BEACH PETROLEUM N.L.

(Incorporated in South Australia)

PEP 105
OTWAY BASIN

FAHLEY NO. 2
WELL COMPLETION REPORT

TEXT & APPENDICES

BY

B.L. RAYNER & A. TABASSI
APRIL 1988

WCR VOL 1

FAHLEY-2

BEACH PETROLEUM N.L.

FAHLEY NO. 2

PEP 105 OTWAY BASIN, VICTORIA

WELL COMPLETION REPORT

B.L. Rayner
A. Tabassi
April, 1987

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SUMMARY

Fahley No. 2 was drilled as a wildcat exploration well in PEP 105 Otway Basin, Victoria, approximately 25 km south east of Mount Gambier.

Participants in the well were Beach Petroleum N.L. (Operator), Gas and Fuel Exploration N.L., SOCDET Production Pty. Ltd., and Conex Australia Ltd.

The well was designed to test the hydrocarbon prospectivity of the Pebble Point Formation and Paaratte Formation at a structurally high point of a seismically defined dip/fault culmination. This feature was first tested in 1985 with Fahley No. 1 which encountered a good wet gas show in the Pebble Point Formation.

Drilling commenced on the 11th August, 1987 and reached a total depth of 1300m on the 20th August, 1987.

At total depth the following wireline logs were run: Dual Laterolog/Microspherically Focused Log, Gamma Ray/Sonic Log and a Velocity Survey. Coring and testing operations were not performed.

Significant hydrocarbon shows were not observed in either cuttings or the drilling mud and the wireline logs did not identify any anomalous zones.

Fahley No. 2 was plugged and abandoned as a dry hole on the 21st August, 1988.

PEP 105	OTWAY BASIN	FAHLEY NO. 2	BEACH PETROLEUM N.L.

Status: P & A, Dry Hole.

Location: Lat. 37° 58' 44.86"S Long. 141° 02' 47.01"E

Hole Size: 12¼" to 304m, 8½" to 1300m.

Seismic: SP318.5, OB84A WG243.

Casing Shoe: 301m.

Elevation: 26.8m G.L. 31.4 K.B.

Plugs: No. 1 1215-1165m, No. 2 1130-1080m.
No. 3 306- 258m, No. 4 Surface

Spudded: 11 August 1987. **Rig Release:** 21 August 1987.

Rig: O.D.E. Rig 19, Kremco K600H.

Rock Unit	KB(m)	Thickness(m)
Heytesbury Grp	Surface	287.4
Dilwyn Fm	292	666
Pember Mudstone Mbr	958	231.5
Pebble Point Fm	1189.5	31
Paar[illegible]e Fm	1220.5	109.5

Rock Unit	KB(m)	Thickness(m)
Total Depth (Driller)	1300m	
Total Depth (Logger)	1301m	

Logs: DLL/MSFL/SP/GR, GR/BHC, WST, Mudlog.

Tests: Nil.

Cores: Nil.

Summary & Conclusions:

Fahley No. 2 was a follow up well to good wet gas shows observed in the Pebble Point Formation at the No. 1 well.

No a[illegible]lous mud gas readings were observed nor was any oil fluorescence encountered in the well.

Prepared by: B.L. Rayner. Date: December 1987.

1. INTRODUCTION

The Fahley prospect was initially defined by the Beach 1984 Wanwin Gorae Seismic Survey and later refined by the Beach 1985 Wanwin Gorae Detail Seismic Survey.

Fahley No. 1 was tested this feature in 1985 and encountered good wet gas shows within the Pebble Point Formation. Two drill stem tests across the zone of interest in the No. 1 well were miss-run and as subsequent mechanical difficulties precluded the option of a cased hole test, the well was plugged and abandoned.

Additional seismic was acquired and interpreted elsewhere in the permit during 1986-87 which significantly improved the structural understanding of the region. The Fahley prospect was recognised to be larger than originally interpreted, with the No. 1 well located just within closure at base Tertiary level.

If the gas-liquid interface established at Fahley No. 1 was common to the entire prospect then significant volumes of wet gas may be contained in the stratigraphically older but structurally higher, porous and permeable sands of the Paaratte Formation.

Fahley No. 2 was designed to intersect the Paaratte Formation at a structurally high point of the Fahley Prospect. The Pebble Point Formation and intra-Pember Mudstone sands formed secondary targets.

2. WELL HISTORY

2.1 Location (See Figure 1)

Co-ordinates:	Latitude 37° 58' 44.86" S Longitude 141° 02' 47.01" E
Geophysical Control:	SP 318.5, OB84A WG-243
Real Property Description:	Parish of Palpara Shire of Portland County of Follett
Property Owner:	Department of Conservation, Parks, and Forests Division of Forests 601 Bourke Street MELBOURNE VIC 3000

2.2 General Data (See Figure 2)

Well Name and Number:	Fahley No. 2
Tenement:	PEP 105
Operator:	Beach Petroleum N.L. 685 Burke Road CAMBERWELL VIC 3124
Participants:	Beach Petroleum N.L. Gas & Fuel Exploration N.L. 171 Flinders Street MELBOURNE VIC 3000 SOCDET Production Pty Ltd 44 Margaret Street SYDNEY NSW 2000

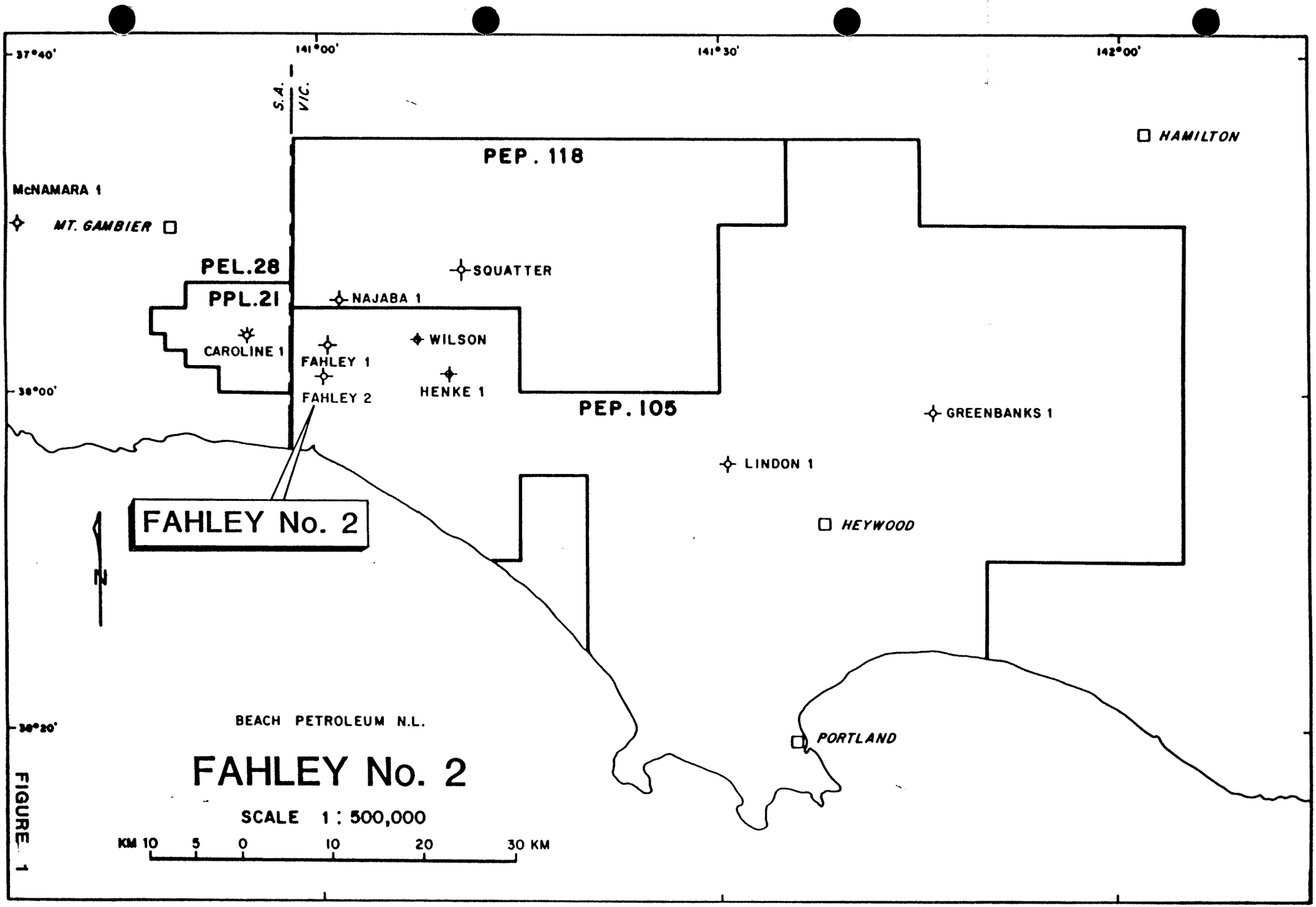
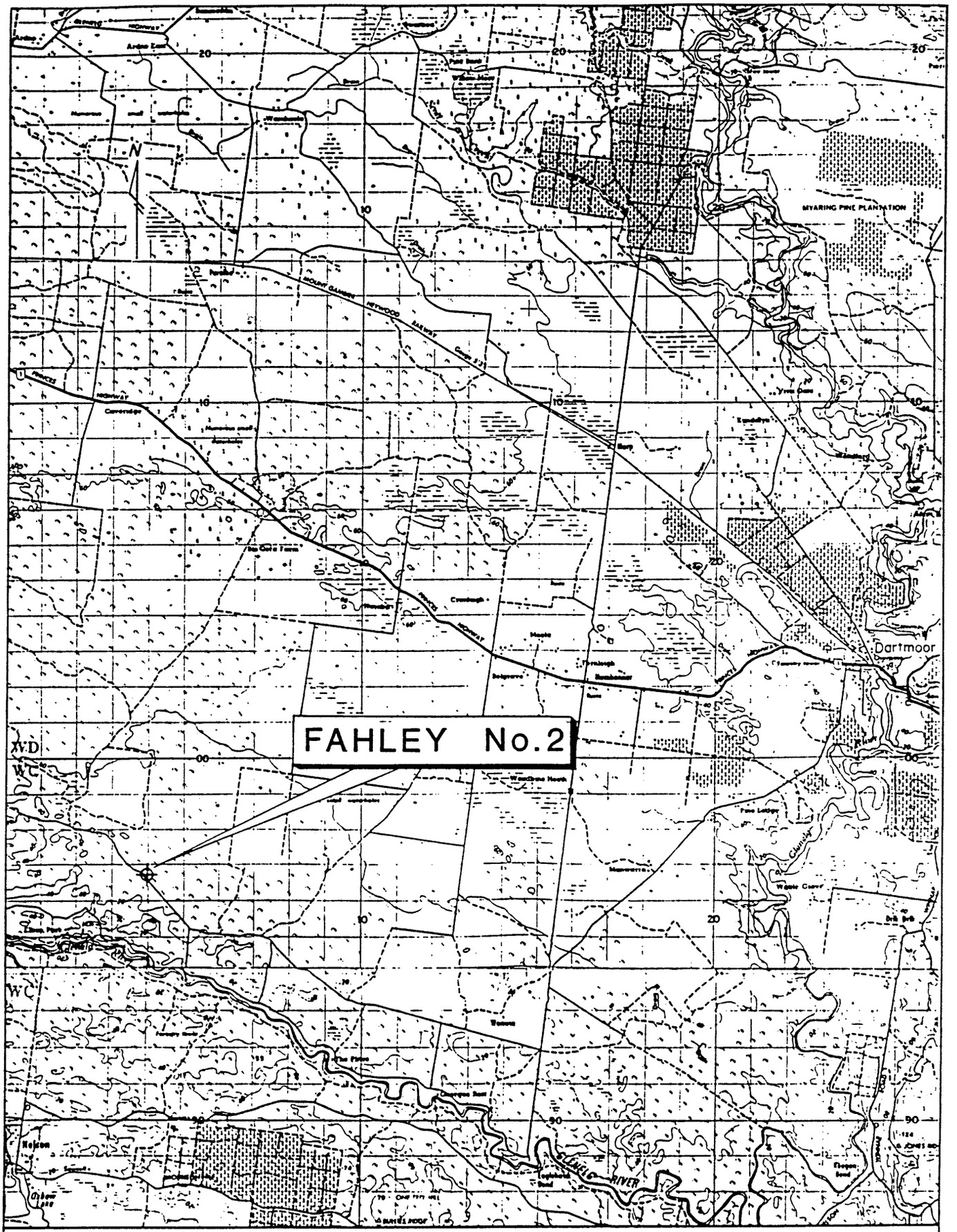

37°40'
141°00'
141°30'
142°00'
S.A.
VIC.
PEP. 118
HAMILTON
McNAMARA 1
MT. GAMBIER
PEL.28
PPL.21
SQUATTER
NAJABA 1
CAROLINE 1
FAHLEY 1
FAHLEY 2
WILSON
HENKE 1
38°00'
PEP. 105
GREENBANKS 1
LINDON 1
FAHLEY No. 2
HEYWOOD
N
BEACH PETROLEUM N.L.
38°20'
PORTLAND
FAHLEY No. 2
SCALE 1 : 500,000
KM 10 5 0 10 20 30 KM

FIGURE 1



BEACH PETROLEUM N.L.

FAHLEY No.2

DETAILED LOCATION MAP

0 1 2 3 4 5 6 7 Km

FIGURE 2

	Conex Australia Ltd 28 The Esplanade PERTH WA 6000
Elevation:	Ground Level 26.8m ASL Kelly Bushing 31.4m ASL (Unless otherwise stated, all depths refer to Kelly Bushing).
Total Depth:	Driller 1300.0m Logger 1301.0m
Date Drilling Commenced:	11th August, 1987 @ 1330 hours
Date Total Depth Reached:	20th August, 1987 @ 0700 hours
Date Rig Released:	21st August, 1987 @ 2200 hours
Drilling Time to T.D.:	11 days
Status:	Plugged and abandoned, dry hole.

2.3 Drilling Data (See also Appendices 1 and 2)

2.3.1 Drilling Contractor

O.D. & E. Pty Ltd
Westport Road
ELIZABETH WEST SA 5112

2.3.2 Drilling Rig

O.D. & E. Rig No. 19, Kremco K600H.

2.3.3 Casing Details

Conductor

A 16" conductor was set at 18m K.B.

Surface Casing

Size:	9-5/8"
Weight:	36 and 40 lb/ft
Grade:	J-55/N-80
Connection:	STC/BTC
Centralizers at:	295m, 285m and 275m across top rings
Float Collar:	288.0m
Shoe:	301.0m
Cement:	240 sacks Class "A" with 2% Prehydrated Gel followed by 162 sacks Class "A" Neat.
Cemented to:	Surface
Method:	Displacement
Equipment:	Dowell Schlumberger (Western) S.A.

Cement Plugs

Plug No. 1

Interval:	1215 - 1165m
Cement:	65 sacks Class "A" Neat
Method:	Balanced
Tested:	No

Plug No. 2

Interval:	1130 - 1080m
Cement:	65 sacks Class "A" Neat
Method:	Balanced
Tested:	No

Plug No. 3

Interval:	306 - 258m
Cement:	65 sacks Class "A" Neat with 2% CaCl2
Method:	Balanced
Tested:	5000 lb weight

Plug No. 4

Interval:	Surface
Cement:	25 sacks Class "A" Neat
Method:	Hand Mixed
Tested:	No

2.3.4 Drilling Fluid (See Appendix 3 for details)

12¼" Hole, Surface to 304m

The well was spudded using a high viscosity lime flocculated Bentonite mud with an average viscosity of 43 seconds. Typical mud properties were:

Weight:	9.2 - 9.3 ppg
PV/YP:	10/45
Gels:	32/40
Filtrate:	No control
PH:	11.0

8½" Hole, 304m to 1300m (T.D.)

This portion of the hole was drilled with a lime flocculated Bentonite Native Clay Mud.

While drilling through the Dilwyn Formation, prehydrated Bentonite, Lime, and Caustic were added to maintain viscosity at about 40 seconds.

At 846m, the bit was changed and a stabilizer added. When running back in, it was decided to ream from 585m to bottom. The mud viscosity was therefore increased to 48 seconds to prevent any sands from slumping.

At 945m, close to the top of the Pember Mudstone, preparations were made to change the mud to a 12% KCl Polymer system. Approximately 50 bbls of old mud were blended with 4% KCl Polymer and drilling was continued.

At the top of the Pember Mudstone Member premix KCL Polymer mud was added to build up circulating volume and gradually increase the KCl percentage to 12%.

From 1106m to T.D. the mud properties were:

Mud Weight:	9.5 ppg
Viscosity:	48 seconds
PV/YP:	25/20
Gels:	4/6
pH:	9.5
Filtrate:	4.7
Cl-:	61,000
KCl:	12%

2.3.5 Water Supply

Water for the drilling plant was obtained from a creek two kilometres from the wellsite.

2.4 Formation Sampling and Testing

2.4.1 Cuttings

Cuttings samples were collected at 10 metre intervals from surface to 900 metres, and at 5 metre intervals from 900 metres to T.D. Each sample was washed, oven dried, divided into 4 splits and stored in labelled polythene bags. One complete sample set was distributed to both the Gas and Fuel Exploration N.L. and the Victorian Department of Industry, Technology and Resources. The remainder have been retained by Beach Petroleum N.L.

In addition, from surface to T.D., unwashed samples were collected at 10 metre intervals. These samples were stored in labelled calico bags and allowed to dry in the sun. This set of unwashed samples has been retained by Beach Petroleum N.L.

2.4.2 Cores

(i) No conventional coring operations were performed.
(ii) No sidewall cores were collected.

2.4.3 Tests

No formation tests were performed.

2.5 Logging and Surveys (See Enclosure 1)

2.5.1 Mud Logging (See Enclosure 2)

A standard skid-mounted Exploration Logging unit was used to provide penetration rate, continuous mud gas monitoring, intermittent mud and cuttings gas analysis, pump rate and mud volume data.

2.5.2 Wireline Logging (See Enclosure 3)

Wireline logging was performed by Schlumberger Seaco Inc. using a skid-mounted Cyber Service unit. One suite was performed as listed below. An analysis of these logs is included in Section 4.2.

Suite No. 1

Dual Laterlog Resistivity (DLL/SP/GR/CAL)	301m - 1296m
Microspherically Focused Resistivity Log (MSFL)	850m - 1296m
Gamma Ray-Sonic Log (GR/BHC)	301m - 1299m

2.5.3 Deviation Surveys

A Totco double recorder 0 - 8° was used to measure hole deviation, the results of which are listed below:

Depth (m)	Deviation (°)	Depth (m)	Deviation (°)
30	0.50	623	0.75
94	0.50	787	0.75
160	0.25	941	1.00
216	0.25	1028	1.25
292.5	0.50	1085	1.50
375	0.00	1185	2.00
472	0.75	1290	2.00
547	0.50		

2.5.4 Velocity Survey

A velocity survey (WST) was carried out by Schlumberger Seaco Inc., the results of which are included as Appendix 4.

BEACH PETROLEUM N.L.

FAHLEY No .2

G.L. 26·8 MSL K.B. 31·4m MSL

DEPTHS REFER TO K.B.

