE601404
CONTAINER_BARCODE = PE902709
NAME = Composite Well Log
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = COMPOSITE_LOG
DESCRIPTION = Composite Well Log
REMARKS =
DATE_CREATED = 13/07/1980
DATE_RECEIVED = 29/10/1980
W_NO = W733
WELL_NAME = East Seacombe-1
CONTRACTOR = Beach Petroleum NL
CLIENT_OP_CO = Beach Petroleum NL

(Inserted by DNRE - Vic Govt Mines Dept)