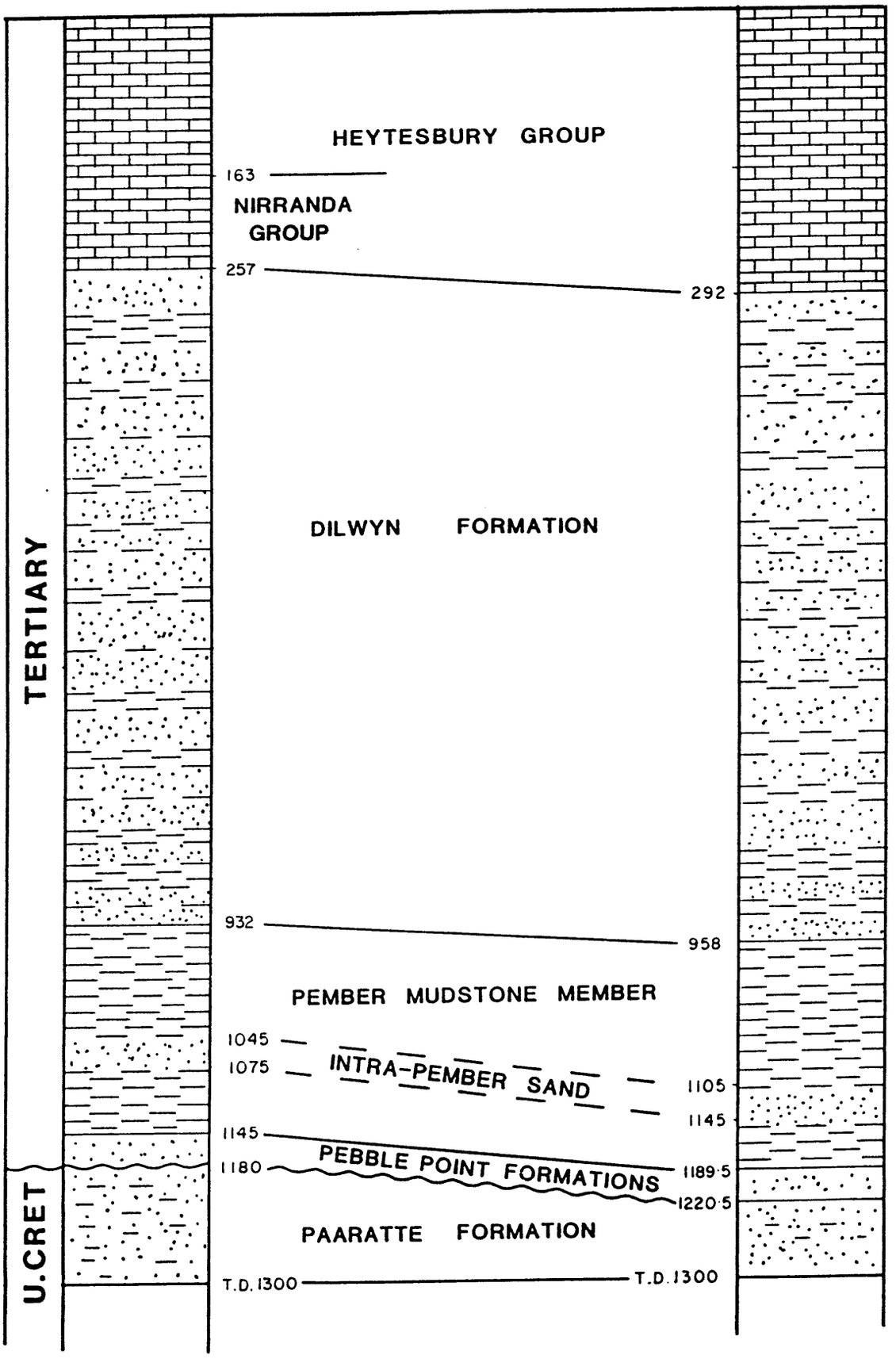


FIGURE 3

3. RESULTS OF DRILLING

3.1 Stratigraphy

The following stratigraphic intervals have been delineated using penetration rate, cuttings and wireline log analysis. All formations were present as predicted (Figures 3 and 4).

GROUP	FORMATION	MEMBER	DEPTH (K.B.)	THICKNESS
Heytesbury			Surface	287.4
Wangerrip	Dilwyn		292	666
		Pember	958	231.5
	Pebble Point		1189.5	31
Sherbrook	Paaratte		1220.5	79.5+
	T.D.		1330	

3.2 Lithological Descriptions

3.2.1 HEYSTEBURY GROUP (Surface to 292m)

Heytesbury Group (Undifferentiated)

Surface to 160m

CALCARENITE, off white to light grey, friable, 60 - 90% bryazoa fragments, trace to common glauconite, trace shell fragments and forams, occassionally micro to finely crystalline.

From 160m to 292m

CALCARENITE, as above, but yellow to orange, in part interbedded and intermixed with sandstone: yellow-brown, common clear to translucent quartz, loose, medium to very coarse, dominantly coarse grained, moderately sorted, subangular to subrounded, brown, iron-oxide stained quartz, with common calcarenite, trace brown clay matrix,

BEACH PETROLEUM N.L.

PEP 105/118 AND ENVIRONMENTS — OTWAY BASIN

STRATIGRAPHIC TABLE

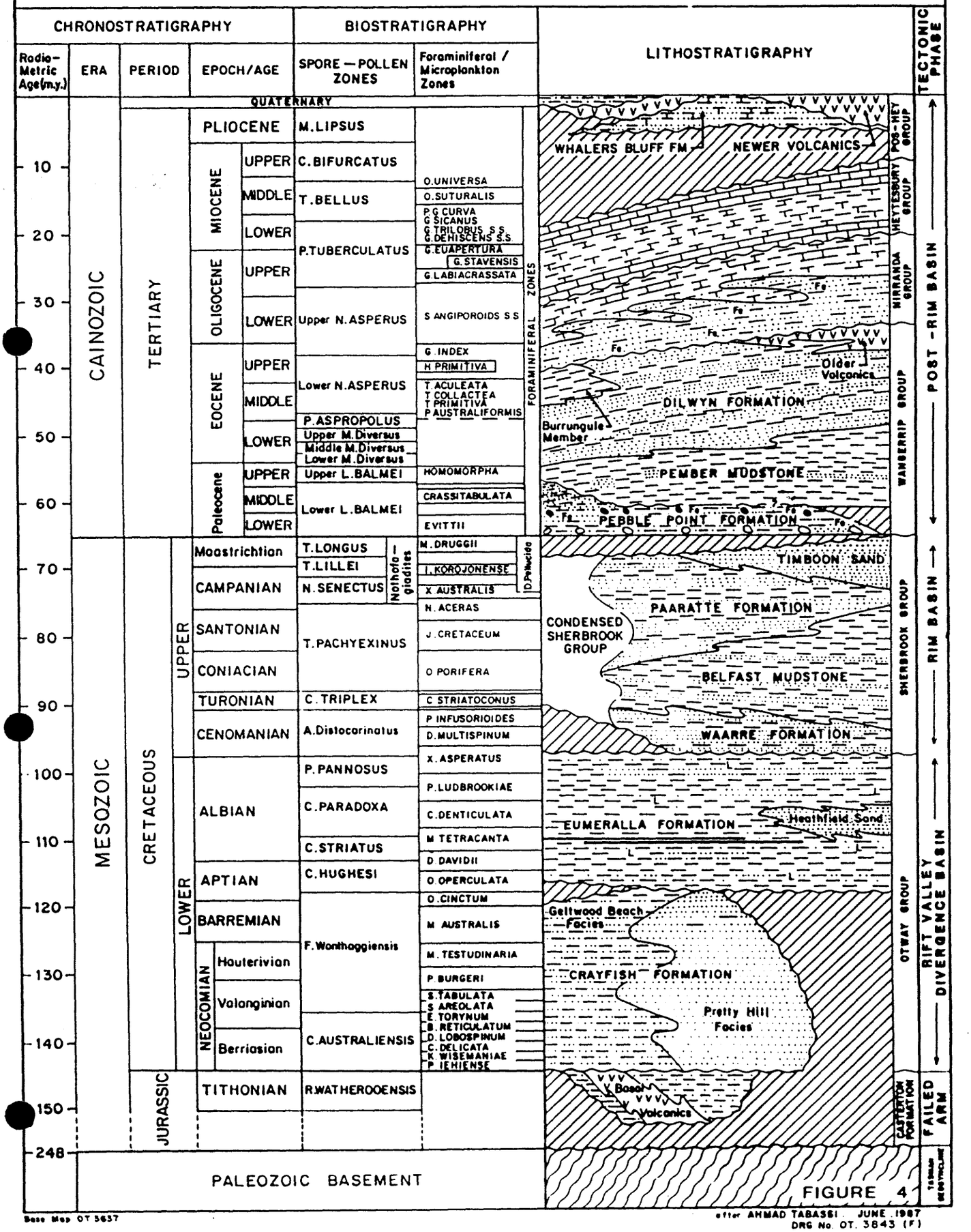


FIGURE 4

Base Map OT 3637

after AHMAD TABASSI. JUNE 1987
DRG No. OT. 3843 (F)

trace iron oxide rich clay pellets, fair visual porosity.

3.2.2 WANGERRIP GROUP (292m to 1220.5m)

Dilwyn Formation

292m to 958m

From 292m to 304m

CLAYSTONE, dark brown, very soft, massive, sticky.

From 304m to 440m

SANDSTONE, clear to transparent, occasionally opaque, occasionally red to brown, occasionally pale yellow, loose, fine to granule, dominantly medium to coarse grained, subangular to rounded, medium to poorly sorted, trace dark brown clay matrix, common pyrite, trace carbonaceous detritus, common coarse muscovite, very good porosity, interbedded with CLAYSTONE, dark brown, soft, very dispersive, silty, trace fine to coarse quartz grains, non-calcareous, interbedded with occasional bands of COAL, very dark brown-grey to black, dull lustre, silty earth texture, trace fine muscovite flakes.

From 440m to 958m

SANDSTONE, light brown-grey, off white becoming translucent at depth, loose, friable in part, very fine to pebble, dominantly medium to coarse grained, subangular to subrounded, moderately sorted quartz, nil to trace very light brown argillaceous matrix, trace multi-coloured lithics, trace carbonaceous and coally detritus,

trace pyrite, good to very good visual porosity, interbedded with CLAYSTONE, medium grey to medium brown grey, soft, dispersive, massive in part, subfissile in part, commonly micromicaceous, very silty in part, trace to common carbonaceous detritus, trace to common very fine quartz sand grains, grading to SILTY SANDSTONE with depth, interlaminated with COAL, black, very silty, soft, dull lustre, sub-vitrinitic in part, trace woody fragments, uneven fracture, subfissile in part.

Pember Mudstone Member 958m to 1189.5m

From 958m to 1103m

CLAYSTONE, moderate to dark grey to brown grey, becoming light to medium brown grey with depth, very soft, very dispersive, massive to subfissile, commonly micromicaceous, trace carbonaceous flecks, common pyrite, moderately silty in parts, minor very fine sandstone laminae, trace dolomite, rare forams.

From 1103m to 1115m

SANDSTONE, light brown grey to very light grey, friable, silty to coarse, dominantly very fine grained, becoming dominantly medium grained with depth, subrounded to rounded, poorly to moderately sorted, abundant medium brown clay matrix, common pyrite cement, trace mica, poor visual porosity, interbedded with CLAYSTONE, as above.

From 1115m to 1146m

CLAYSTONE, medium brown, light brown grey, soft, dispersive, silty in part, rarely arenaceous in part, calcareous in part, interbedded with SANDSTONE, clear to translucent, opaque in part, loose, very fine to coarse, dominantly medium to coarse grained, subangular to subrounded, poorly sorted, abundant light brown grey clay matrix, rare calcareous cement, trace pyrite, fair to poor visual porosity.

From 1146m to 1189.5m

CLAYSTONE, as per 958m to 1103m.

Pebble Point Formation

1189.5m to 1220.5m

SANDSTONE, light to medium grey brown, becoming light to medium grey with depth, friable, hard in part, very fine to very coarse, pebbly in part, dominantly medium to coarse grained, subangular to subrounded, poorly sorted, mostly medium brown iron stained quartz, abundant medium brown grey, medium green (chloritic?) and rare white kaolonitic clay matrix at top becoming medium brown grey matrix towards base, trace calcareous cement, trace glauconite?, trace dark grey lithics, no visual porosity, trace mineral fluorescence, interbedded with CLAYSTONE, mottled light grey-green, medium grey, very light grey to off-white in part, soft, dispersive, slightly silty in part, rare very fine quartz grains in part, trace very fine carbonaceous detritus,

trace mica, trace fine green or dark green lithics.

3.2.3 SHERBROOK GROUP (1220.5m to 1330.0m, T.D.)

Paaratte Formation

From 1220.5 to 1255.0m

SANDSTONE, clear to translucent, medium to pebbly, dominantly coarse to granule, subangular, poorly sorted quartz, trace light grey clay matrix, common strong pyrite cement, trace siliceous cement, trace carbonaceous material, trace mica, fair to good visual porosity, no fluorescence, no cut, interbedded with CLAYSTONE, medium brown-grey, soft, silty in part, dispersive, massive, trace carbonaceous specks, trace fine quartz sand grains.

From 1255m to 1300m (Total Depth)

SANDSTONE, as above, becoming medium to coarse and moderately sorted, interbedded with CLAYSTONE, as above.

3.3 Hydrocarbon Indications

3.3.1 Mud Gas Readings

The gas detection equipment was operational from surface to total depth.

A background gas of trace C_1 was relatively constant throughout the entire section. No anomalous mud gas readings were observed.

3.3.2 Sample Fluorescence

Cuttings samples were routinely inspected for oil fluorescence at 10 metre intervals from surface to 900 metres and at 5 metre intervals from 900 metres to T.D.

No oil fluorescence, cut, oil stain or odour was observed in any cuttings from the well.

4. GEOLOGY

4.1 Structure

The Fahley prospect was initially defined by the Beach 1984 Wanwin Gorae Seismic Survey and later refined by the Beach 1985 Wanwin Gorae Detail Seismic Survey.

Fahley No. 1 tested the feature in 1985 and encountered good wet gas shows within the Pebble Point Formation prior to being plugged and abandoned.

The structure was subsequently remapped in 1986-87 using the Fahley No. 1 results and some reprocessed seismic lines.

The current interpretation places Fahley No. 1 just within closure of a larger structural feature than originally interpreted. The prospect is a northeast plunging nose sealed by the down-to-basin northwest-southeast trending Palpara Fault. Numerous subparallel faults also cut across the structure but they are not laterally extensive and have a small throw.

At base Tertiary level an areal closure of 9.2 km^2 had been mapped with a vertical closure of 60 metres.

Fahley No. 2 was located at SP 318.5, OB84A WG-243 (See Figures 5 and 6).

4.2 Porosity and Water Saturation

A Schlumberger Dual Laterolog/Microspherically Focused Resistivity Log and a Sonic Log was recorded at total depth. No conventional cores were cut and no formation tests were performed. Therefore all porosity and saturation estimates are log derived.

The Dilwyn Formation contains a sequence of relatively clean quartzose sandstones with minor interbedded claystones. Fair to good reservoir properties are found throughout this interval with sonic porosity estimates in excess of 30% and Vclay an average of 0.28.

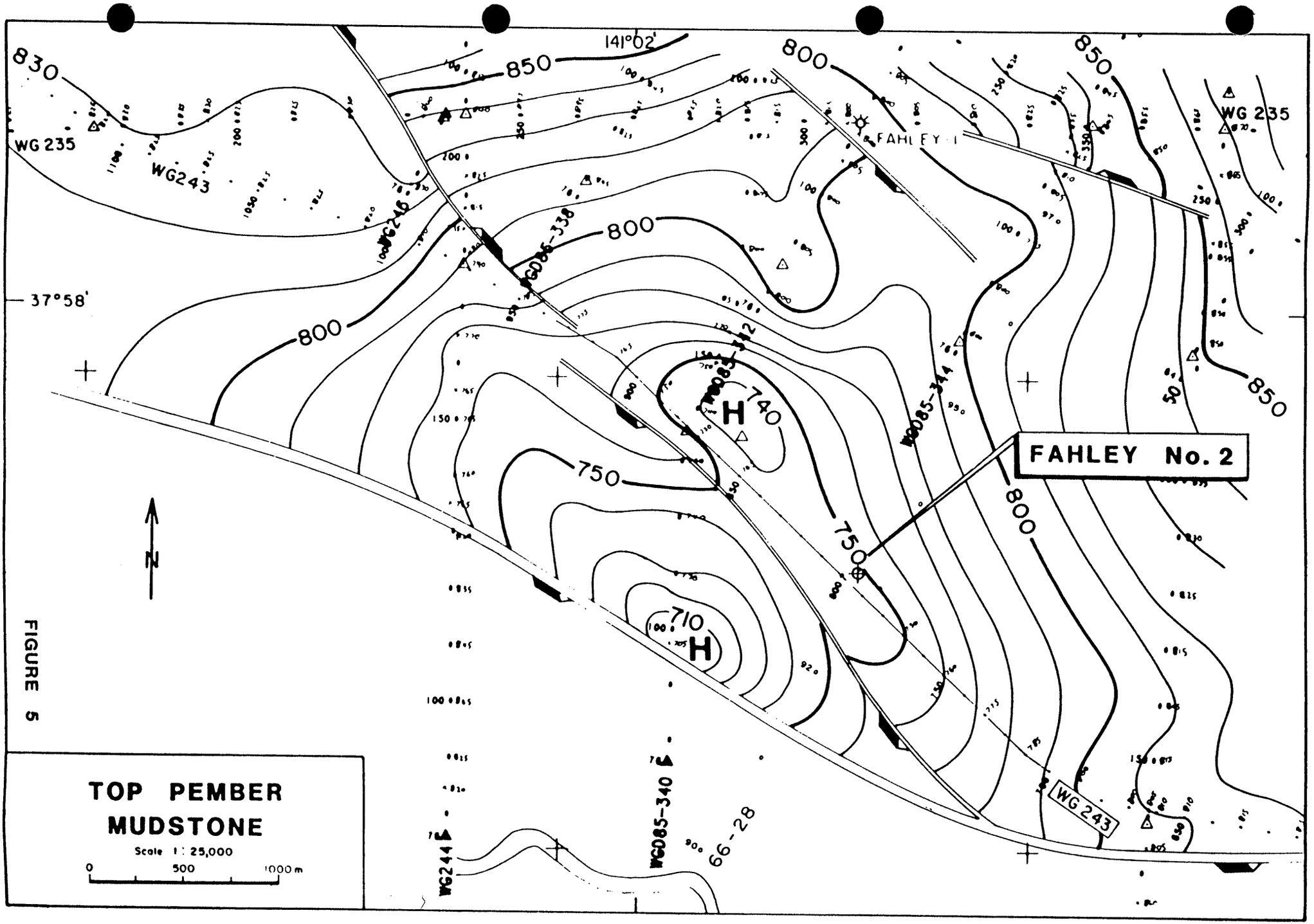

141°02'
37°58'
830
850
800
750
740
710
H
WG 235
WG243
WG246
WG085-338
WG085-342
WG085-344
WG085-340
WG244
66-28
FAHLEY 1
FAHLEY No. 2
WG 243
N
TOP PEMBER MUDSTONE
Scale 1 : 25,000
0
500
1000 m

FIGURE 5

PE906576

This is an enclosure indicator page.
The enclosure PE906576 is enclosed within the container PE902201 at this location in this document.

The enclosure PE906576 has the following characteristics:

ITEM_BARCODE	= PE906576
CONTAINER_BARCODE	= PE902201
NAME	= Seismic Section WG243
BASIN	= OTWAY
PERMIT	= PEP105
TYPE	= SEISMIC
SUBTYPE	= SECTION
DESCRIPTION	= Seismic Section (interpreted) WG243, showing Fahley-2
REMARKS	=
DATE_CREATED	=
DATE_RECEIVED	=
W_NO	= W965
WELL_NAME	= FAHLEY-2
CONTRACTOR	=
CLIENT_OP_CO	= BEACH PETROLEUM NL

(Inserted by DNRE - Vic Govt Mines Dept)

FAHLEY No.2

SEISMIC LINE WG243
Final Stack

NW

SE

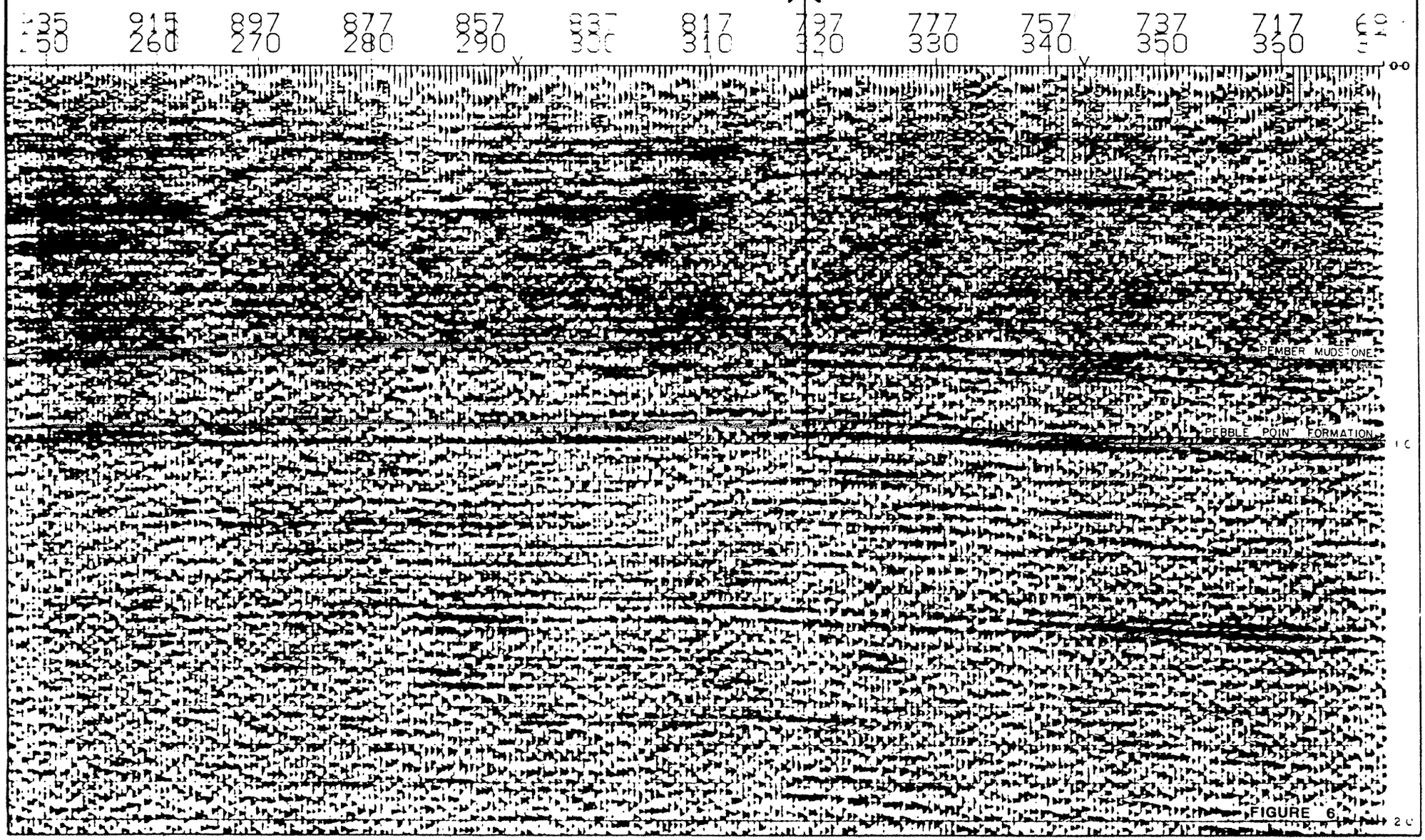


FIGURE 6

The Intra-Pember Mudstone sand was well developed at Fahley No. 2. Sonic porosity estimates are in the 30% range with Vclay an average of 0.3.

The Pebble Point Formation is a very argillaceous lithic sandstone. Effective porosity is less than 11% with Vclay in excess of 0.5.

The Paaratte Formation sands were well developed at Fahley No. 2. Sonic porosity estimates are in excess of 28% with Vclay approximately 0.15.

No anomalous zones could be identified from the wireline logs of this well. All porous horizons appear to be water saturated.

4.3 Maturation and Source Rock Analysis

At the time this report was compiled, maturation and source rock studies were not contemplated for any of the rocks from Fahley No. 2.

4.4 Relevance to Occurrence of Hydrocarbons

Fahley No. 2 was plugged and abandoned as a dry hole. The Paaratte Formation, Pebble Point Formation and the intra-Pember Mudstone sand which were the primary targets of the well were all water saturated. No anomalous mud gas readings or oil fluorescence were observed at any horizon within the well.

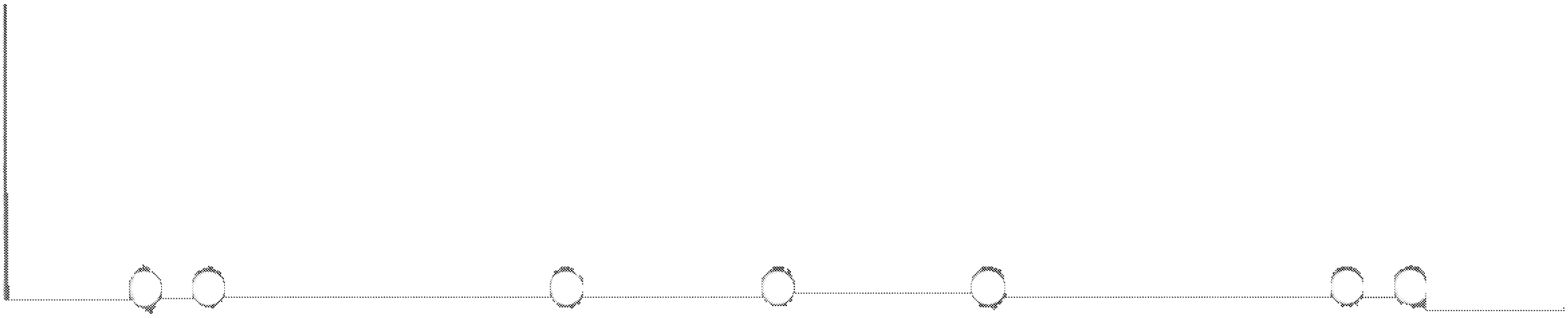
The Pember Mudstone and possibly the Pebble Point Formation provide potential seal rocks and good reservoir bodies exist within the Paaratte Formation and the intra-Pember Mudstone sand.

Given the close proximity of the No. 1 well, the absence of shows in Fahley No. 2 demonstrates that the hydrocarbon trapping mechanism is more complex than envisioned.

It is now obvious that the Fahley structure is not filled to structural spill point and that the good wet gas show recorded at Fahley No. 1 is very localised at the Pebble Point Formation level.

It is probable that the small fault directly south of the No. 1 well is responsible for local trapping of the wet gas observed in that well.

The absence of shows updip in Fahley No. 2 suggests that either hydrocarbon accumulations are located very proximal to these faults or that the main Palpara Fault is not an effective seal.



APPENDIX 1

Details of Drilling Plant

DETAILS OF DRILLING PLANT

O.D. & E. PTY. LIMITED.

RIG #19

CONTRACTOR'S RIG : Rig #19 - rated to 7500 ft. with 4-1/2" - 16.6 lbs/ft. Drill Pipe.

DRAWWORKS : Kremco K600H with 22" single rotor hydromatic brake, 16" x 37" main drum grooved for 1.1/8" line, 12.5/8" x 39" Sandline Drum with capacity for 14200' of 9/16 line powered by G.M. 8V92 T.A. diesel engine 435 H.P. at 2100 R.P.M. with Allison model CLT5861-5 converter and transmission. 5 speeds forward and one reverse. Mounted on 5 axle Kremco model K990 self propelled back in type carrier.

SUBSTRUCTURE : 235 ton telescoping substructure, 16' long x 10' wide x 13' high skid, plated top and bottom to eliminate the need for matting with 8' x 7' cellar area and removable beam to allow removal from wellhead. Floor area 13' high x 16' long x 16' wide. Supports on driller's side for doghouse.

NOTE: Substructure telescopes down to 10' for road transport. Rotary beam clearance 10'10".

Rotary beam loading: 270,000 lb.
Set back area loading: 200,000 lb.
(Loaded concurrently)

MAST : Kremco 109' 270,000 lbs. hydraulic raise and telescope, high strenghth square tubular legs, girts and diagonal bracing, ladder to crown, safety platform and handrails, travelling block carrying cradle, vertically hinged "Y" type base with screw type tilt adjustment, double acting raising ram and single telescoping ram, both equipped with safety chokes to protect mast from free failing. Automatic erecting racking board, mounted 67' from ground level with three additional mounting locations, safety chains on all fingers and capacity for 8000' of 4.1/2" drill pipe in doubles. Sufficient travel to allow for mousehole connections with 35 ft. Kelly. Standard crown with

		1 x 30" diam. fast line, 3 x 24" diam. fleet and 1 x 24" diam. deal line sheaves, grooved for 1.1/8" line. 1 x 20" diam. sandline sheave grooved 9/16". 1 x 12" diam. catline sheave grooved 1.1/2". 1 x 8" diam. winch line sheave grooved 1/2".
CATHEADS	:	Hydraulic breakout and make up catheads mounted in mast. 1 Foster 27S spinning cathead. 1 Foster 27B breakout cathead.
TRAVELLING BLOCK	:	Ideco UTB-160-4-30 shorty travelling block with unitized hook with 4 x 30" sheaves grooved 1.1/8". API working load 160 tons.
SWIVEL	:	Ideco TL-200 Tru-line swivel. API bearing rating @ 100 RPM - 123 tons.
RIG LIGHTING	:	Electric Power Systems, lighting system with fluorescent lights for mast, floor pipe rack, cellar, engine, pump and mud tank areas. Explosion proof lights.
KELLY DRIVE	:	Varco 4KRVS kelly drive bushing to suite 4.1/4" square kelly.
MUD PUMPS	:	One (1) Gardner-Denver PZ-7-550HP triplex mud pump belt driven by Caterpillar D379 TAC engine, with Faywick air clutch, MCM model 5 x 6 charging pump (pinion driven), Hydril K10-5000 pulsation dampener, Larkin suction stabilizer, unitized on 3 runner oilfield skid. One (1) Gardner-Denver PAHBFC-275HP triplex mud pump driven by Detroit Diesel 8V92T engine with Allison model HT750DRD transmission, 5 x 4 charging pump (hydraulic driven) K-10-3000 Hydril pulsation dampener unitized on 3 runner oilfield skid.
MIXING PUMP	:	One (1) Harrisburg 8" x 6" centrifugal pump powered by 60 HP 1775 RPM electric motor.
MUD AGITATORS	:	3 Harrisburg 5 HP (2 suction tank, 1 shaker tank) model MA-5.
SHALE SHAKER	:	Harrisburg, single unit with dual deck powered by 5 HP flameproof electic motor.

DEGASSER	:	Mechanical mud gas separator, Shell Co. design (capacity via choke - 200 GPM).
MUD CLEANER	:	Harrisburg MC800 2 screen combination mud cleaner or desilter capacity of 800 GPM c/w 5 HP 1800 RPM flameproof electric motor charged with Harrisburg 5 x 6 centrifugal pump with 10" Impeller and 60 HP 1800 RPM electric motor.
DESANDER	:	Harrisburg DSN-1000 unit with 2 x 10" cones charged with Harrisburg 5 x 6 centrifugal pump with 10" Impellor and 60 HP 1800 RPM electric motor.
GENERATORS	:	2 Caterpillar 3406TA, 250 KW prime, 300 KW standby, 60 HZ, 230/460 generating sets.
B.O.P.'s AND ACCUMULATOR	:	NL Shaffer spherical 11" - 5000# flanged bottom, studded top annular B.O.P. Shaffer L.W.S.11' - 5000# studded top and bottom B.O.P. with 7", 5.1/2", 4.1/2", 3.1/2", 2.7/8", 2.3/8" CSO ram assemblies. Koomey model 120LS type 80, 3000 PSI, 120 gallon accumulator equipped with 12 x 11 gallon bottles, UP2RB5AR model "P" 5 station control manifold, UFT-15B triplex charging pump with 15 HP 60 Hz electric motor, model U7A26 dual air pump package (capacity 6.4 GPM @ 3000 PSI) and model A5GRV air operated master remote control panel with 5 valves for operation of B.O.P.s and hydraulic gate valve, 1 valve for operation of bypass valve and 100' remote control hose. C/w 1" B.O.P. test outlet and gauge for testing to 5000 P.S.I.
KELLY COCK (UPPER)	:	Packard 5000 PSI upper Kelly Cock w/- 6.5/8" reg. L.H. connections P/N T65LH85.
KELLY COCK (LOWER)	:	Packard 5000 PSI lower Kelly Cock w/- 4" IF connections P/N T401F65.
DRILL PIPE SAFETY VALVE	:	Packard 5000 PSI w/- 4" IF connections and crossover to suit 8" drill collars.
AIR COMPRESSORS AND RECEIVERS	:	Two (2) Sullair model 10B-25 air compressor 105 CFM - 125 PSI with 60 HZ electric motor and air receiver. Separator 1 24" x 72" air receiver tank.

One (1) Swan model MV-201 Cold Start air compressor with Petters diesel engine and 8 CFM compressor.

SERVICE WINCH : One (1) model #14 Gearomatic Hydraulic winch mounted on carrier with control at drillers console. Drum pull-back 7100 at 92 ft. per min. mean 4760 t 137 ft. per min. Full 3580 ft 182 ft. per min.

POWER TONGS : Foster model 54 power casing tong c/with 95/8 7" 5 1/2 jaws.

Foster model 58-93-R hydraulic unit with 2.3/8", 2.7/8" and 3.1/2" jaws operated from rig hydraulic system.

SPOOLS : 1 only 11" - 5000# FE x 11" - 5000# FE drilling spool w/- 1 x 3" - 5000# FE and 1 x 2" - 5000# FE outlet.

1 only 11" - 5000# FE x 11" - 5000# FE Spacer Spool.

1 only 11" - 5000# x 11" - 3000# Double Studded Adaptor.

1 only 11" - 5000# x 7.1/16" - 5000# Double Studded Adaptor.

1 only 11" - 5000# x 7.1/16" - 3000# Crossover Spool, double studded adaptor.

ROTARY TABLE : Ideco SR-175 Rotary Table.
Rated capacity 325 tons dead load.
Rated capacity 200 tons rotating.

MUD TANKS : 1 only skid mounted suction tank 33' long x 9' wide x 6' high with platform for mixing hopper, mud ditch, pill tank, mud guns, walkways and agitators.
Overall skid length 42'.
Capacity: 317 BBLS
(Suction: 260 BBLS)
(Pill : 57 BBLS)

1 only skid mounted shaker tank, 28' long x 9' wide x 6' high fitted with shale shaker, desander, mud cleaner, mud ditch partitions, mud guns, walkways and agitators.
Overall skid length 42'.
Capacity : 271 BBLS
(Sand trap: 31 BBLS
(Desander : 38 BBLS)
(Desilter : 38 BBLS)
(Reserve : 164 BBLS)

TRIP TANK	:	1 Trip Tank 4' x 6'2" x 7'6" high (mounted on shaker tank). Capacity: 33 BBLS.
KILL MANIFOLD	:	1 - 2" 5000# Lynn check valve F/E 1 - 2" 5000# Cameron gate valve F/E 1 - 3" 5000# Cameron gate valve F/E 1 - 3" 5000# Cameron hydraulic gate valve F/E.
CHOKE MANIFOLD	:	1 x 5000# unit with 1 x 3" positive and 1 x 3" adjustable choke.
DRILL PIPE	:	7000' 16.6 LB/FT grade 'E' 4.1/2" OD drill pipe w/- 6.1/4" OD Tool Joints and 4" IF Connections, internally plastic coated.
PUP JOINTS	:	1 - 10' 4.1/2" OD 18° taper w/- - 4" IF conns. 1 - 5' 4.1/2" OD 18° taper w/- 4" IF conns.
HEVI-WEIGHT DRILL-PIPE	:	6 JTS H.W.D.P. 4.1/2 OD w/- 4" IF conns.
DRILL COLLARS	:	6 only 8" OD Drill Collars w/- 6.5/8" Reg. Connections. 24 only 6.1/2" OD Drill Collars w/- 4" IF Connections.
KELLIES	:	2 only 4.1/4" square x 35' working space (38' overall) with 6.5/8" reg. L.H. box x 4" IF pin.
FISHING TOOLS	:	1 only Bowen Type Z Jar 6.1/4" D. 1 only Bowen Series 150 overshot 7.5/8" OD. 1 only Bowen Series 150 overshot 9.5/8" OD. 1 only Junk Sub 12.1/4" Hole. 1 only Junk Sub 8.1/2" Hole.
SUBS	:	3 only 4" IF Saver Subs. 2 only 6.5/8" Reg. Pin x 4" IF Box x/Over Sub. 12 only 4" IF Lifting Nubbins. 3 only 6.5/8" reg. Lifting Nubins. 1 only 6.5/8" Reg. Box x 6.5/8" Reg. Box Bit. Sub. (5F-6R float recess) 2 only 4" IF Box x 4.1/2" Reg Box Bit Sub (4R float recess) 1 only 4.1/2" reg pin x 4.1/2" FH pin 4" long 1 only 4" IF box x 6.5/8" reg box 1 only 4" IF pin x 2" LP pin (circ sub), 12" long.

HANDLING TOOLS	:	1 set Baash Ross Type "AAX" short handle tongs complete with hangers range 2.7/8" - 13.3/8". 1 set forged elevator links 2.1/4 x 96" capacity 250 tons. 2 sets of 4.1/2" - T-150 Drill Pipe Elevators. 1 set 9.5/8" - H-150 Casing Elevator. 1 set 7" - H-150 Casing Elevator. 1 set 5.1/2" - J-150 Casing Elevator. 1 set 3.1/2" - C-100 Tubing Elevator. 1 set 2.7/8" - C-100 Tubing Elevator. 1 set 2.3/8" - C-100 Tubing Elevator. 1 set 9.5/8" Single Joint Elevator. 1 set 7" Single Joint Elevator. 1 set 5.1/2" Single Joint Elevator. 1 set 3.1/2" Single Joint Elevator. 1 only 9.5/8" CMSXL Casing Slips. 1 only 7" CMSXL Casing Slips. 1 only 5.1/2" SDL-M Casing Slips. 2 only 4.1/2" SDL-M Drill Pipe Slips. 1 only Cavins Type "C" - HD air spider with 2.3/8", 2.7/8", 3.1/2" and 5.1/2" slips, 250,000 # capacity. 1 set 6.3/4 - 8.1/4 DCS-L Drill Collar Slips. 1 set 5" - 7" DCS-R Drill Collar Slips. 1 only 5.1/2" - 7" MPR Safety Clamp. 1 only 6.3/4" - 8.1/4" MPR Safety Clamp. 1 set Quick Lift Drill Collar 42" x 2" links - 100 ton and Drill Collar adaptor. 1 only 8" HD-100 Drill Collar Elevator. 1 only 6.1/2" HD-100 Drill Collar Elevator. Varco "CU" casing bushing with No. 2 insert bowl to handle 9.5/8" - 13.3/8" casing. Foster model 77 hydraulic kelly spinner, operated from rig hydraulic system. Weatherford Lamb model 13000-J-29 spinnerhawk. Varco PS-20 spring slip assy. dressed with 4.1/2" drill pipe slips.
WELDING EQUIPMENT	:	1 only Lincoln 400AS Diesel Powered Welder. 1 only Oxy-Acetylene Welder and cutting set.
DOG HOUSE	:	1 only Steel Dog House 14' x 7' x 7'.
UTILITY HOUSE	:	1 only Steel Utility house to accommodate generators, switch gear, workshop and store room (45' long x 10' wide).

TOOL HOUSE/STORE ROOM	:	Toolhouse/Spares house with welders workshop skid mounted, 40' long x 8' wide x 8' high.
CAT WALKS	:	1 set Catwalks incorporating junk rack 48' long x 5' wide x 42" high.
PIPE RACKS	:	1 set (6) Tumble type pipe racks each 28' long x 42" high.
DAY FUEL TANK	:	1 only 9' 9" long x 7' 10" wide x 2' deep. Capacity 4300 litres. Mounted on top of water/fuel tank and recessing into water/fuel tank to minimise loads during moves.
WATER/FUEL TANK	:	1 only skid mounted water tank 23' long x 9' 6" wide x 8' high (capacity 356 BBLS) with fuel storage tank (capacity 5800 galls.) one end. Overall skid length 42'. 2 x 10 HP water pumps mounted one end, 2 x 5 HP fuel pumps mounted other end including one (1) fresh water pump.
ACCUMULATOR & OIL STORAGE SKID	:	1 only skid 8' wide x 20' long to accommodate oil storage and accumulator.
DRILLING RATE RECORDER	:	Martin Decker 5 Pen Record-O-Graph (Penetration, weight, pump pressure, rotary torque and rotary R.P.M.).
DEVIATION INSTRUMENT	:	1 only Totco Double Recorder 0-8 deg.
INSTRUMENTS AND INDICATORS	:	Martin Decker F.S. Weight Indicator 40,0001b single line pull c/w 40' hose. National F.S. deadline anchor c/w E160 load cell. Martin Decker H-6B-28 Tong Torque Indicator 25' hose and load cylinder sensator, box mt. 20,000 lb. line pull. Martin Decker Rotary Torque, model FA-9. Swaco 96-11-321 stroke rate meter c/w limit switches for No. 1 and No. 2 pump. Martin Decker RPM tacho system. Watco Flo Sho recorder. Watco Pit-O-Graf (two tank system). Watco Trip Tank Monitor. Martin Decker SA-102 satelite drilling control.
MUD TESTING	:	1 only Baroid Mud Lab mounted on mud tank.
RATHOLE DRILLER	:	Wichita engineering rat hole driller for 4.1/4" kelly.

MUD SAVER	:	Harrisburg Unit with 4.1/2", 3.1/2", 2.7/8" and 2.3/8" end sealing rubbers.
CELLAR PUMP	:	Pacific Diaphragm Pump, 3" w/- 3 HP explosion proof electric motor.
WATER PUMP	:	1 only Robin Self-Priming Pump with Diesel Engine.
FIRE EXTINGUISHERS	:	1 set extinguishers as required by State Mining Regulations.
HIGH PRESSURE WATER BLASTER	:	1 only Gerni G-115 unit with Lister Diesel Engine.
PIPE BINS	:	2 only Pipe Bins 36' x 10' x 3' 6" High.
CUP TESTER	:	Cameron Type "F" cup tester mandrel with 4" IF connections.
TRANSPORT EQUIPMENT & MOTOR VEHICLES	:	1 - International 520 Payloader with Pipe Forks. 1 - 4 x 4 Toyota Pick-up. 1 - 4 x 4 Toyota Crew car.
CAMP EQUIPMENT	:	1 - Toolpusher/Engineer office unit 40' x 10 x 10'. 1 - Crew Lunch Room/Toilet Block.

NOTE: At Contractor's discretion any of the foregoing items may be replaced by equipment of equivalent or greater capacity.

APPENDIX 2

Summary of Wellsite Operation

APPENDIX 2

SUMMARY OF DRILLING OPERATIONS

The Fahley No. 2 drill site was prepared by Mount Gambier Earthworks.

Prior to the rig arriving a 16" conductor pipe had been installed to 18m (K.B.).

The O.D. & E. Rig 19 was rigged up and Fahley No. 2 was spudded at 1330 hours on the 11th August, 1987.

A 12-1/4" hole was drilled to 304m where the 9-5/8" casing was set with the shoe at 301m.

The B.O.P.'s were installed and all functions were tested to 1500 psi.

Drilling resumed with 8-1/2" hole to 309m at which point a leak-off test established a formation integrity of 12 ppg.

The 8-1/2" hole was continued to a total depth of 1300m with bit changes at 846m, 1096m, 1188m and 1237.5m.

Total depth was reached at 0700 hours on the 20th August, 1987.

Schlumberger ran the following logs: DLL/MSFL, BHC/GR and WST.

Cement plugs were then set over the interval 1215 - 1165m, 1130 - 1080m, 306 - 258m and the surface.

The rig was released at 2200 hours on the 21st of August, 1987.

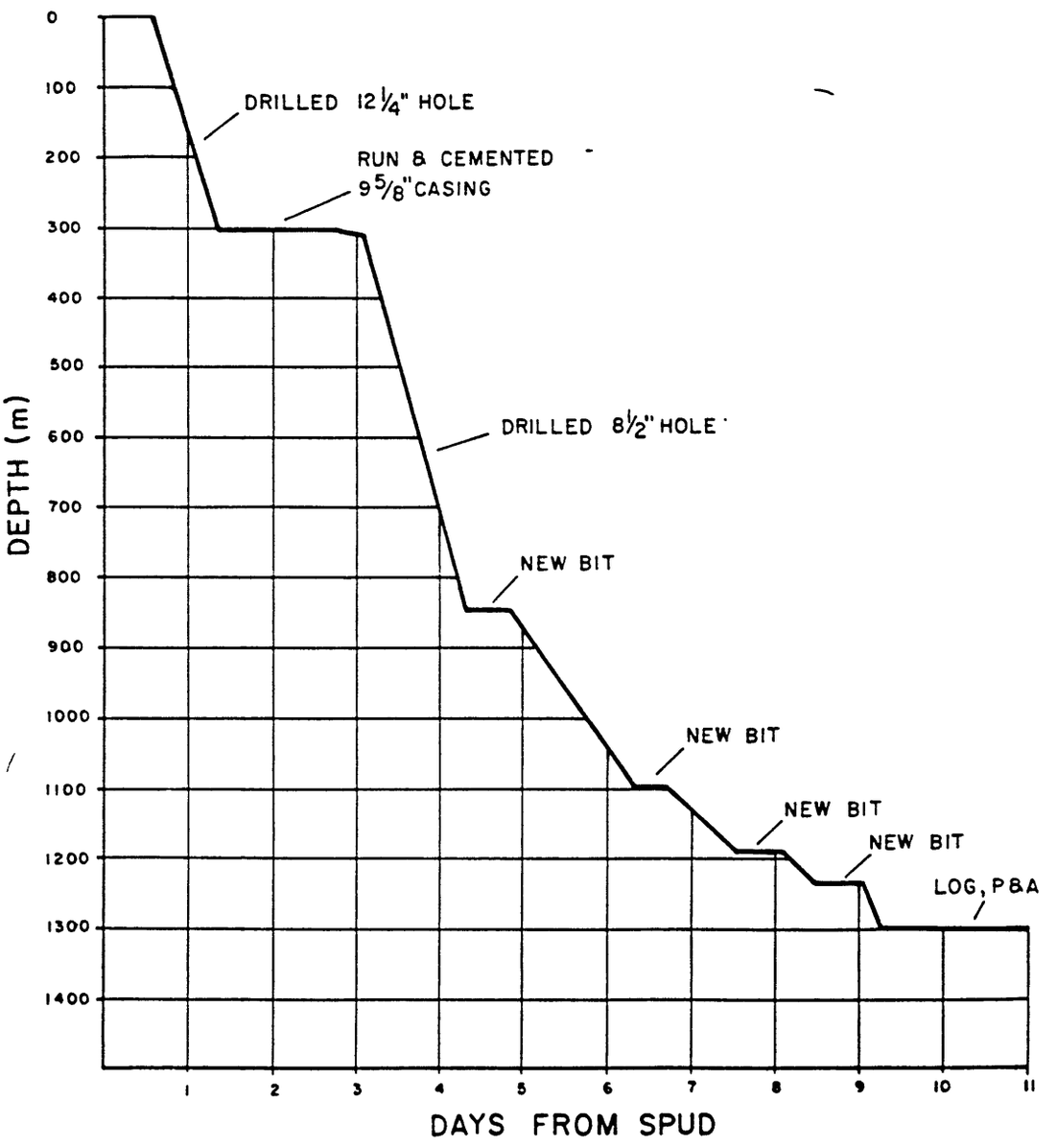
BEACH PETROLEUM N.L.

FAHLEY No.2

SPUDDED : 1330 HRS, 11-8-1987

T.D. REACHED : 0700 HRS, 20-8-1987

RIG RELEASED : 2200 HRS, 21-8-1987



PENETRATION PROFILE

APPENDIX 3

APPENDIX 3

Drilling Fluid Recap

BEACH PETROLEUM NL
DRILLING FLUID RECAP
FAHLEY NO. 2

Prepared By : M. Olejniczak

Dated : August 1987

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APPENDICES

WELL SUMMARY

Operator	:	Beach Petroleum NL
Well Number	:	Fahley No. 2
Location	:	Otway Basin, Victoria
Contractor	:	O. D. & E.
Rig	:	No. 19
Rig on Location	:	10th August, 1987
Spud Date	:	11th August, 1987
Water Depth/RKB-Sea Bed	:	-
Total Depth	:	1300 m
Date Reached T.D.	:	20th August, 1987
Total Days Drilling	:	11
Rig off Location	:	21st August, 1987
Total Days on Well	:	11

Drilling Fluid Type	Interval	Hole Size	Cost
FW Lime Floc. Bentonite	18 - 304 m	$12^1/4$"	$1,322.40
FW Lime Floc. Bentonite & KCl/Polymer	304 - 1300 m	$8^1/2$"	16,795.48
	MUD MATERIALS CHARGED TO DRILLING		$18,117.88

Engineer on Location from : 11-08-87 to 21-08-87

Mud Engineering : 11 days @ $375	4,125.00
TOTAL DRILLING COST MATERIALS & ENGINEERING SERVICE	$22,242.88

Mud Materials not charged to Drilling	-
Engineering not charged to Drilling	-

Casing Program	:	16" at 18m, $9^5/8$" at 301m
Drilling Supervisors	:	H. Walker
Baroid Mud Engineers	:	M. Olejniczak

INTRODUCTION

Fahley No. 2 was drilled up dip from Fahley No. 1 to test the presence of gas in the Upper Paraate and Pebble Point Formations. Fahley No. 1 had recorded gas in the tight Pebble point formation and it was hoped this would extend into the much more permiable Paraate Formation. This was found not to be the case, with Fahley No. 2 being a dry hole. Never the less, it explains the increased concern of the partners to do everything possible to attempt to gain a viable packer seat in the lower Pember Mudstone.

For this reason it was planned to use a 12% KCl Polymer with filtration control of 4 - 5 cc's with everbody being well aware of the additional expense this would entail. The final mud cost of about $18,000.00 was still quite reasonable, probably being doubled by the more stringent requirements for this well.

Drilling hydraulics were also to be further reduced with impact force controlled to 210 - 240 lbs and flow controlled to 190 gpm, giving only 90 fpm around the drill pipe and 144 fpm around the collars.

This well was to be in effect a test case of whether these much more stringent conditions could help to retain packer seat integrity.

With the well being dry and no drill stem test run, there is no direct evidence of any benefit or not.

DISCUSSION BY INTERVAL

$12\frac{1}{4}$" Hole Surface - 304 m

Fahley No. 2 was spudded in at 1330 hours with a high viscos flocculated Bentonite mud using low hydraulics of 210 gpm in the sa as the previous two wells.

Drilled through Calcarenite of the Heyesbury and Nirrandera Groups sands and clays of the Dilwyn Group from 285 m.

Mud viscosity was maintained with additions of Lime, Caustic S prehydrated Bentonite. The entire mud pit system was run for solids as the mud would continue to be used right through the Dilwyn Form nearly 950 m.

Typical mud properties were:

Mud Weight	:	9.2 - 9.3 ppg
Viscosity	:	43
PV/YP	:	10/45
Gels	:	32/40
Filtrate	:	No control
pH	:	11.0

With a suitable clay for a casing seat having been reached, a wiper tr run at 304 m with no problems and the $9\frac{5}{8}$" casing run and cemen 301 m. Cement returned to surface one minute after displacement indicating another near gauge $12\frac{1}{4}$" hole.

DISCUSSION BY INTERVAL

8 1/2" Hole 304 - 1300 m T.D.

During nippling up the BOP's, Lime flocculated Bentonite Native Clay r the 12 1/4" hole was retained. The cement and casing shoe were dril using this mud with water added to control viscosity and the contamination deliberately retained. Cement was drilled from 237 m plug was not pumped during the cement job.

Drilling continued through predominantly loose sands of the Dilwyn For with prehydrated Bentonite, Lime and Caustic being added to maintain vis and drilling rate controlled to three singles per hour. Typica properties were:

Mud Weight	:	9.0 ppg
Viscosity	:	40
PV/YP	:	5/13
Gels	:	25/28
Filtrate	:	No control
pH	:	12

With a thinner Pember Mudstone and possibly less than 100 m from the toc the first target, the Inter Pember Sand there was less time available gradually convert to a KCl Polymer mud on this well. For this reason 270 l of 4% premix KCl Polymer was mixed and held in reserve while continuing drill through the Dilwyn Formation with the old mud so that most of the c mud could be displaced after drilling into the top of the Pember Mudstone.

At 846 m the bit was changed and a stabiliser added. On running back in h to ream 12 m from 367 m and 18 m from 461 m, so it was decided to ream all th way from 585 to bottom. This suggested that the hole was less washed out tha usual for the Dilwyn Formation. During the reaming, the viscosity wa increased further to 48 seconds in case of sands slumping.

DISCUSSION BY INTERVAL

$8^1/2$" Hole (Cont.)

With the top of the Pember Mudstone being very close, it was decided to displace to the new 4% KCl Polymer mud on a convenient survey at 945 m. Approximately 50 bbl of old mud was blended in with the new mud to obtain sufficient circulating volume and drilling continued without delay.

The top of the Pember Mudstone was reached at 958 m with premix KCl Polymer mud being added to build up circulating volume and gradually increase the KCl percentage up to 12%. The mud used for displacement was treated with a small amount of Q-Broxin and had only 4% KCl to minimise sudden shock to the filter cake built up on the Dilwyn Sands. A level of 11% was reached by 1060 m.

A wiper trip was run at 1028 m with the hole being only very slightly tight then drilling continued at about 5 m/hr till a trip for a bit change at 1097 m. This trip had no problems, although under gauge hole was reamed from 980 m to bottom as the bit had been $^3/16$" under gauge.

The Inter Pember Sand drilling break was circulated out at 1106 m with no show. Drilling continued to slow down to 3 hours per single with the pump rate reduced to 182 gpm and impact at 210 lbs. With the major target, the Pebble Point Sandstone being very close, the mud properties had been brought within the required specifications as follows:

Mud Weight	:	9.5 ppg
Viscosity	:	48 seconds
PV/YP	:	25/20
Gels	:	4/6
pH	:	9.5
Filtrate	:	4.7
Cl-	:	61,000
KCl	:	12%

DISCUSSION BY INTERVAL

$8^1/2$" Hole (Cont.)

The mud viscosity was run higher than on the previous wells as the c rate on this well was very low.

At 1188 m, another trip was run for a bit change but on washing back 1135 m the nozzles plugged. Pulled back 10 stands and managed to c jets by surging the pipe but could not clear the third nozzle. stringent requirement of low impact force, the bit had to be pulled and cleared. It was then run back in filling the pipe twice on the w avoid a recurrence and reamed from 1127 to 1188 m bottom. During the the hole through the Pember Mudstone was in good condition with litt This together with less sticky improved cuttings at the shaker does that the higher KCl salinity reduces swelling of the mudstone.

Drilling continued with the tip of the Pebble Point Formation drilling circulated out at 1194.5 m, dissapointingly with no gas or show. From 1 the Sandstone became very hard and pebbly with the drilling rate s dramatically, torque increasing and lots of metal in the samples. appeared the bit had gone under gauge and the stabiliser was torquing was pulled out at 1237 m and found to be $^3/8$" under gauge. A new bit wa in and drilling continued through dirty sands of the Paraate Formati 1300 m T.D.

After running a 15 stand wiper trip without problems, pulled out and Schlumberger logs, all going to bottom.

The caliper log showed the hole to be in generally good condition alth surprisingly not as good as the previous well, Squatter No. 1, through Pember Mudstone.

The well was then plugged and abandoned.

CONCLUSIONS AND RECOMMENDATIONS

A 12% KCl Polymer with filtrate control of 4 - 5 cc's with low controlling impact force down to 210 lbs was run for the sole making the maximum possible effort to obtain a viable packer seat i Pember Mudstone.

With no test run there is no hard evidence as to any improvem stability of the Pember Mudstone. Cuttings at the shaker were firm weight did build up less rapidly than on previous wells with percentages. Also, tight hole through the Pember Mudstone was However, these symptoms dont necessarily indicate the well bore wa coherent.

Surprisingly, the caliper log through the Pember Mudstone was a lit than on Squatter No. 1 which ran only 4% KCl. Fahley No. 1 took 5 the top of the Pember to logging while Squatter No. 1 took 6 days. So no reason at all for the caliper on Fahley No. 2 to be slightly wor there are slight lithology differences in the mudstone from well to w

The resulting conclusion from all the wells in the area still has t there is no evidence for KCl content making any difference to potenti seat viability, although it may reduce tight hole and improve cutting low KCl mud.

It must be pointed out that Henke No. 1 did not suffer tight hole o seat problems with a fresh water mud. So a fresh water mud perha reduced filtration control has to remain an option.

Also, it does not appear that reducing the hydraulics to such a low was done resulted in any benefit whereas it definitely did reduce the d rate and from previous wells such as Fahley No. 1 and Wilson No. 1 it h proved that the mudstone continues to deteriorate with time. D hydraulics should therefore be optimised to produce an adequately fas rate with minimal bit balling while still not washing out the hole hydraulics used on Squatter No. 1 with impact of 315 lbs and nozzle ve of 300 fps do not appear to have been excessive at all as the calip perfect through the Pember. So we have no justification for re hydraulics to the level used on Fahley No. 2.

Baroid Australia PTY. LTD./NL INDUSTRIES INC.

MATERIAL RECAP

COMPANY *BEACH PETROLEUM*
WELL *FAHLEY Nº 2*
LOCATION *P.E.P. 105 VIC*
COST/DAY *$661-20*
COST/M *$ 4-62*
COST/BBL *$ 2-57*
RECAPPED BY *M.OLEJNICZAK*
DATE *12-08-87*

MUD TYPES *F.W. LIME FLOCULLATED BENTONITE*
HOLE SIZE *12¼"*
INTERVAL TO *304m*
FROM *18m*
MTRS DRILLED *286m*
CONTRACTOR *O.D.E. RIG 19*
DRILLING DAYS/PHASE *2*
ROTATING HRS/PHASE *17*
MUD CONSUMPTION FACTOR *1.8 BBL/M*

MATERIAL	UNIT	UNIT COST	ESTIMATED USED	ESTIMATED KG/M³	ACTUAL USED	ACTUAL KG/M³	TOTAL COST ESTIMATED	TOTAL COST ACTUAL
AQUAGEL	100lb	15-25			81			1235-25
CAUSTIC SODA	25kg	21-90			3			65-70
LIME	25kg	4-29			5			21-45

CHEMICAL VOLUME *15 BBLS*
FRESH WATER *500 BBLS*
SEA WATER
TOTAL MUD MADE *515 BBLS*
COST LESS BARYTES
COST WITH BARYTES *AUD $1322-40*
COMMENTS *SIX SACKS AQUAGEL USED MIXING 90 BBL OF LEAD SLURRY*
CMT MIX WATER FOR 9-5/8" CASING

Baroid Australia PTY. LTD./NL INDUSTRIES INC.

MATERIAL RECAP

COMPANY *BEACH PETROLEUM*
WELL *FAHLEY Nº 2*
LOCATION *P.E.P. 105 VICT*
COST/DAY *$1866-16*
COST/M *$ 16-86*
COST/BBL *$ 10-15*
RECAPPED BY *M.OLEJNICZAK*
DATE *21-08-87*

MUD TYPES *F.W. LIME FLOCULLATED BENTONITE DISPLACING TO KCl/POLYMER AT 945m*

CONTRACTOR *O.D.E. RIG 19*
DRILLING DAYS/PHASE *9*
ROTATING HRS/PHASE *91*

HOLE SIZE *8½"*
INTERVAL TO *1300m*
FROM *304m*
MTRS DRILLED *996m*

MUD CONSUMPTION FACTOR *1.66 BBL/m*

MATERIAL	UNIT	UNIT COST	ESTIMATED USED	ESTIMATED KG/M³	ACTUAL USED	ACTUAL KG/M³	TOTAL COST ESTIMATED	TOTAL COST ACTUAL
AQUAGEL	100lb	15-25			73			1113-25
CAUSTIC SODA	25kg	21-90			12			262-80
SODA ASH	40kg	17-66			11			194-26
BICARBONATE	40kg	21-63			6			129-78
LIME	25kg	4-29			8			34-32
Q-BROXIN	25kg	32-20			8			257-60
BARAVIS (HEC)	50lb	160-65			2			321-30
PAC-R	50lb	76-81			15			1152-15
PAC-R	25kg	84-64			30			2539-20
DEXTRID	50lb	39-99			60			2399-40
POTASSIUM CHLORIDE	50kg	19-48			393			7655-64
ACTICIDE Bx	L	12-35			4			49-40
COAT 415	200L	686-38			1			686-38

KCl POLYMER PREMIX 840 BBLS
CHEMICAL VOLUME 15 BBLS
FRESH WATER 800 BBLS
SEA WATER
TOTAL MUD MADE 1655 BBLS
COST LESS BARYTES
COST WITH BARYTES AUD $16795-48
COMMENTS *COAT 415 USED FOR CORROSION TREATMENT OF PIPE AND MUD PITS AFTER PLUGGING AND ABANDONING OF WELL*

Baroid Australia PTY. LTD./NL INDUSTRIES INC.

MATERIAL SUMM

COMPANY *BEACH PETROLEUM*
WELL *FAHLEY N° 2*
LOCATION *P.E.P. 105 VIC*
COST/DAY *$1647-08*
COST/M *$ 14-13*
COST/ BBL *$ 8-35*
RECAPPED BY *M. OLEJNICZAK*

MUD TYPE *F.W. LIME - FLOCULLATED BENTONITE DISPLACING TO KCl/POLYMER AT 945m*

HOLE SIZE	METRES DRILLED
12¼	*286*
8½	*996*
TOTAL	*1282m*

TOTAL ROTATING HRS *108*
TOTAL DAYS ON HOLE *11*
TOTAL DEPTH *1300m*

MUD CONSUMPTION : WELL AVERAGE

MATERIAL	UNIT	UNIT COST	ESTIMATED USED	ESTIMATED KG/M³	ACTUAL USED	ACTUAL KG/M³	TOTAL ESTIMATED
AQUAGEL	*100lb*	*15-25*			*154*		
CAUSTIC SODA	*25kg*	*21-90*			*15*		
SODA ASH	*40kg*	*17-66*			*11*		
BICARBONATE	*40kg*	*21-63*			*6*		
LIME	*25kg*	*4-29*			*13*		
Q-BROXIN	*25kg*	*32-20*			*8*		
BARAVIS (HEC)	*50lb*	*160-65*			*2*		
PAC-R	*50lb*	*76-81*			*15*		
PAC-R	*25kg*	*84-64*			*30*		
DEXTRID	*50lb*	*39-99*			*60*		
POTASSIUM CHLORIDE	*50kg*	*19-48*			*393*		
ACTICIDE Bx	*L*	*12-35*			*4*		
COAT 415	*200L*	*686-38*			*1*		

PREMIX KCl POLYMER MUD	*840 BBLS*
CHEMICAL VOLUME	*30 BBLS*
FRESH WATER	*1300 BBLS*
SEA WATER	
TOTAL MUD MADE	*2170 BBLS*
COST LESS BARYTES	
COST WITH BARYTES	*AUD $1*

COMMENTS *SIX SACKS AQUAGEL USED FOR 9-5/8" CASING CMT MIX WATER*
1 DRUM OF COAT 415 USED FOR CORROSION TREATMENT OF DRILL PIPE AND MUD TANKS AFTER P AND A.

Baroid Australia PTY. LTD./NL INDUSTRIES INC.

BIT RECORD

COMPANY *BEACH PETROLEUM* WELL *FAHLEY Nº 2* CONTRACTOR/RIG *O.D.E. RIG 19*

LOCATION *P.E.P. 105 OTWAY BASIN VICTORIA* SPUD DATE *11 AUG 1987* DATE REACHED T.D.

COMPANY SUPERVISORS *H WALKER* TOOLPUSHERS *R PYNE*

PUMPS: MAKE, TYPE *G.D. P27* LINERS USED *5½ x 7* DRILL COLLARS *8" / 6¼"* DRILL PIPE *4½"*

MUD SYSTEMS, DEPTHS *F.W. LIME FLOCULLATED BENTONITE TO 945 m, KCl POLYMER TO T.D.*

DATE 1987	No.	SIZE	MAKE	TYPE	JETS 32nd"	DEPTH OUT m	METRES DRILLED	HOURS	MTRS/ HR	ACCUM DRLG HOURS	BIT WEIGHT tonnes / 1000lb	RPM	VERT DEV'N	PUMP PRESSURE p.s.i.	PUMP RATE spm	WT S.G. / ppg	MUD VIS sec	CONDITION T B G	FORMATION	REMARKS
12/8	1	12¼	HTC	OSC3J	15-15-16	304m	286	17	16.8	17	0-15	100-120	½	150	100	9.2	43	6 6 1/16	CALCARENITE/SAND	
15/8	2	8½	VAR	L114	3X10	846	542	25½	21¼	42½	0-15	100-130	3/4	800	100	8.9	48	6 4 1/8	SANDS	
17/8	3	8½	VAR	L114	10/10/12	1096	250	32½	7.7	75	15-20	90/110	1½	800	100	9.3	43	6 8 ¼	CLAY-SANDS	LOCKED CONE
18/8	4	8½	HTC	XDG	10/10/11	1188	92	18½	4.97	93½	15-25	80/110	2º	700	100	9.5	48	7 3 IN	CLAY	
19/8	5	8½	VAR	L114	3X11	1237.5	49.5	8	6.2	101½	10-20	80/110	-	700	100	9.5	48	3 3 3/8	SANDSTONE	
20/8	6	8½	HTC	XDG	3X11	1300	62.5	6½	9.6	108	15-25	80/110	2º	700	100	9.5	48	6 3 1/16	SANDS	

Baroid Australia PTY. LTD./NL INDUSTRIES INC.

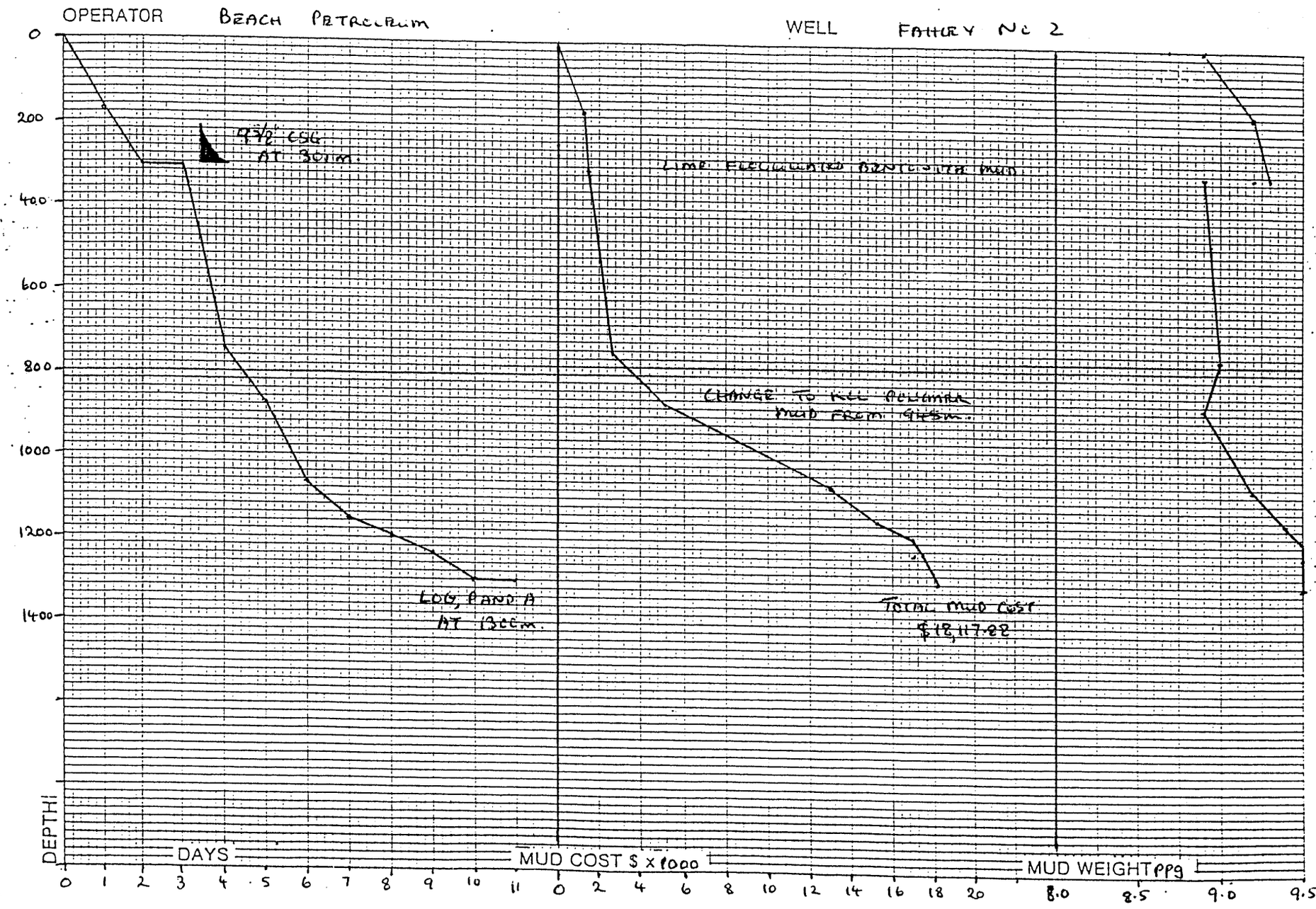
DRILLING FLUID PROPERTY RECAP

COMPANY *BEACH PETROLEUM* WELL *FAHLEY Nº 2*

DATE	DEPTH m	HOLE SIZE	TEMP °C	WEIGHT S G	VIS SEC	PV	YP	GELS 10 sec	GELS 10 min	WATER LOSS A P I	CAKE mm	pH	Pf	Mf	Cl mg/l	Ca mg/l	SAND %	SOLIDS %	WATER %	OIL %	MBC kg m	REMARKS TREATMENT	FORMATION
11/8/87	169	12¼		9.2	43	10	45	32	40	N.C.	-	11	1.1	-	200	20	TR	6	94	-	-	SPUD IN CONTROL DRILL	CALCARENITE
12/8	304	12¼		9.3	38	8	28	18	27	18	4	11	1.2	-	200	20	¼	7	93	-	-	RAN AND CMTD 9-5/8" CSG	A/A SANDS
13/8	304	8½		8.9	38	6	35	14	20	N.C.	4+	12	1.9	-	500	200	TR	4	96	-	-	NIPPLE UP, DRILLOUT CMT	
14/8	741	8½	32	9.0	40	5	35	25	28	N.C.	4+	12	1.8	-	400	180	TR	5	95	-	17	DRILLING	SANDS
15/8	877	8½	32	8.9	48	8	45	35	45	N.C.	4+	12	1.9	-	350	100	TR	5	95	-	18	DRILLING	SANDS/CLAY
16/8	1062	8½	32	9.2	42	17	16	3	4	5.5	1	10	.6	-	55000	30	TR	4	96	-	12	DRILLING, DISPLACE TO KCL	MUDSTONE
17/8	1152	8½	32	9.4	45	22	18	5	7	4.7	1	10	.5	-	65000	40	TR	5	95	-	18	DRILLING	MUDSTONE
18/8	1188	8½	35	9.5	48	25	20	4	6	4.7	1	9.5	.3	-	61000	50	TR	6	94	-	18	DRILLING, TRIPPING	MUDSTONE
19/8	1237	8½	35½	9.5	48	25	25	5	6	3.8	1	9.5	.3	-	62000	60	TR	6	94	-	18	DRILLING, TRIPPING	SANDSTONE
20/8	1300	8½		9.5	48	25	25	5	6	3.8	1	9.5	.3	-	62000	60	TR	6	94	-	18	LOGGING	

Baroid Australia PTY. LTD./NL INDUSTRIES INC.

GRAPH SUMMARY



BEACH PETROLEUM NL
FAHLEY NO. 2

APPENDIX A

$8\frac{1}{2}$" Caliper Average Hole Size each 25 m with Peak Washouts in E

Depth	Hole Size	Depth	Hole Siz
325	$9\frac{1}{4}$" (11)	825	10" ($12\frac{1}{4}$
350	$9\frac{3}{4}$" (11)	850	9
375	$8\frac{3}{4}$"	875	11" ($13\frac{1}{2}$
400	10 (12)	900	$9\frac{3}{4}$" ($12\frac{1}{4}$
425	$9\frac{3}{4}$"	925	$8\frac{3}{4}$"
450	$9\frac{3}{4}$"	950	$8\frac{1}{2}$"
475	$8\frac{3}{4}$"	975	$8\frac{3}{4}$"
500	$10\frac{1}{2}$" (14)	1000	$8\frac{3}{4}$"
525	10" (13)	1025	$8\frac{3}{4}$" ($8\frac{1}{2}$)
550	$10\frac{1}{2}$" (13)	1050	9" ($10\frac{1}{2}$)
575	11" (14)	1075	$8\frac{3}{4}$"
600	9" (11)	1100	9" (10)
625	$9\frac{1}{4}$" (11)	1125	$8\frac{5}{8}$"
650	9"	1150	$8\frac{1}{2}$"
675	$9\frac{1}{4}$" (11)	1175	9"
700	9" ($10\frac{1}{2}$)	1200	$9\frac{1}{2}$"
725	10" (16)	1225	$8\frac{1}{2}$"
750	9" (11)	1250	$8\frac{1}{2}$"
775	$9\frac{1}{2}$" ($12\frac{1}{2}$)	1275	$8\frac{1}{2}$"
800	$9\frac{3}{4}$" ($13\frac{1}{2}$)	1300	$8\frac{1}{2}$"

APPENDIX B

Formation Tops

Heytesbury and Nirranda Groups	-	Surface
Dilwyn Formation	-	285 m
Pember Mudstone	-	958 m
Pebble Point formation	-	1190 m
Paraate Formation	-	1221 m
T.D.	-	1300 m

APPENDIX 4

APPENDIX 4

Velocity Survey

LONG DEFINITIONS

GLOBAL

SRCDRF - ORIGIN OF ADJUSTMENT DATA
CONADJ - CONSTANT ADJUSTMENT TO AUTOMATIC DELTA-T MINIMUM = 7.5 US/F
UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)

ZONE

ZDRIFT - USER DRIFT AT BOTTOM OF THE ZONE
ADJOPZ - TYPE OF ADJUSTMNENT IN THE DRIFT ZONE : 0=DELTA-T MIN, 1=BLOCKSHIFT
ADJUSZ - DELTA-T MINIMUM USED FOR ADJUSTMENT IN THE DRIFT ZONE
LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYVEL - USER SUPPLIED VELOCITY DATA

SAMPLED

SHOT - SHOT NUMBER
VDKB - VERTICAL DEPTH RELATIVE TO KB
DSRD - DEPTH FROM SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
KNEE - KNEE
BLSH - BLOCK SHIFT BETWEEN SHOTS OR KNEE
DTMI - VALUE OF DELTA-T MINIMUM USED
COEF - DELTA-T MIN COEFFICIENT USED IN THE DRIFT ZONE
DRGR - GRADIENT OF DRIFT CURVE

(GLOBAL PARAMETERS)		(VALUE)	
ORIG OF ADJ DATA (WST)	SRCDRF	: 2.00000	
CONS SONIC ADJST (WST)	CONADJ	: 7.50000	US/F
UNIFORM EARTH VELOCITY	UNERTH	: 2133.60	M/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
USER DRIFT ZONE (WST)	ZDRIFT	:-12.80000	MS	1300.00	-	877.500
		-12.50000		877.500		567.000
		-7.800000		567.000		305.000
		0		305.000		0
ADJUSMNT MODE (WST)	ADJOPZ	:-999.2500		30479.7	-	0
USER DELTA-T MIN (WST)	ADJUSZ	:-999.2500	US/F	30479.7	-	0
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		30479.7	-	0
USER VELOC (WST)	LAYVEL	: 1665.430	M/S	31.4000	-	0

COMPANY : BEACH PETROLEUM N.L. WELL : FAHLEY #2.

KNEE NUMBER	VERTICAL DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	DRIFT AT KNEE MS	BLOCKSHIFT USED US/F	DELTA-T MINIMUM USED US/F	REDUCTION FACTOR G	EQUIVALENT BLOCKSHIFT US/F
					0			0
2	305.00	273.60	300.40	0		134.16	.46	-9.07
3	567.00	535.60	562.40	-7.80		114.17	.62	-4.61
4	877.50	846.10	872.90	-12.50		98.23	.98	-.22
5	1300.00	1268.60	1295.40	-12.80				

ANALYST: 27-AUG-87 21:43:13 PROGRAM: GADJST 008.EC8

SCHLUMBERGER

VELOCITY REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

ANALYST:

27-AUG-87 21:43:13 PROGRAM: GADJST 008.E08

SCHLUMBERGER

VELOCITY REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
EKB - ELEVATION OF KELLY BUSHING
GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)

ZONE

LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYVEL - USER SUPPLIED VELOCITY DATA

SAMPLED

SHOT - SHOT NUMBER
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
SHTM - SHOT TIME (WST)
ADJS - ADJUSTED SONIC TRAVEL TIME
SHDR - DRIFT AT SHOT OR KNEE
REST - RESIDUAL TRAVEL TIME AT KNEE
INTV - INERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS)		(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	: 31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	: 0	M
ELEVATION OF KELLY BUSHI	EKB	: 31.4000	M
ELEV OF GL AB. SRD(WST)	GL	: 26.8000	M
UNIFORM EARTH VELOCITY	UNERTH	: 2133.60	M/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		30479.7	-	0
USER VELOC (WST)	LAYVEL	: 1665.430	M/S	31.4000	-	0

COMPANY : BEACH PETROLEUM N.L. WELL : FAHLEY #2.

LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEOPH MS	INTEGRATED ADJUSTED SONIC TIME MS	DRIFT = SHOT TIME - RAW SON MS	RESIDUAL = SHOT TIME - ADJ SON MS	ADJUSTED INTERVAL VELOCITY M/S
1	31.40	0	26.80	0	0	0	0	
2	285.00	253.60	280.40	123.70	123.70	0	0	2050
3	305.00	273.60	300.40	134.83	134.83	0	0	1797
4	346.00	314.60	341.40	153.11	154.17	-2.61	-1.07	2120
5	402.00	370.60	397.40	180.37	180.78	-4.30	-.42	2104
6	475.00	443.60	470.40	214.62	214.31	-5.31	.31	2178
7	564.00	532.60	559.40	254.84	255.21	-8.09	-.37	2176
8	650.00	618.60	645.40	291.00	290.59	-9.14	.41	2431
9	750.00	718.60	745.40	330.14	331.10	-12.38	-.96	2468
10	785.00	753.60	780.40	345.18	344.88	-11.54	.30	2541
11	845.00	813.60	840.40	368.24	368.15	-12.25	.09	2579
12	877.00	845.60	872.40	380.27	380.35	-12.58	-.07	2623
13	961.00	929.60	956.40	411.34	411.64	-12.89	-.30	2684
14	1000.00	968.60	995.40	425.37	425.74	-12.99	-.37	2766
15	1050.00	1018.60	1045.40	443.40	443.74	-12.99	-.34	2778
16	1103.00	1071.60	1098.40	461.43	462.65	-13.91	-1.22	2802
17	1150.00	1118.60	1145.40	478.45	478.52	-12.77	-.07	2962
18	1190.00	1158.60	1185.40	491.47	492.18	-13.42	-.70	2930
19	1221.00	1189.60	1216.40	500.49	501.10	-13.33	-.61	3474
20	1263.00	1231.60	1258.40	513.51	514.65	-13.86	-1.14	3099
21	1300.00	1268.60	1295.40	527.52	527.19	-12.39	.33	2950

ANALYST: 27-AUG-87 21:47:27 PROGRAM: GTRFRM 001.E12

SCHLUMBERGER

TIME CONVERTED VELOCITY REPORT

COMPANY : BEACH PETROLEUM N.L.

WELL : FAHLEY #2.

FIELD : WILDCAT.

REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)
UNFDEN - UNIFORM DENSITY VALUE

MATRIX

MVODIS - MOVE-OUT DISTANCE FROM BOREHOLE

ZONE

LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYVEL - USER SUPPLIED VELOCITY DATA
LOFDEN - LAYER OPTION FLAG FOR DENSITY : -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYDEN - USER SUPPLIED DENSITY DATA

SAMPLED

TWOT - TWO WAY TRAVEL TIME (RELATIVE TO THE SEISMIC REFERENCE
DKE - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
AVGV - AVERAGE SEISMIC VELOCITY
RMSV - ROOT MEAN SQUARE VELOCITY (SEISMIC)
MVOT - NORMAL MOVE-OUT
MVOT - NORMAL MOVE-OUT
MVOT - NORMAL MOVE-OUT
INTV - INTERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS)			(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	:	31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	:	0	M
ELEV OF GL AB. SRD(WST)	GL	:	26.8000	M
UNIFORM EARTH VELOCITY	UNERTH	:	2133.60	M/S
UNIFORM DENSITY VALUE	UNFDEN	:	2.30000	G/C3

(MATRIX PARAMETERS)

	MVOUT DIST M
1	1000.0
2	1500.0
3	2000.0

LONG DEFINITIONS

GLOBAL

SRCDRF - ORIGIN OF ADJUSTMENT DATA
CONADJ - CONSTANT ADJUSTMENT TO AUTOMATIC DELTA-T MINIMUM = 7.5 US/F
UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)

ZONE

ZDRIFT - USER DRIFT AT BOTTOM OF THE ZONE
ADJOPZ - TYPE OF ADJUSTMNENT IN THE DRIFT ZONE : 0=DELTA-T MIN, 1=BLOCKSHIFT
ADJUSZ - DELTA-T MINIMUM USED FOR ADJUSTMENT IN THE DRIFT ZONE
LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYVEL - USER SUPPLIED VELOCITY DATA

SAMPLED

SHOT - SHOT NUMBER
VDKB - VERTICAL DEPTH RELATIVE TO KB
DSRD - DEPTH FROM SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
KNEE - KNEE
BLSH - BLOCK SHIFT BETWEEN SHOTS OR KNEE
DTMI - VALUE OF DELTA-T MINIMUM USED
COEF - DELTA-T MIN COEFFICIENT USED IN THE DRIFT ZONE
DRGR - GRADIENT OF DRIFT CURVE

(GLOBAL PARAMETERS)		(VALUE)	
ORIG OF ADJ DATA (WST)	SRCDRF	: 2.00000	
CONS SONIC ADJST (WST)	CONADJ	: 7.50000	US/F
UNIFORM EARTH VELOCITY	UNERTH	: 2133.60	M/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
USER DRIFT ZONE (WST)	ZDRIFT	:-12.80000	MS	1300.00	-	877.500
		-12.50000		877.500		567.000
		-7.800000		567.000		305.000
		0		305.000		0
ADJUSMNT MODE (WST)	ADJOPZ	:-999.2500		30479.7	-	0
USER DELTA-T MIN (WST)	ADJUSZ	:-999.2500	US/F	30479.7	-	0
LAYER OPTION FLAG VELOC	LOFVEL	: 1.000000		30479.7	-	0
USER VELOC (WST)	LAYVEL	: 1665.430	M/S	31.4000	-	0

KNEE NUMBER	VERTICAL DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	DRIFT AT KNEE MS	BLOCKSHIFT USED US/F	DELTA-T MINIMUM USED US/F	REDUCTION FACTOR G	EQUIVALENT BLOCKSHIFT US/F
					0			0
2	305.00	273.60	300.40	0		134.16	.46	-9.07
3	567.00	535.60	562.40	-7.80		114.17	.62	-4.61
4	877.50	846.10	872.90	-12.50		98.23	.98	-.22
5	1300.00	1268.60	1295.40	-12.80				

ANALYST: 27-AUG-87 21:43:13 PROGRAM: GADJST 008.E08

SCHLUMBERGER

VELOCITY REPORT

COMPANY : EEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

ANALYST: 27-AUG-87 21:43:13 PROGRAM: GADJST 008.E08

SCHLUMBERGER

VELOCITY REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
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UNERTH - UNIFORM EARTH VELOCITY (GTRFRM)

ZONE

LOFVEL - LAYER OPTION FLAG FOR VELOCITY: -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYVEL - USER SUPPLIED VELOCITY DATA

SAMPLED

SHOT - SHOT NUMBER
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
SHTM - SHOT TIME (WST)
ADJS - ADJUSTED SONIC TRAVEL TIME
SHDR - DRIFT AT SHOT OR KNEE
REST - RESIDUAL TRAVEL TIME AT KNEE
INTV - INTERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS)		(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	0	M
ELEVATION OF KELLY BUSHI	EKB	31.4000	M
ELEV OF GL AB. SRD(WST)	GL	26.8000	M
UNIFORM EARTH VELOCITY	UNERTH	2133.60	M/S

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
LAYER OPTION FLAG VELOC	LOFVEL	1.000000		30479.7	-	0
USER VELOC (WST)	LAYVEL	1665.430	M/S	31.4000	-	0

COMPANY : BEACH PETROLEUM N.L. WELL : FAHLEY #2.

LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEOPH MS	INTEGRATED ADJUSTED SONIC TIME MS	DRIFT = SHOT TIME - RAW SON MS	RESIDUAL = SHOT TIME - ADJ SON MS	ADJUSTED INTERVAL VELOCITY M/S
1	31.40	0	26.80	0	0	0	0	
2	285.00	253.60	280.40	123.70	123.70	0	0	2050
3	305.00	273.60	300.40	134.83	134.83	0	0	1797
4	346.00	314.60	341.40	153.11	154.17	-2.61	-1.07	2120
5	402.00	370.60	397.40	180.37	180.78	-4.30	-.42	2104
6	475.00	443.60	470.40	214.62	214.31	-5.31	.31	2178
7	564.00	532.60	559.40	254.84	255.21	-8.09	-.37	2176
8	650.00	618.60	645.40	291.00	290.59	-9.14	.41	2431
9	750.00	718.60	745.40	330.14	331.10	-12.38	-.96	2468
10	785.00	753.60	780.40	345.18	344.88	-11.54	.30	2541
11	845.00	813.60	840.40	368.24	368.15	-12.25	.09	2579
12	877.00	845.60	872.40	380.27	380.35	-12.58	-.07	2623
13	961.00	929.60	956.40	411.34	411.64	-12.89	-.30	2684
14	1000.00	968.60	995.40	425.37	425.74	-12.99	-.37	2766
15	1050.00	1018.60	1045.40	443.40	443.74	-12.99	-.34	2778
16	1103.00	1071.60	1098.40	461.43	462.65	-13.91	-1.22	2802
17	1150.00	1118.60	1145.40	478.45	478.52	-12.77	-.07	2962
18	1190.00	1158.60	1185.40	491.47	492.18	-13.42	-.70	2930
19	1221.00	1189.60	1216.40	500.49	501.10	-13.33	-.61	3474
20	1263.00	1231.60	1258.40	513.51	514.65	-13.86	-1.14	3099
21	1300.00	1268.60	1295.40	527.52	527.19	-12.39	.33	2950

ANALYST: 27-AUG-87 21:42:54 PROGRAM: GADJST 008.E08

SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

ANALYST: 27-AUG-87 20:13:16 PROGRAM: GDRIFT 007.E09

DRIFT COMPUTATION REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
EKB - ELEVATION OF KELLY BUSHING
GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
XSTART - TOP OF ZONE PROCESSED BY WST
XSTOP - BOTTOM OF ZONE PROCESSED BY WST
GAD001 - RAW SONIC CHANNEL NAME USED FOR WST SONIC ADJUSTMENT
UNFDEN - UNIFORM DENSITY VALUE

ZONE

LOFDEN - LAYER OPTION FLAG FOR DENSITY : -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYDEN - USER SUPPLIED DENSITY DATA

SAMPLED

SHOT - SHOT NUMBER
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
SHTM - SHOT TIME (WST)
RAWS - RAW SONIC (WST)
SHDR - DRIFT AT SHOT OR KNEE
BLSH - BLOCK SHIFT BETWEEN SHOTS OR KNEE

(GLOBAL PARAMETERS)		(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	0	M
ELEVATION OF KELLY BUSHI	EKB	31.4000	M
ELEV OF GL AB. SRD(WST)	GL	26.8000	M
TOP OF ZONE PROCD (WST)	XSTART	0	M
BOT OF ZONE PROCD (WST)	XSTOP	0	M
RAW SONIC CH NAME (WST)	GAD001	DT.ATT.002.FLP.*	
UNIFORM DENSITY VALUE	UNFDEN	2.30000	G/C3

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
LAYER OPTION FLAG DENS	LOFDEN	1.000000		30479.7	-	0
USER SUPPLIED DENSITY DA	LAYDEN	-999.2500	G/C3	30479.7	-	0

COMPANY : BEACH PETROLEUM N.L. WELL : FAHLEY #2.

LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEO MS	INTEGRATED RAW SONIC TIME MS	COMPUTED DRIFT AT LEVEL MS	COMPUTED BLK-SHFT CORRECTION US/F
							0
1	31.40	0	26.80	0	0	0	0
2	285.00	253.60	280.40	123.70	123.70	0	0
3	305.00	273.60	300.40	134.83	134.83	0	-19.40
4	346.00	314.60	341.40	153.11	155.72	-2.61	-9.21
5	402.00	370.60	397.40	180.37	184.67	-4.30	-4.23
6	475.00	443.60	470.40	214.62	219.93	-5.31	-9.50
7	564.00	532.60	559.40	254.84	262.93	-8.09	-3.74
8	650.00	618.60	645.40	291.00	300.15	-9.14	-9.87
9	750.00	718.60	745.40	330.14	342.53	-12.38	7.35
10	785.00	753.60	780.40	345.18	356.72	-11.54	-3.61
11	845.00	813.60	840.40	368.24	380.49	-12.25	-3.13
12	877.00	845.60	872.40	380.27	392.85	-12.58	-1.13
13	961.00	929.60	956.40	411.34	424.23	-12.89	-.77
14	1000.00	968.60	995.40	425.37	438.35	-12.99	-.01
15	1050.00	1018.60	1045.40	443.40	456.39	-12.99	-5.30
16	1103.00	1071.60	1098.40	461.43	475.34	-13.91	7.39
17	1150.00	1118.60	1145.40	478.45	491.22	-12.77	-4.96
18	1190.00	1158.60	1185.40	491.47	504.89	-13.42	.88
19	1221.00	1189.60	1216.40	500.49	513.82	-13.33	-3.85
20	1263.00	1231.60	1258.40	513.51	527.37	-13.86	12.10
21	1300.00	1268.60	1295.40	527.52	539.91	-12.39	

ANALYST: 27-AUG-87 21:42:54 PROGRAM: GADJST 008.E08

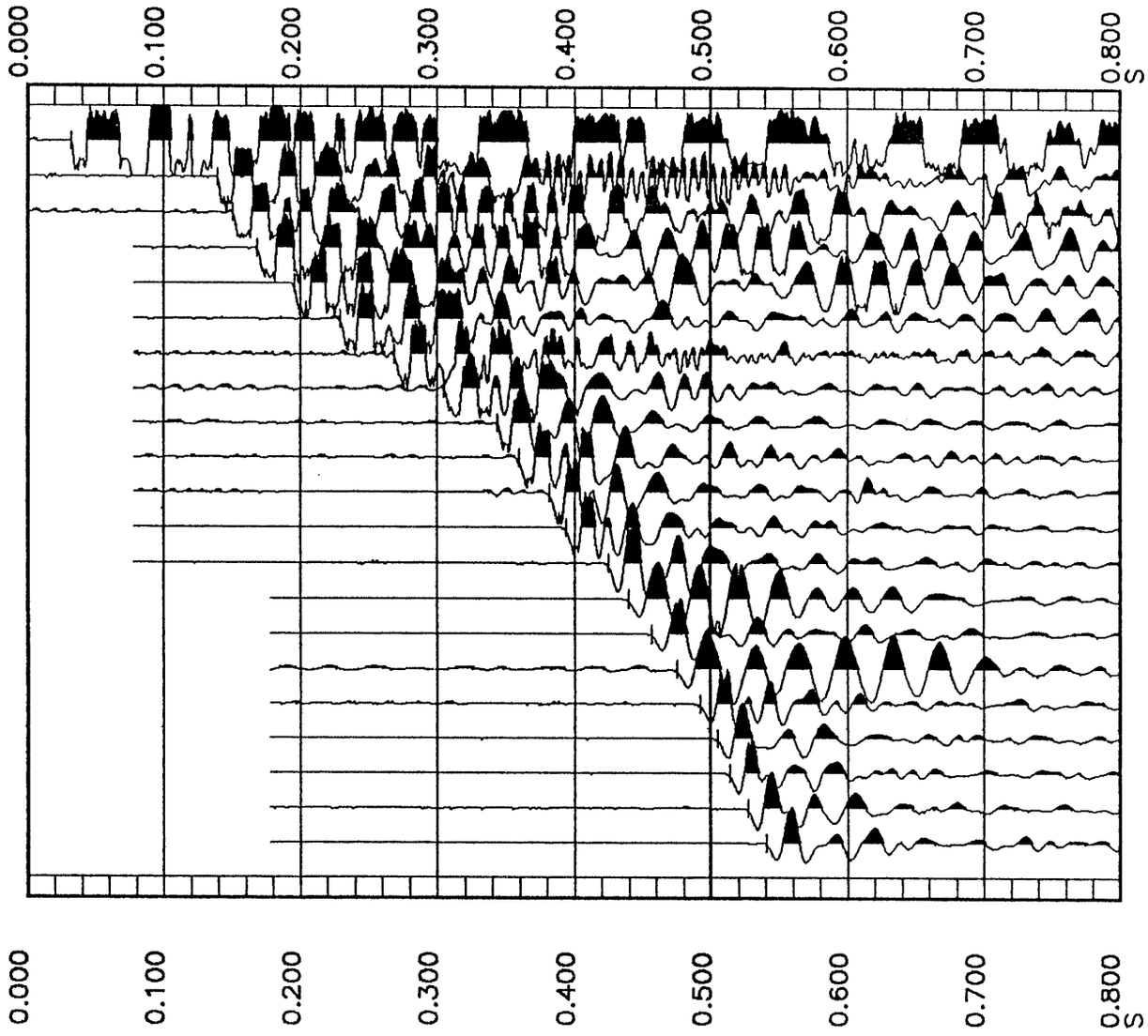
SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

Figure 2

FAHLEY - 2
STACKED CHECKSHOT DATA

RAW DEPTH M	TRANSIT TIME S	LEVEL NO
31.4	0.032	21
285.0	0.139	20
305.0	0.151	19
346.0	0.168	18
402.4	0.195	17
475.0	0.229	16
564.0	0.269	15
650.0	0.305	14
750.0	0.344	13
785.0	0.359	12
845.0	0.382	11
877.0	0.394	10
961.0	0.425	9
1000.0	0.439	8
1050.0	0.457	7
1103.0	0.475	6
1150.0	0.492	5
1190.0	0.505	4
1221.0	0.514	3
1263.0	0.527	2
1300.0	0.541	1



SHOT

ANALYST: 27-AUG-87 20:07:41 PROGRAM: GSHOT 007.E08

SCHLUMBERGER

GEOPHYSICAL AIRGUN REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
EKB - ELEVATION OF KELLY BUSHING
GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
VELHYD - VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE HYDROPHONE
VELSUR - VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE SRD

MATRIX

GUNELZ - SOURCE ELEVATION ABOVE SRD (ONE FOR THE WHOLE JOB; OR ONE PER SHOT)
GUNEWZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN EW DIRECTION (CF. GUNELZ)
GUNNSZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN NS DIRECTION (CF. GUNELZ)
HYDELZ - HYDROPHONE ELEVATION ABOVE SRD (CF. GUNELZ)
HYDEWZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN EW DIRECTION (CF GUNELZ)
HYDNSZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN NS DIRECTION (CF GUNELZ)
TRTHYD - TRAVEL TIME FROM THE HYDROPHONE TO THE SOURCE
TRTSRD - TPAVEL TIME FROM THE SOURCE TO THE SRD
DEVWEL - DEVIATED WELL DATA PER SHOT : MEAS. DEPTH, VERT. DEPTH, EW, NS

SAMPLED

SHOT.GSH - SHOT NUMBER
DKB.GSH - MEASURED DEPTH FROM KELLY-BUSHING
DSRD.GSH - DEPTH FROM SRD
DGL.GSH - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
TIMO.GSH - MEASURED TRAVEL TIME FROM HYDROPHONE TO GEOPHONE
TIMV.GSH - VERTICAL TRAVEL TIME FROM THE SOURCE TO THE GEOPHONE
SHTM.GSH - SHOT TIME (WST)
AVGV.GSH - AVERAGE SEISMIC VELOCITY
DELZ.GSH - DEPTH INTERVAL BETWEEN SUCCESSIVE SHOTS
DELT.GSH - TRAVEL TIME INTERVAL BETWEEN SUCCESSIVE SHOTS
INTV.GSH - INTERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS)			(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	:	31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	:	0	M
ELEVATION OF KELLY BUSHI	EKB	:	31.4000	M
ELEV OF GL AB. SRD(WST)	GL	:	26.8000	M
VEL SOURCE-HYDRO(WST)	VELHYD	:	1500.00	M/S
VEL SOURCE-SRD (WST)	VELSUR	:	1665.43	M/S

(MATRIX PARAMETERS)

	SOURCE ELV M	SOURCE EW M	SOURCE NS M	HYDRO ELEV M	HYDRO EW M	HYDRO NS M
1	23.90	35.36	-35.36	24.55	36.63	-36.63

	TRT HYD-SC MS	TRT SC-SRD MS
1	1.28	-14.35

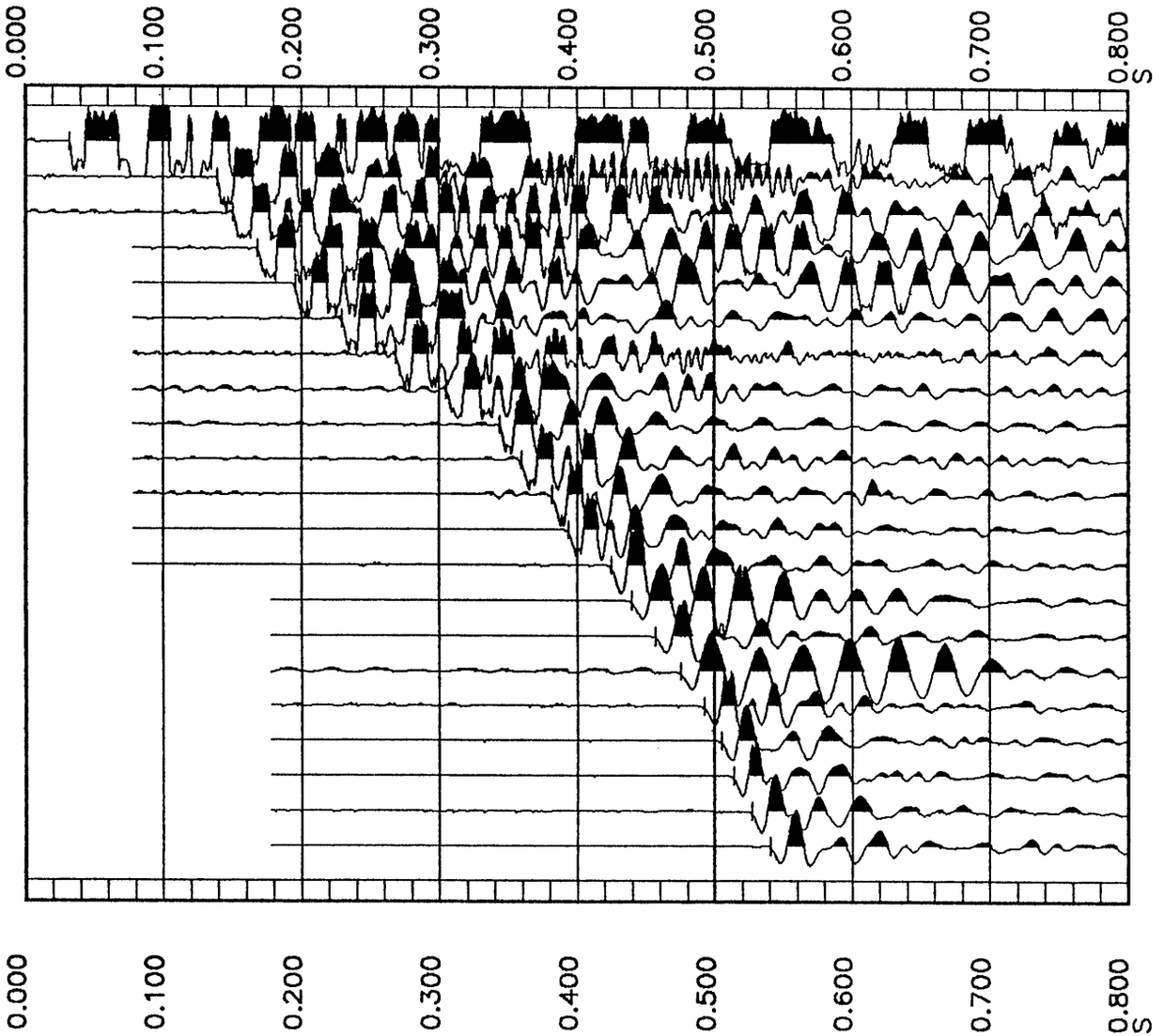
	MD @ KB M	VD @ KB M	VD @ SRD M	E-W COORD M	N-S COORD M
1	31.40	31.40	0	0	0
2	285.00	285.00	253.60	0	0
3	305.00	305.00	273.60	0	0
4	346.00	346.00	314.60	0	0
5	402.00	402.00	370.60	0	0
6	475.00	475.00	443.60	0	0
7	564.00	564.00	532.60	0	0
8	650.00	650.00	618.60	0	0
9	750.00	750.00	718.60	0	0
10	785.00	785.00	753.60	0	0
11	845.00	845.00	813.60	0	0
12	877.00	877.00	845.60	0	0
13	961.00	961.00	929.60	0	0
14	1000.00	1000.00	968.60	0	0
15	1050.00	1050.00	1018.60	0	0
16	1103.00	1103.00	1071.60	0	0
17	1150.00	1150.00	1118.60	0	0
18	1190.00	1190.00	1158.60	0	0
19	1221.00	1221.00	1189.60	0	0
20	1263.00	1263.00	1231.60	0	0
21	1300.00	1300.00	1268.60	0	0

LEVEL NUMBER	MEASUR DEPTH FROM KB M	VERTIC DEPTH FROM SRD M	VERTIC DEPTH FROM GL M	OBSERV TRAVEL TIME HYD/GEO MS	VERTIC TRAVEL TIME SRC/GEO MS	VERTIC TRAVEL TIME SRD/GEO MS	AVERAGE VELOC SRD/GEO M/S	DELTA DEPTH BETWEEN SHOTS M	DELTA TIME BETWEEN SHOTS MS	INTERV VELOC BETWEEN SHOTS M/S
1	31.40	0	26.80	32.00	14.35	0				
2	285.00	253.60	280.40	139.00	138.05	123.70	2050	253.60	123.70	2050
3	305.00	273.60	300.40	150.00	149.18	134.83	2029	20.00	11.13	1797
4	346.00	314.60	341.40	168.00	167.46	153.11	2055	41.00	18.28	2243
5	402.00	370.60	397.40	195.00	194.72	180.37	2055	56.00	27.26	2054
6	475.00	443.60	470.40	229.00	228.97	214.62	2067	73.00	34.25	2131
7	564.00	532.60	559.40	269.00	269.19	254.84	2090	89.00	40.22	2213
8	650.00	618.60	645.40	305.00	305.35	291.00	2126	86.00	36.16	2378
9	750.00	718.60	745.40	344.00	344.50	330.14	2177	100.00	39.14	2555
10	785.00	753.60	780.40	359.00	359.53	345.18	2183	35.00	15.04	2328
11	845.00	813.60	840.40	382.00	382.59	368.24	2209	60.00	23.06	2602
12	877.00	845.60	872.40	394.00	394.62	380.27	2224	32.00	12.03	2660
13	961.00	929.60	956.40	425.00	425.69	411.34	2260	84.00	31.07	2704
14	1000.00	968.60	995.40	439.00	439.72	425.37	2277	39.00	14.03	2780
15	1050.00	1018.60	1045.40	457.00	457.75	443.40	2297	50.00	18.03	2773
16	1103.00	1071.60	1098.40	475.00	475.78	461.43	2322	53.00	18.03	2939
17	1150.00	1118.60	1145.40	492.00	492.80	478.45	2338	47.00	17.02	2761
18	1190.00	1158.60	1185.40	505.00	505.82	491.47	2357	40.00	13.02	3072
19	1221.00	1189.60	1216.40	514.00	514.84	500.49	2377	31.00	9.02	3439
20	1263.00	1231.60	1258.40	527.00	527.86	513.51	2398	42.00	13.02	3226
21	1300.00	1268.60	1295.40	541.00	541.87	527.52	2405	37.00	14.01	2640

Figure 2

FAHLEY - 2
STACKED CHECKSHOT DATA

RAW DEPTH M	TRANSIT TIME S	LEVEL NO
31.4	0.032	21
285.0	0.139	20
305.0	0.151	19
346.0	0.168	18
402.4	0.195	17
475.0	0.229	16
564.0	0.269	15
650.0	0.305	14
750.0	0.344	13
785.0	0.359	12
845.0	0.382	11
877.0	0.394	10
961.0	0.425	9
1000.0	0.439	8
1050.0	0.457	7
1103.0	0.475	6
1150.0	0.492	5
1190.0	0.505	4
1221.0	0.514	3
1263.0	0.527	2
1300.0	0.541	1



Schlumberger

BEACH PETROLEUM N.L.

GEOGRAM PROCESSING REPORT

FAHLEY - 2

FIELD	:	WILDCAT
STATE	:	VICTORIA
COUNTRY	:	AUSTRALIA
COORDINATES	:	037 deg 58' 44.86" S 141 deg 02' 47.01" E
DATE OF SURVEY	:	20-AUGUST-1987
REFERENCE NO.	:	569001

CONTENTS

1. Introduction

A checkshot survey was shot in the Fahley - 2 well on 20 August 1987. Data was acquired using a dynamite source. Twenty one levels were shot from 1300 to 31.4 metres below KB.

2. Data Acquisition

Table 1 Field Equipment and Survey Parameters

Elevation Datum	MSL
Elevation KB	31.4 metres AMSL
Elevation DF	31.1 metres AMSL
Elevation GL	26.8 metres AMSL
Total Depth	1300 metres below KB
No. of Levels	21
Energy Source	Dynamite
Source Offset	50.0 metres
Source Azimuth	135 deg
Source Elevation	2.9 metres below GL
Sensor Offset	1.8 metres from shot
Sensor Elevation	2.25 metres below GL
Reference Sensor	Hydrophone
Downhole Geophone	Geospace HS-1
	High Temp. (350 deg F)
	Coil Resist. 225Ω $\pm$10 %
	Natural Freq. 8-12 hertz
	Sensitivity 0.45 V/in/sec
	Maximum tilt angle 60 deg

Recording was made on the Schlumberger Cyber Service Unit (CSU) using LIS format on 9 track magnetic tape and at a recording density of 1600 BPI.

3. Checkshot Data

Twenty one levels were used in the sonic calibration processing. The data quality is good with clearly defined first breaks.

Table 2 Check Shot Levels

Measured Depth	Shots Stacked	Shots Rejected	Quality	Comments
31.4	1	1	Good	
285	2	0	Good	
305	3	4	Good	
346	1	0	Good	
402	1	0	Good	
475	1	0	Good	
564	2	0	Good	
658	1	0	Good	
750	1	0	Good	
785	1	0	Good	
845	1	0	Good	
877	1	0	Good	
961	1	1	Good	
1000	1	0	Good	
1050	1	1	Good	
1103	1	0	Good	
1150	1	0	Good	
1190	1	1	Good	
1221	1	0	Good	
1263	1	0	Good	
1300	2	1	Good	

4. Sonic Calibration Processing

4.1 Sonic Calibration

A 'drift' curve is obtained using the sonic log and the vertical check level times. The term 'drift' is defined as the seismic time (from check shots) minus the sonic time (from integration of edited sonic). Commonly the word 'drift' is used to identify the above difference, or to identify the gradient of drift verses increasing depth, or to identify a difference of drift between two levels.

The gradient of drift, that is the slope of the drift curve, can be negative or positive.

For a negative drift $\frac{\Delta drift}{\Delta depth} < 0$, the sonic time is greater than the seismic time over a certain section of the log.

For a positive drift $\frac{\Delta drift}{\Delta depth} > 0$, the sonic time is less than the seismic time over a certain section of the log.

The drift curve, between two levels, is then an indication of the error on the integrated sonic or an indication of the amount of correction required on the sonic to have the TTI of the corrected sonic match the check shot times.

Two methods of correction to the sonic log are used.

1. **Uniform or block shift** This method applies a uniform correction to all the sonic values over the interval. This uniform correction is applied in the case of positive drift and is the average correction represented by the drift curve gradient expressed in μsec/ft.

2. **ΔT Minimum** In the case of negative drift a second method is used, called Δt minimum. This applies a differential correction to the sonic log, where it is assumed that the greatest amount of transit time error is caused by the lower velocity sections of the log. Over a given interval the method will correct only Δt values which are higher than a threshold, the Δt_{min}. Values of Δt which are lower than the threshold are not corrected. The correction is a reduction of the excess of Δt over Δt_{min}, Δt - Δt_{min}.

   $\Delta t - \Delta t_{min}$ is reduced through multiplication by a reduction coefficient which remains constant over the interval. This reduction coefficient, named G, can be be defined as:

   $$G = 1 + \frac{drift}{\int (\Delta t - \Delta t_{min}) dZ}$$

   Where drift is the drift over the interval to be corrected and the value $\int (\Delta t - \Delta t_{min}) dZ$ is the time difference between the integrals of the two curves Δt and Δt_{min}, only over the intervals where $\Delta t > \Delta t_{min}$.

   Hence the corrected sonic: $\Delta t = G(\Delta t - \Delta t_{min}) + \Delta t_{min}$.

4.2 Open Hole Logs

The sonic log was recorded from 1300 metres to the casing shoe at 305 metres below KB. The overall log quality is good. A density log was not recorded and a constant density of 2.3 gm/cc is assumed. The caliper and gamma ray logs are included as correlation curves.

4.3 Correction to Datum and Velocity Modelling

The sonic calibration processing has been referenced to the seismic datum at mean sea level. A checkshot was taken at MSL and a static correction is computed from this shot.

4.4 Sonic Calibration Results

The top of the sonic log (305 metres below KB) is chosen as the origin for the calibration drift curve. The drift curve indicates a number of corrections to be made to the sonic log. A list of shifts used on the sonic data is given below.

Table 3 Sonic Drift

Depth Interval (m below KB)	Block Shift μsec/ft	Δt_{min} μsec/ft	Equiv Block Shift μsec/ft
305.0-567.0	-	134.16	-9.07
567.0-877.5	-	114.17	-4.61
877.5-1300.0	-	98.23	-0.22

The adjusted sonic curve is considered to be the best result using the available data.

5. Synthetic Seismogram Processing

GEOGRAM plots were generated using 12-60 hertz zero phase butterworth wavelets.

The presentations include both normal and reverse polarity on a time scale of 3.75 in/sec.

GEOGRAM processing produces synthetic seismic traces based on reflection coefficients generated from sonic and density measurements in the well-bore. The steps in the processing chain are the following:

Depth to time conversion
Reflection coefficients
Attenuation coefficients
Convolution
Output.

5.1 Depth to Time Conversion

Open hole logs are recorded from the bottom to top with a depth index. This data is converted to a two-way time index and flipped to read from the top to bottom in order to match the seismic section.

5.2 Primary Reflection Coefficients

Sonic and density data are averaged over chosen time intervals (normally 2 or 4 millisecs). Reflection coefficients are then computed using:

$$R = \frac{\rho_2.\nu_2 - \rho_1.\nu_1}{\rho_2.\nu_2 + \rho_1.\nu_1}$$

where:

ρ_1 = density of the layer above the reflection interface
ρ_2 = density of the layer below the reflection interface
ν_1 = compressional wave velocity of the layer above the reflection interface
ν_2 = compressional wave velocity of the layer below the reflection interface

This computation is done for each time interval to generate a set of primary reflection coefficients without transmission losses.

5.3 Primaries with Transmission Loss

Transmission loss on two-way attenuation coefficients are computed using:

$$A_n = (1 - R_1^2).(1 - R_2^2).(1 - R_3^2)...(1 - R_n^2)$$

A set of primary reflection coefficients with transmission loss is generated using:

$$Primary_n = R_n.A_{n-1}$$

5.4 Primaries plus Multiples

Multiples are computed from these input reflection coefficients using the transform technique from the top of the well to obtain the impulse response of the earth. The transform outputs primaries plus multiples.

5.5 Multiples Only

By subtracting previously calculated primaries from the above result we obtain multiples only.

5.6 Wavelet

A theoretical wavelet is chosen to use for convolution with the reflection coefficients previously generated. Choices available include:

Klauder wavelet
Ricker zero phase wavelet
Ricker minimum phase wavelet
Butterworth wavelet
User defined wavelet.

Time variant butterworth filtering can be applied after convolution.

5.7 Polarity Convention

An increase in acoustic impedance gives a positive reflection coefficent and is displayed as a white trough under normal polarity. Polarity conventions are displayed in Figure-1.

5.8 Convolution

Standard procedure of convolution of wavelet with reflection coefficients. The output is the synthetic seismogram.

A Summary of Geophysical Listings

Six geophysical data listings are appended to this report. Following is a brief description of the format of each listing.

A1 Geophysical Airgun Report

1. Level number : the level number starting from the top level (includes any imposed shots).
2. Vertical depth from KB : *dkb*, the depth in feet from kelly bushing .
3. Vertical depth from SRD : *dsrd*, the depth in feet from seismic reference datum.
4. Vertical depth from GL : *dgl*, the depth in feet from ground level.
5. Observed travel time HYD to GEO : *tim*0, the transit time picked from the stacked data by subtracting the surface sensor first break time from the downhole sensor first break time.
6. Vertical travel time SRC to GEO : *timv*, is corrected for source to hydrophone distance and for source offset.
7. Vertical travel time SRD to GEO : *shtm*, is *timv* corrected for the vertical distance between source and datum.
8. Average velocity SRD to GEO : the average seismic velocity from datum to the corresponding checkshot level, $\frac{dsrd}{shtm}$.
9. Delta depth between shots : $\Delta depth$, the vertical distance between each level.
10. Delta time between shots : $\Delta time$, the difference in vertical travel time (*shtm*) between each level.
11. Interval velocity between shots : the average seismic velocity between each level, $\frac{\Delta depth}{\Delta time}$.

A2 Drift Computation Report

1. Level number : the level number starting from the top level (includes any imposed shots).
2. Vertical depth from KB : the depth in feet from kelly bushing .
3. Vertical depth from SRD : the depth in feet from seismic reference datum.
4. Vertical depth from GL : the depth in feet from ground level.
5. Vertical travel time SRD to GEO : the calculated vertical travel time from datum to downhole geophone (see column 7, Geophysical Airgun Report).

6. Integrated raw sonic time : the raw sonic log is integrated from top to bottom and listed at each level. An initial value at the top of the sonic log is set equal to the checkshot time at that level. This may be an imposed shot if a shot was not taken at the top of the sonic.

7. Computed drift at level : the checkshot time minus the integrated raw sonic time.

8. Computed blk-shft correction : the drift gradient between any two checkshot levels ($\frac{\Delta drift}{\Delta depth}$).

A3 Sonic Adjustment Parameter Report

1. Knee number : the knee number starting from the highest knee. (The first knees listed will generally be at SRD and the top of sonic. The drift imposed at these knees will normally be zero.)

2. Vertical depth from KB : the depth in feet from kelly bushing .

3. Vertical depth from SRD : the depth in feet from seismic reference datum.

4. Vertical depth from GL : the depth in feet from ground level.

5. Drift at knee : the value of drift imposed at each knee.

6. Blockshift used : the change in drift divided by the change in depth between any two levels.

7. Delta-T minimum used : see section 4 of report for an explanation of Δt_{min}.

8. Reduction factor : see section 4 of report.

9. Equivalent blockshift : the gradient of the imposed drift curve.

A4 Velocity Report

1. Level number : the level number starting from the top level (includes any imposed shots).

2. Vertical depth from KB : the depth in feet from kelly bushing .

3. Vertical depth from SRD : the depth in feet from seismic reference datum

4. Vertical depth from GL : the depth in feet from ground level

5. Vertical travel time SRD to GEOPH : the vertical travel time from SRD to downhole geophone (see column 7, Geophysical Airgun Report)

6. Integrated adjusted sonic time : the adjusted sonic log is integrated from top to bottom. An initial value at the the top of the sonic is set equal the checkshot time at that level. (The adjusted sonic log is the drift corrected sonic log.)

7. Drift=shot time-raw son : the check shot time minus the raw integrated sonic time.

8. Residual=shot time-adj son : the check shot time minus the adjusted integrated sonic time. This is the difference between calculated drift and the imposed drift.

9. Adjusted interval velocity : the interval velocity calculated from the integrated adjusted sonic time at each level.

A5 Time Converted Velocity Report

The data in this listing has been resampled in time.

1. Two way travel time from SRD : This is the index for the data in this listing. The first value is at SRD (0 millisecs) and the sampling rate is 2 millisecs.

2. Measured depth from KB : the depth from KB at each corresponding value of two way time.

3. Vertical depth from SRD : the vertical depth from SRD at each corresponding value of two way time.

4. Average velocity SRD to GEO : the vertical depth from SRD divided by half the two way time.

5. RMS velocity : the root mean square velocity from datum to the corresponding value of two way time.

$$v_{rms} = \sqrt{\Sigma_1^n v_i^2 t_i / \Sigma_1^n t_i}$$

where v_i is the velocity between each 2 millisecs interval.

6. First normal moveout : the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 3000 feet).

$$\Delta t = \sqrt{t^2 + (\frac{X}{v_{rms}})^2} - t$$

where:

Δt = normal moveout (secs)
X = moveout distance (feet)
t = two way time (secs)
v_{rms} = rms velocity (feet /sec)

7. Second normal moveout : the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 4500 feet).

8. Third normal moveout : the correction time in millisecs to be applied to the two way travel time for a specified moveout distance (default = 6000 feet).

9. Interval velocity : the velocity between each sampled depth. Typically, the sampling rate is 2 millisecs two way time, (1 millisec one way time) therefore the interval velocity will be equal to the depth increment divided by 0.001. It is equivalent to column 9 from the the Velocity Report.

A6 Synthetic Seismogram Table

1. Two way travel time from SRD : This is the index for the data in this listing. The first value is at the top of the sonic. The default sampling rate is 2 millisecs.

2. Vertical depth from SRD : the vertical depth from SRD at each corresponding value of two way time.

3. Interval velocity : the velocity between each sampled depth. Typically, the sampling rate is 2 millisecs two way time, (1 millisec one way time) therefore the interval velocity will be equal to the depth increment divided by 0.001. It is equivalent to column 9 from the the Velocity Report.

4. Interval density : the average density between two successive values of two way time.

5. Reflect. coeff. : the difference in acoustic impedance divided by the sum of the acoustic impedance between any two levels. The acoustic impedance is the product of the interval density and the interval velocity.

6. Two way atten. coeff. : is computed from the series

$$A_n = (1 - R_1^2).(1 - R_2^2).(1 - R_3^2)...(1 - R_n^2)$$

7. Sythetic seismo. primary : the product of the reflection coefficient at each depth and the two way attenuation coefficient up to that depth.

$$Primary_n = R_n.A_{n-1}$$

8. Primary + multiple : a transform technique is used to calculate multiples from the input reflection coefficients.

9. Multiples only : (Primary + multiple) - (Synthetic seismo. primary)

SCHLUMBERGER (SEG-1976) WAVELET POLARITY CONVENTION

Figure 1

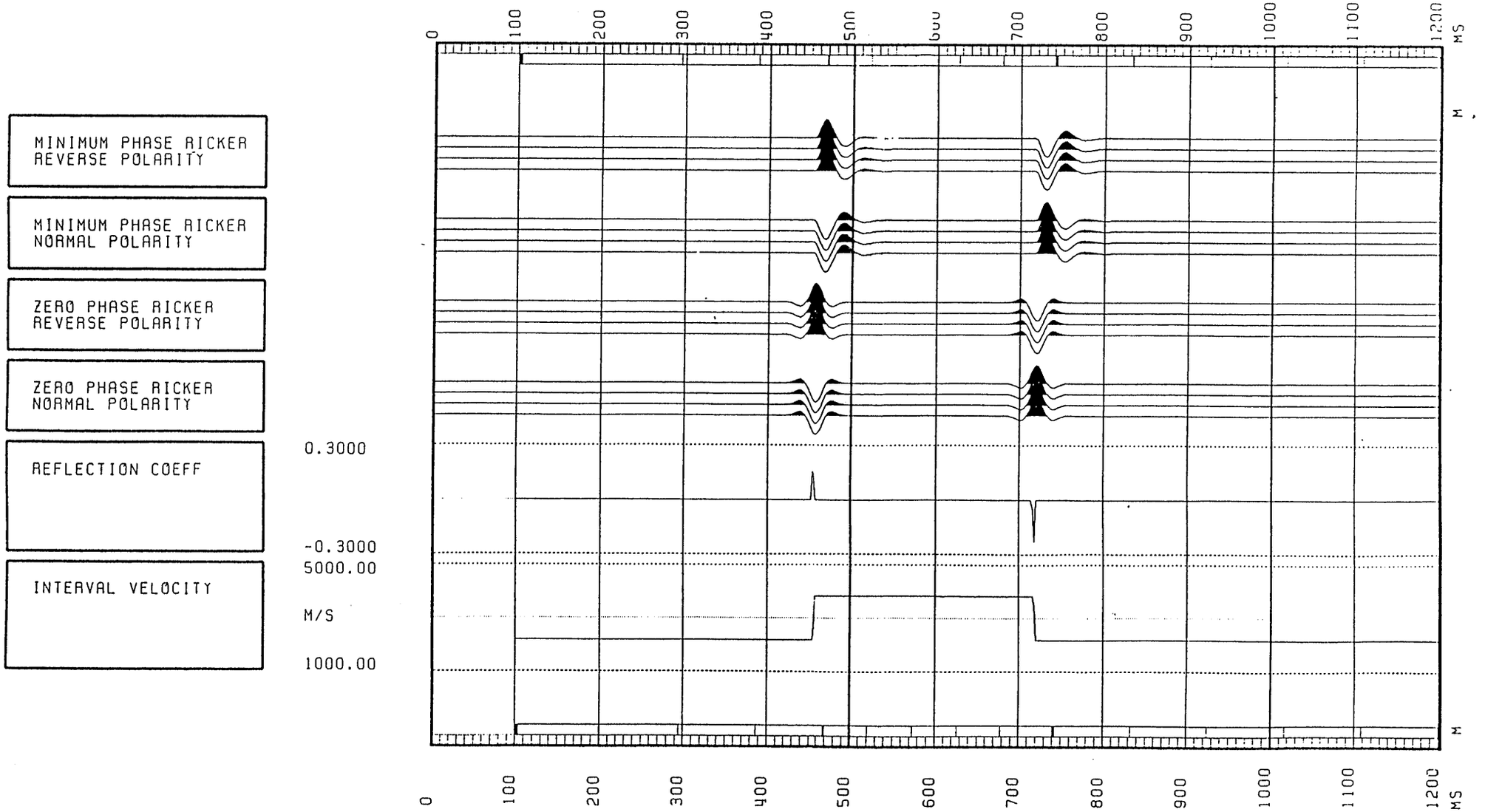
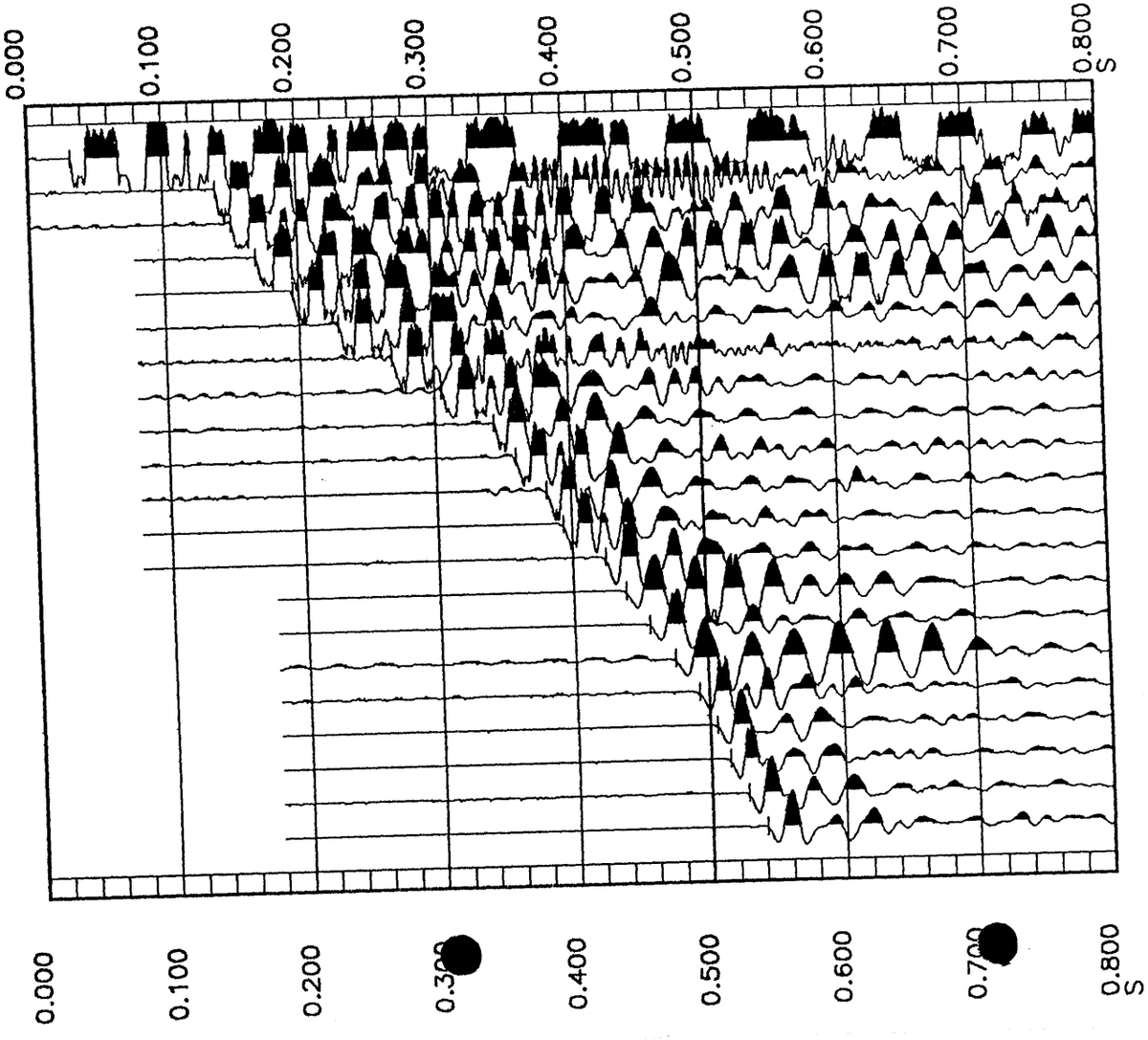


Figure 2

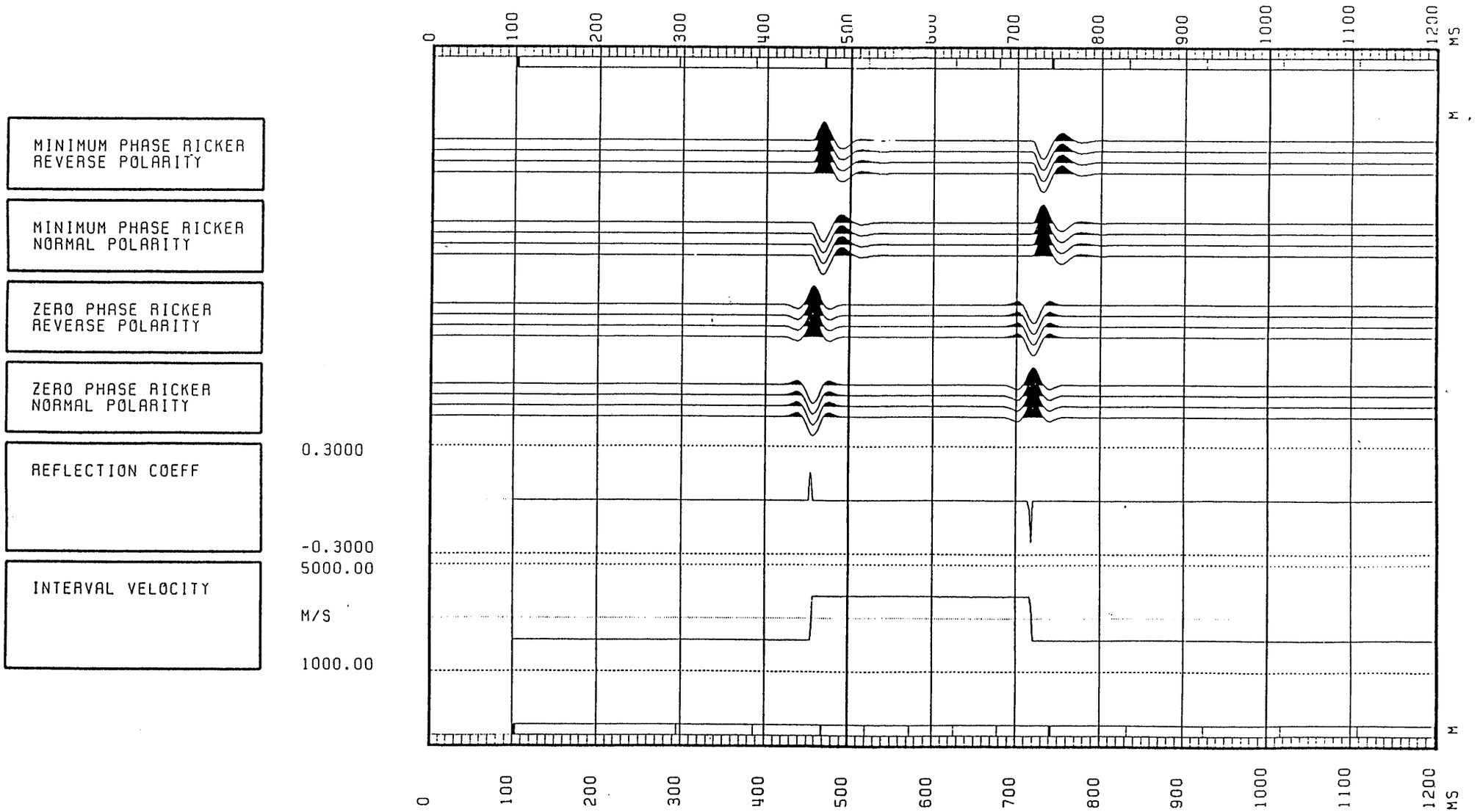
FAHLEY - 2
STACKED CHECKSHOT DATA



RAW DEPTH M	TRANSIT TIME S	LEVEL NO
31.4	0.032	21
285.0	0.139	20
305.0	0.151	19
346.0	0.168	18
402.4	0.195	17
475.0	0.229	16
564.0	0.269	15
650.0	0.305	14
750.0	0.344	13
785.0	0.359	12
845.0	0.382	11
877.0	0.394	10
961.0	0.425	9
1000.0	0.439	8
1050.0	0.457	7
1103.0	0.475	6
1150.0	0.492	5
1190.0	0.505	4
1221.0	0.514	3
1263.0	0.527	2
1300.0	.0.541	1

SCHLUMBERGER (SEG-1976) WAVELET POLARITY CONVENTION

Figure 1



ANALYST: 27-AUG-87 20:07:41 PROGRAM: GSHOT 007.E08

SCHLUMBERGER

GEOPHYSICAL AIRGUN REPORT

COMPANY : BEACH PETROLEUM N.L.

WELL : FAHLEY #2.

FIELD : WILDCAT.

REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
EKB - ELEVATION OF KELLY BUSHING
GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
VELHYD - VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE HYDROPHONE
VELSUR - VELOCITY OF THE MEDIUM BETWEEN THE SOURCE AND THE SRD

MATRIX

GUNELZ - SOURCE ELEVATION ABOVE SRD (ONE FOR THE WHOLE JOB; OR ONE PER SHOT)
GUNEWZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN EW DIRECTION (CF. GUNELZ)
GUNNSZ - SOURCE DISTANCE FROM THE BOREHOLE AXIS IN NS DIRECTION (CF. GUNELZ)
HYDELZ - HYDROPHONE ELEVATION ABOVE SRD (CF. GUNELZ)
HYDEWZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN EW DIRECTION (CF GUNELZ)
HYDNSZ - HYDROPHONE DISTANCE FROM THE BOREH AXIS IN NS DIRECTION (CF GUNELZ)
TRTHYD - TRAVEL TIME FROM THE HYDROPHONE TO THE SOURCE
TRTSRD - TRAVEL TIME FROM THE SOURCE TO THE SRD
DEVWEL - DEVIATED WELL DATA PER SHOT : MEAS. DEPTH, VERT. DEPTH, EW, NS

SAMPLED

SHOT.GSH - SHOT NUMBER
DKB.GSH - MEASURED DEPTH FROM KELLY-BUSHING
DSRD.GSH - DEPTH FROM SRD
DGL.GSH - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
TIMO.GSH - MEASURED TRAVEL TIME FROM HYDROPHONE TO GEOPHONE
TIMV.GSH - VERTICAL TRAVEL TIME FROM THE SOURCE TO THE GEOPHONE
SHTM.GSH - SHOT TIME (WST)
AVGV.GSH - AVERAGE SEISMIC VELOCITY
DELZ.GSH - DEPTH INTERVAL BETWEEN SUCCESSIVE SHOTS
DELT.GSH - TRAVEL TIME INTERVAL BETWEEN SUCCESSIVE SHOTS
INTV.GSH - INTERNAL VELOCITY, AVERAGE

(GLOBAL PARAMETERS)			(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	:	31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	:	0	M
ELEVATION OF KELLY BUSHI	EKB	:	31.4000	M
ELEV OF GL AB. SRD(WST)	GL	:	26.8000	M
VEL SOURCE-HYDRO(WST)	VELHYD	:	1500.00	M/S
VEL SOURCE-SRD (WST)	VELSUR	:	1665.43	M/S

(MATRIX PARAMETERS)

	SCURCE ELV M	SOURCE EW M	SCURCE NS M	HYDRO ELEV M	HYDRO EW M	HYDRO NS M
1	23.90	35.36	-35.36	24.55	36.63	-36.63

	TRT HYD-SC MS	TRT SC-SRD MS
1	1.28	-14.35

	MD @ KB M	VD @ KB M	VD @ SRD M	E-W COORD M	N-S COORD M
1	31.40	31.40	0	0	0
2	285.00	285.00	253.60	0	0
3	305.00	305.00	273.60	0	0
4	346.00	346.00	314.60	0	0
5	402.00	402.00	370.60	0	0
6	475.00	475.00	443.60	0	0
7	564.00	564.00	532.60	0	0
8	650.00	650.00	618.60	0	0
9	750.00	750.00	718.60	0	0
10	785.00	785.00	753.60	0	0
11	845.00	845.00	813.60	0	0
12	877.00	877.00	845.60	0	0
13	961.00	961.00	929.60	0	0
14	1000.00	1000.00	968.60	0	0
15	1050.00	1050.00	1018.60	0	0
16	1103.00	1103.00	1071.60	0	0
17	1150.00	1150.00	1118.60	0	0
18	1190.00	1190.00	1158.60	0	0
19	1221.00	1221.00	1189.60	0	0
20	1263.00	1263.00	1231.60	0	0
21	1300.00	1300.00	1268.60	0	0

LEVEL NUMBER	MEASUR DEPTH FROM KB M	VERTIC DEPTH FROM SRD M	VERTIC DEPTH FROM GL M	OBSERV TRAVEL TIME HYD/GEO MS	VERTIC TRAVEL TIME SRC/GEO MS	VERTIC TRAVEL TIME SRD/GEO MS	AVERAGE VELOC SRD/GEO M/S	DELTA DEPTH BETWEEN SHOTS M	DELTA TIME BETWEEN SHOTS MS	INTERV VELOC BETWEEN SHOTS M/S
1	31.40	0	26.80	32.00	14.35	0				
2	285.00	253.60	280.40	139.00	138.05	123.70	2050	253.60	123.70	2050
3	305.00	273.60	300.40	150.00	149.18	134.83	2029	20.00	11.13	1797
4	346.00	314.60	341.40	168.00	167.46	153.11	2055	41.00	18.28	2243
5	402.00	370.60	397.40	195.00	194.72	180.37	2055	56.00	27.26	2054
6	475.00	443.60	470.40	229.00	228.97	214.62	2067	73.00	34.25	2131
7	564.00	532.60	559.40	269.00	269.19	254.84	2090	89.00	40.22	2213
8	650.00	618.60	645.40	305.00	305.35	291.00	2126	86.00	36.16	2378
9	750.00	718.60	745.40	344.00	344.50	330.14	2177	100.00	39.14	2555
10	785.00	753.60	780.40	359.00	359.53	345.18	2183	35.00	15.04	2328
11	845.00	813.60	840.40	382.00	382.59	368.24	2209	60.00	23.06	2602
12	877.00	845.60	872.40	394.00	394.62	380.27	2224	32.00	12.03	2660
13	961.00	929.60	956.40	425.00	425.69	411.34	2260	84.00	31.07	2704
14	1000.00	968.60	995.40	439.00	439.72	425.37	2277	39.00	14.03	2780
15	1050.00	1018.60	1045.40	457.00	457.75	443.40	2297	50.00	18.03	2773
16	1103.00	1071.60	1098.40	475.00	475.78	461.43	2322	53.00	18.03	2939
17	1150.00	1118.60	1145.40	492.00	492.80	478.45	2338	47.00	17.02	2761
18	1190.00	1158.60	1185.40	505.00	505.82	491.47	2357	40.00	13.02	3072
19	1221.00	1189.60	1216.40	514.00	514.84	500.49	2377	31.00	9.02	3439
20	1263.00	1231.60	1258.40	527.00	527.86	513.51	2398	42.00	13.02	3226
21	1300.00	1268.60	1295.40	541.00	541.87	527.52	2405	37.00	14.01	2640

ANALYST: 27-AUG-87 20:13:16 PROGRAM: GDRIFT 007.E09

SCHLUMBERGER

DRIFT COMPUTATION REPORT

COMPANY : BEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

LONG DEFINITIONS

GLOBAL

KB - ELEVATION OF THE KELLY-BUSHING ABOVE MSL OR MWL
SRD - ELEVATION OF THE SEISMIC REFERENCE DATUM ABOVE MSL OR MWL
EKB - ELEVATION OF KELLY BUSHING
GL - ELEVATION OF USER'S REFERENCE (GENERALLY GROUND LEVEL) ABOVE SRD
XSTART - TOP OF ZONE PROCESSED BY WST
XSTOP - BOTTOM OF ZONE PROCESSED BY WST
GAD001 - RAW SONIC CHANNEL NAME USED FOR WST SONIC ADJUSTMENT
UNFDEN - UNIFORM DENSITY VALUE

ZONE

LOFDEN - LAYER OPTION FLAG FOR DENSITY : -1=NONE; 0=UNIFORM; 1=UNIFORM+LAYER
LAYDEN - USER SUPPLIED DENSITY DATA

SAMPLED

SHOT - SHOT NUMBER
DKB - MEASURED DEPTH FROM KELLY-BUSHING
DSRD - DEPTH FROM SRD
DGL - VERTICAL DEPTH RELATIVE TO GROUND LEVEL (USER'S REFERENCE)
SHTM - SHOT TIME (WST)
RAWS - RAW SONIC (WST)
SHDR - DRIFT AT SHOT OR KNEE
BLSH - BLOCK SHIFT BETWEEN SHOTS OR KNEE

(GLOBAL PARAMETERS)		(VALUE)	
ELEV OF KB AB. MSL (WST)	KB	: 31.4000	M
ELEV OF SRD AB. MSL(WST)	SRD	: 0	M
ELEVATION OF KELLY BUSHI	EKB	: 31.4000	M
ELEV OF GL AB. SRD(WST)	GL	: 26.8000	M
TOP OF ZONE PROCD (WST)	XSTART	: 0	M
BOT OF ZONE PROCD (WST)	XSTOP	: 0	M
RAW SONIC CH NAME (WST)	GAD001	: DT.ATT.002.FLP.*	
UNIFORM DENSITY VALUE	UNFDEN	: 2.30000	G/C3

(ZONED PARAMETERS)		(VALUE)		(LIMITS)		
LAYER OPTION FLAG DENS	LOFDEN	: 1.000000		30479.7	-	0
USER SUPPLIED DENSITY DA	LAYDEN	:-999.2500	G/C3	30479.7	-	0

COMPANY : BEACH PETROLEUM N.L. WELL : FAHLEY #2.

LEVEL NUMBER	MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SRD M	VERTICAL DEPTH FROM GL M	VERTICAL TRAVEL TIME SRD/GEO MS	INTEGRATED RAW SONIC TIME MS	COMPUTED DRIFT AT LEVEL MS	COMPUTED BLK-SHFT CORRECTION US/F
1	31.40	0	26.80	0	0	0	0
2	285.00	253.60	280.40	123.70	123.70	0	0
3	305.00	273.60	300.40	134.83	134.83	0	0
4	346.00	314.60	341.40	153.11	155.72	-2.61	-19.40
5	402.00	370.60	397.40	180.37	184.67	-4.30	-9.21
6	475.00	443.60	470.40	214.62	219.93	-5.31	-4.23
7	564.00	532.60	559.40	254.84	262.93	-8.09	-9.50
8	650.00	618.60	645.40	291.00	300.15	-9.14	-3.74
9	750.00	718.60	745.40	330.14	342.53	-12.38	-9.87
10	785.00	753.60	780.40	345.18	356.72	-11.54	7.35
11	845.00	813.60	840.40	368.24	380.49	-12.25	-3.61
12	877.00	845.60	872.40	380.27	392.85	-12.58	-3.13
13	961.00	929.60	956.40	411.34	424.23	-12.89	-1.13
14	1000.00	968.60	995.40	425.37	438.35	-12.99	-.77
15	1050.00	1018.60	1045.40	443.40	456.39	-12.99	-.01
16	1103.00	1071.60	1098.40	461.43	475.34	-13.91	-5.30
17	1150.00	1118.60	1145.40	478.45	491.22	-12.77	7.39
18	1190.00	1158.60	1185.40	491.47	504.89	-13.42	-4.96
19	1221.00	1189.60	1216.40	500.49	513.82	-13.33	.88
20	1263.00	1231.60	1258.40	513.51	527.37	-13.86	-3.85
21	1300.00	1268.60	1295.40	527.52	539.91	-12.39	12.10

ANALYST: 27-AUG-87 21:42:54 PROGRAM: GADJST 008.E08

SONIC ADJUSTMENT PARAMETER REPORT

COMPANY : EEACH PETROLEUM N.L.
WELL : FAHLEY #2.
FIELD : WILDCAT.
REFERENCE: 569001

PE902202

This is an enclosure indicator page.
The enclosure PE902202 is enclosed within the container PE902201 at this location in this document.

The enclosure PE902202 has the following characteristics:

ITEM_BARCODE	= PE902202
CONTAINER_BARCODE	= PE902201
NAME	= Synthetic Seismogram - geogram
BASIN	= OTWAY
PERMIT	=
TYPE	= WELL
SUBTYPE	= SYNTH_SEISMOGRAM
DESCRIPTION	= Synthetic Seismogram - geogram
REMARKS	=
DATE_CREATED	= 26/08/1987
DATE_RECEIVED	= 06/04/1988
W_NO	= W967
WELL_NAME	= Fahley-2
CONTRACTOR	= Schlumberger
CLIENT_OP_CO	= Beach Petroleum NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE601058

This is an enclosure indicator page.
The enclosure PE601058 is enclosed within the container PE902201 at this location in this document.

The enclosure PE601058 has the following characteristics:

ITEM_BARCODE	= PE601058
CONTAINER_BARCODE	= PE902201
NAME	= Seismic Calibration Log
BASIN	= OTWAY
PERMIT	=
TYPE	= WELL
SUBTYPE	= VELOCITY_CHART
DESCRIPTION	= Seismic Calibration Log for Fahley-2
REMARKS	=
DATE_CREATED	= 20/08/1987
DATE_RECEIVED	= 06/04/1988
W_NO	= W967
WELL_NAME	= Fahley-2
CONTRACTOR	= Schlumberger
CLIENT_OP_CO	= Beach Petroleum NL

(Inserted by DNRE - Vic Govt Mines Dept)